

2019 Construction Safety Excellence Awards (CSEA)

Safety Management Best Practices



AGC
THE CONSTRUCTION
ASSOCIATION

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Introduction

On April 3, 2019 almost 1,000 contractors attended the AGC-Willis Towers Watson Construction Safety Excellence Awards (CSEA) luncheon that was held at the AGC National Convention in Denver, Colorado.

Bill Creedon, Head of North America Construction for Willis Towers Watson, introduced the awards and noted: “Willis Towers Watson has been a sponsor of the CSEA for decades and over that time others in my role have stood here and expressed their feelings around what safety means to us as a firm but more importantly as individuals. As each of those representatives have spoken, the words may have been different but the objective and message has stayed the same and that is, everyone wants every woman and man who comes to a jobsite for their shift to go home from that same jobsite safe and healthy for their families and friends. Sponsoring and hosting the annual CSEA with the AGC is one of the most impactful partnerships we could ever support.”



The AGC-Willis Towers Watson CSEA program is the industry’s elite safety excellence awards program for companies of all sizes and occupational divisions. It is unique because finalist contractors make a five minute verbal presentation to five judges and the judges ask each finalist a series of unknown questions for 10 minutes. The CSEA program recognizes companies that have developed and delivered premier safety and risk control strategies.

The CSEA showcases companies that have achieved continuous improvements and maintenance of their safety and health management systems. In 2019, there were 57 total finalists among seven divisions and 20 categories.

AGC and Willis Towers Watson presented the Grand Award for Construction Safety Excellence to Encore Electric, Inc. The first-place winner of each category was included in the evaluation that determined the “Best of the Best” of the 2019 Construction Safety Excellence Awards finalists.



CSEA Judges

The AGC-Willis Towers Watson finalist judges were (L-R):



Prior to the AGC Construction Safety & Health Conference meeting in Miami, Florida on January 14-15, 2019 preliminary judging for the CSEA final competition took place. A total of 32 preliminary judges consisting of safety professionals from the construction industry, AGC Chapters, construction brokers and construction insurance carriers evaluated and scored the initial 126 CSEA applications from across the country.



CSEA 2019
126 Applications
57 Finalists



447
 safety management best practices to share with the construction industry



CSEA
 applicants provided an average of 5 hours of new employee safety orientation



73% of CSEA applicants have craft workers that completed OSHA 30-hour for Construction



CSEA applicants had an average:
Total Recordable Rate – 1.33
Lost Time Rate – 0.26
DART Rate – 0.77
EMR – 0.67



40% of CSEA applicants complete monthly safety performance trending reports.
 14% – complete quarterly
 10% – complete annually




30% of CSEA applicants perform fitness for duty and agility testing



82% of CSEA applicants have supervisors that completed OSHA 30-hour for Construction



68% of CSEA applicants use employee safety culture/perception surveys




56% of surveys were in-house. 40% were administered by a third party

79% of CSEA applicants complete an annual formal safety program evaluation

67% are completed in-house

31% by an outside 3rd party



25% of CSEA applicants have a CSP (Certified Safety Professional) on staff




According to the BCSP, around **5%** of the current CSP's are in the construction industry



CSEA applicants had a site-specific safety orientation for craft workers of:

70% less than 1 hour


20% more than 2 hours



70% of CSEA applicants conduct random drug tests and include subcontractors in the testing program.



81% of CSEA applicants attend national construction association meetings such as AGC



Construction Safety Excellence Awards (CSEA) Safety Management Best Practices

During the final competition, many noteworthy Safety Management process elements were documented from the written applications by presenters and questions by the judges during verbal presentations. The noted elements fall into the following eight categories:

- Senior management ownership and participation
- Risk identification and analysis
- Task design - Engineering controls for safety
- Safe work methods (planning and validation of)
- Worker engagement, involvement and participation
- Safety training and validation of training
- Subcontractor management
- Emergency response and crisis management

Senior management ownership and participation

- Every person from the Chief Executive Officer (CEO) to the field labor team participates in training, JHA, Tool Box Talks, PPE use, safety audits and accident/near miss investigations.
- Management offers group or individual education classes to all employees. Any construction safety or construction management topic is acceptable. All tuitions are paid by the company. Management believes that knowledge helps provide a safer workplace.
- Owner is dedicated to safety. He personally attends the required 5:00 a.m. safety meeting every Monday morning for all field employees. All Project Managers and Field Supervisors must also attend the meeting.
- Chief Operating Officer (COO) is the Safety Officer and is involved in all aspects of operations.
- Steel-toe boots are not a reward. If an employee needs steel-toe boots, it's simple, they are reimbursed for them.
- Company vision insurance plan covers prescription safety glasses 100%.
- New employees go through a three day onboarding process with a major focus on safety culture vs. rules and regulations.



- Leadership and team carries the belief that incidents are preventable, provided that cause or conditions that may lead up to an incident are anticipated, recognized, evaluated and controlled in time. Leadership thrives on the fact that the effectiveness of safety management processes are directly proportional to the efforts and contributions of the team.
- Company motto – “Safe Focused, Aware, Empowered” carries the understanding that to continue our business success, we consistently and effectively emphasize that safety is central to our business and employees. Safety is always mission-critical—a total commitment and core value of the organization”.
- 20% of company president’s direct reports’ performance reviews are based on the safety performance and metrics of their projects or business units.
- Monthly superintendent conference to share safety lessons learned and safety initiatives.
- Project managers and superintendents are required to walk the job site at least once a week and note a specified number of observations in Predictive Solutions SafetyNet and iScout. If an unsafe observation is logged, a follow-up observation is required by the project manager or superintendent to ensure proper corrective action(s) have been taken.
- President is a founding member and remains an active sponsor of the Construction Industry Safety Initiative (CISI).
- Created an Executive Safety Team (EST), which includes the CEO, President, Corporate Safety Director and at least two Operations Managers, as well as Project Managers, Superintendents and Project Craft. Quarterly, the EST travels to different projects to openly discuss safety stats, trends, issues and future needs. The fourth quarterly meeting occurs at the home office as part of annual training for all employees.
- The Vice President of Safety, Health and Environmental is part of our executive leadership team.
- The President - "I want every husband, wife, son and daughter to know I am committed to making sure their loved one comes home safe and sound to them every night".
- Senior Leadership makes frequent project visits. These visits are not only focused on operational issues such as budget and schedule but place an emphasis on the overall engagement of the teams.
- All staff meetings from senior management planning sessions to tool box talks start with a Safety Moment – we call them “OneLife” Moments.
- We have participated three times in the Construction Safety Excellence Awards - and three times we have taken the feedback we have gained to heart and learned what we can do better. The judges’ comments, suggestions and criticisms have made our safety program stronger, and into what it is today.
- CEO initiated face-to-face “Teaching and Coaching” sessions with every leader, manager and supervisor across the company. He clarified the concept behind each of the sessions as “Leaders in any organization have a responsibility to teach and coach as part of their team building effort.”



- Every month the Branch General Manager and Job Site Project Manager conduct a Quick SHOT (Safety Habits Observed Together) on the job site utilizing I-auditor our inspection system. The findings of the Quick SHOT are discussed during the Job Site Weekly Safety Meeting with the job site employees. The Quick SHOT identifies both the Safe and At-Risk job task that are observed. The At-Risk observations are given a corrective action and this corrective action is followed to closure by the Job Site Project Manager.
- President every two weeks sends out a document called “Four Points”, in which he communicates safety issues, gives accolades for safe working practices and mentions working safe.
- Vice President of Operations leads monthly foremen meetings on incident prevention, employee safety and education.
- When significant incidents occur, the owners call for an immediate site stand down and attend the group meeting.
- Core Safety Participation Report. This report tracks participation with field-level and management vs. simply setting criteria for every employee. We consistently achieve over 85% participation across the company. We not only require participation but also, track it and hold each other accountable for enforcing and implementing safe work practices every day.
- Being the “Best of the Best” means conceptualizing and implementing innovative ideas that contribute not only to the betterment of our own company, but to the advancement of safety in the construction industry.
- Executive Leadership Team meets weekly to discuss a myriad of safety considerations from multiple angles including production, employee morale, training, etc.
- We are now getting more and more involved in industry associations to help other contractors see the value in safety and to improve their programs.
- President visited every project spanning over five weeks to present our State of the Company Kick-Off meeting. In the past, it was a large group, all employee event at the corporate office. This year we wanted a more personal touch. By coming together in a smaller group setting, it created an environment of open communication where our employees were able to spend one-on-one time with our President and ask the questions that they may not have in a larger group.
- The 3 T's - management is responsible for ensuring that their teams have the required Tools, Training and Time to safely perform their duties.
- Developed an E-Catalog for Site Safety Professionals, Project Managers and Superintendents to order PPE and safety equipment online. The E-Catalog is categorized with lists of approved equipment, including but not limited to PPE such as: embroidered high visibility vests, goggles, safety glasses, task specific safety gloves, fall protection harnesses, hydration supplements, safety signage and barricades.

2023 STRATEGIC PLAN SMART OBJECTIVES



- A driver recommended changing a refueling station he used in our maintenance facility. He had been climbing the ladder on his tanker carrying the refueling hose, in all types of weather and in dim light. He recommended a stationery tower be constructed, believing it would mitigate slip and fall risks. Acting on his input, we designed and built a refueling tower, with wide steps and handrails, a platform with hose access at the top, a kill switch, lighting and a moveable “gang plank” to access different trucks. These towers have since been built at all our refueling stations.
- Mixer drivers requested improvements to wash racks at our facility and management responded by installing solar lighting and making other general rack improvements.
- President participates in monthly jobsite safety training classes alongside workers even taking the training validation tests with them.
- Individual employees making suggestions which are adopted by the company are rewarded with a \$100 bonus and crews which submit suggestions that are adopted by the company are rewarded with a lunch with senior management.
- We believe by sharing what makes our safety culture successful, our best-known methods and our safety innovations with other companies, we can help change the industry.
- COO created a large contractors group that is focused on sharing the best-known methods of safety across the world by shaping and enhancing other safety programs outside of ours.
- CEO reaches out to all newly hired employees and encourages them to contact him personally if they have any concerns related to safety.
- Corporate management hosts an annual award ceremony for all employees. At this ceremony, top management recognizes and awards projects and teams on their dedication to safety and for outstanding safety performance.
- Safety Steering Committee: we maintain a Safety Steering Committee that meets quarterly to develop and monitor specific safety goals. The committee’s focus is on strengthening the company’s safety culture while emphasizing leadership, communication and consistency.
- Instituted a Safety Co-Op Program where students spend 12 weeks (paid) working with our safety department to help them grow into valuable experts in the field. The Co-Ops are then eligible to receive a scholarship from our company. These scholarships range from \$500 to \$1,500.
- All employees have stop work authority.
- Do not have a stop work authority program...they have a stop work RESPONSIBILITY program.
- President requires 7 lessons learned from each project each year as a leading continuous improvement indicator.
- Working on achieving ISO 45001- Standard for management systems of occupational health and safety, published in March 2018.

Everyone has “stop work”
authority!



- Reworked the norm of having site safety people, foreman and superintendent trained in safety procedures to having the entire management team from estimating, PM's and staff management trained in safety.
- Eight hours of leadership training each year for managers to acquire skills to manage people.
- Hold a safety dinner at the owner's home once a year.
- Employee involvement is key. We are OSHA Voluntary Protection Program (VPP) certified and have been for years.
- A safety person assigned to the business development team to understand potential hazards.
- Superintendents/Supervisors receive OSHA 30 & First Aid training every 3 years.
- Pursuit and achievement of Ethisphere Institute's Most Ethical Companies in the World. In 2019 was named again as one of the world's most ethical companies-10 years in a row. The Institute is a for-profit company that defines and measures corporate ethical standards, recognizes companies that excel and promotes best practices in corporate ethics.
- President – "Safety is our moral obligation - we have to all own the risk".
- Belief drives behavior. Lead from the Heart. We recognize good behavior in our employees.
- "Am I lucky or am I good?" A project leadership measurement tool to evaluate projects with a zero Total Recordable Incident Rate (TRIR). This helps us measure the prevention tools we use.
- Students from a local community spend 12 weeks paid interning with the safety department to increase interest in safety as a profession. Management also offers free safety training to family members, high school and college students (OSHA 10/30), wellness and health screenings. Also, project related outreach to Boys & Girls Club, Youth Programs, Career Fairs, etc.
- 86 full time safety reps, 16 interns EVERY YEAR and we encourage Board of Certified Safety Professionals (BCSP) certifications for all employees.
- Principals rotate participation leading the weekly conference call, along with the safety manager. If an incident occurs, a principal is involved in the onsite investigation.
- "Burritos with Byron" (Company CEO/President) - when he visits the job he sits down with crews of craft workers to obtain firsthand knowledge of how the Exec Leadership team can better support their needs.
- Company President calls the president of subcontractor employees who receive recognition at the site - notifies them of the accomplishment and thanks them for their dedication, when he can he personally presents awards, if they coincide with site visits.
- Sharing safety initiatives on company LinkedIn Safety page in hopes that other firms will adopt them, making the industry safer overall.



- The company president sits with every new hire during orientation to personally share his commitment to their safety and their family's wellbeing. Executives also participate in onsite training and testing with the craft workers.
- Company owners and workers love trying and evaluating new processes together by leveraging the wealth of tribal knowledge shared by all, exemplified by the Safety Advisory Council (SAC), made up exclusively of craft workers who meet with the safety director for candid discussions about observations and to share their ideas. These volunteer leaders pledge to coach new workers and speak up on safety issues. SAC has been a testing ground for advancement in the field - all workers promoted to foreman last year came from SAC. Being part of the SAC is a source of pride for members, the team growing from 5 to 32 in a year.
- The company retains a licensed counsellor/chaplain to assist with personal issues and help their team achieve emotional and spiritual wellness.
- Corporate Safety Manager helps set performance goals for all office and field staff.
- Company has pursued and achieved OSHA VPP Star Mobile Workforce recognition for several years.

Risk Identification and Analysis

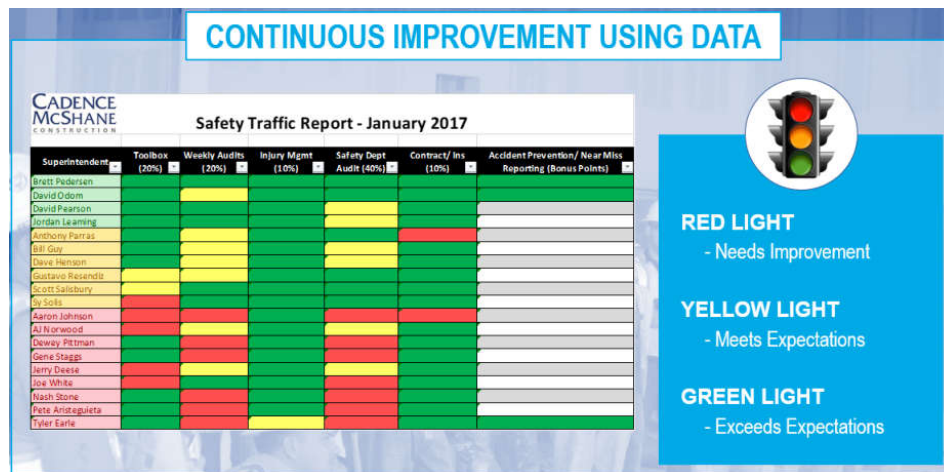
- When something doesn't work, we remove it like surgery and add new nutrients to our being through additional training, new policies and protocols and brainstorming discussions with our colleagues in the industry.
- Use "Slack" which is an interactive messaging medium that works well with cell phones and tablets. Employees find it to be consumer friendly and thus, use it more creating a more efficient and safer project. <https://slack.com/>

- Pre-Bid safety planning. Before a Project Manager bids on the project, there are meetings with the General Contractor and their Safety staff (and engineers when necessary), Operators that will be performing the work, and the GC Management staff. Plans are developed specific to each project. Copies of these plans and any special instructions are discussed, and a hard copy given to the workers that will be doing the work

The screenshot shows a software interface for tracking hours over 60 in a rolling 4-week period. The interface includes a Granite logo in the top right corner. The main area is a data grid with columns for dates (e.g., 11/15/18, 11/16/18, 11/17/18, 11/18/18) and various metrics. A prominent red vertical bar highlights a specific date, and a yellow vertical bar highlights another. The interface also features a sidebar on the left with filters and a top navigation bar.

- Blueprints and take-offs are often outdated and totally incorrect. It is not unusual to get days into a job and encounter an issue that was unknown at the time of bidding the job. Work will stop until the problems can be safely addressed and plans amended.
- Project safety evaluations around a leadership checklist that measures collaboration, housekeeping, material storage / handling, pre-planning efforts, data collection (iScout / SafetyNet) and subcontractor engagement.
- Utilized a fleet GPS monitoring system to measure harsh braking, speed, evasive maneuvers and acceleration for company vehicles.

- Created weekly safety reports. Every Monday a report is emailed of the past week's incidents and near misses to the entire company, to continue the conversation around safety. These reports include a brief review of the incident followed by a "safety message" from the Corporate Safety Director that analyzes the incident and offers solutions for future prevention.
- National contractor with 6 regions requires each to drill down into their own safety performance and unique jurisdictional issues and develop specific safety business plans to raise the level of their games. The regional plans are combined to form a written annual business safety plan for company safety improvement. Reviewed and measured quarterly.



- Identified 12 behaviors that are our "Critical Safe Behaviors" from a CCSI 5-year study of claims in the CCSI database. The study found that there are 12 behaviors associated with our most frequent and severe injuries.
- Use an online monitoring service to track Motor Vehicle Records for those who drive a company truck or their own truck on company business (Negligent Entrustment Prevention) - Samba Safety is the vendor we use for this service. <https://www.sambasafety.com/>
- Root Cause Analysis (RCA) using Sologic Software is required for any OSHA recordable injury. <https://www.sologic.com/en-us>
- Use the DISC behavior assessment tool, a personality assessment tool that focuses on four different behavioral traits; Dominance, Influence, Steadiness, and Conscientiousness. This has allowed leadership to understand what type of approach needs to be taken when dealing with one another based on personality traits. <https://www.discprofile.com/what-is-disc/overview/>
- Have aligned lean / safe / sustainable programs that are reducing fall hazards, creating better ergonomics, reducing material handling touches, creating cleaner jobs, reducing slips, trips and falls, reducing soft tissue injuries, increasing productivity and quality, reducing labor costs, and last but certainly not least, we are having fewer serious injuries.
- Developed "Property Damage Incident Rate" utilizes an "old formula" in a new manner, that allows us to compare the safety performance of our job sites (different sizes and types), based on the number of property damage events as compared to equipment operation hours. We began with OSHA's TRIR calculation and replaced injury with property damage data. The formula is as follows: Total Property Damage Incidents x 16,000 / Total Equipment Hours = Incident Rate where 16,000 represents equipment hours per site in 2017.

- Utilize an electronic Risk Management Information System (RMIS) to show live dashboards with divisional metrics. The dashboards contain both leading and lagging indicators and incorporate not only our employees, but all our subcontractors' data as well.
- Superintendents use a pre-planning/scheduling technique called LEAN. This allows them to plan their work at least 3 weeks in advance and based on the upcoming tasks the correct control measure can be implemented, starting with elimination, substitution, engineering, administrative or PPE.
- Our goal is to be the general contractor whenever possible to allow us to run the job according to our philosophies. By doing this we can mitigate risks in ways that we see fit without having pressure being put on us by a contractor one level higher. To further this control over our work, we have recently entered into a few large contracts known as "Progressive Design-Builds." These types of contracts allow us to work with the engineers during the design stage of the project. Interjecting ourselves at this point leverages the knowledge we have of the terrain and the know-how of the engineers. In the event we are performing work as a subcontractor, we maintain a very close relationship with the general contractor and other trades to try and create the same synergies.
- "5 for 5" is a concept that encourages our crews to do hazard assessments. We encourage that five seconds in every five minutes should be spent looking around and assessing the hazards with a continuous improvement mindset to positively impact your work environment. By doing brief and frequent assessments, work continues efficiently and hazards are anticipated before they become issues.
- "Own your Zone" One of the cornerstones of our system is personal empowerment. If each person is responsible for their own work and work area, then the entire job will be organized and efficient. The idea of "Own your Zone" encourages each person to evaluate their work area and ensure it is organized and ready for efficient work. When a jobsite is conceptualized as a grid of zones and each person takes responsibility for the activities in and condition of their own zone, then the whole jobsite becomes organized and coordinated.
- Senior Management participates in incident investigations that had, or could have had, a potential for a Serious Injury or Fatality (SIFS). This has led to several key safety initiatives; one example is the training course "Leadership the OneLife Way" which is a 4.5 hour course designed to help first-line supervisors to become better safety leaders.
- Leadership is dedicated to seven areas revolving around safety in the workplace. These areas include awareness, training, communication, documentation, proper equipment, supervision and innovation.
- Drones - have developed our UAV utilization for much deeper benefit than project photos. Our new primary application is with bridge work critical lift planning. We combine the use of three different software platforms and drone imagery. This helps us achieve high levels of accuracy on crane set locations and reaching the exact calculated radius on every lift, minimizing risk. We use drones to perform inspections on bridge structures and even malfunctioning crane booms, removing the need to place employees in high risk situations when not necessary, thus removing the potential hazard. Our drone program also performs traffic control inspections, from regular maintenance flights to traffic switch planning and quality control prior to opening.
- Use drones to assist with 3rd party auto accident documentation that occur within our work zones, documenting the road conditions and traffic control compliance during the time of the accident which helps with capturing the conditions of the road before we receive a lawsuit two years later after the job is complete.
- Have a comprehensive fleet vehicle program with a vehicle safety committee that includes inspection, vehicle assignment, Motor Vehicle Record (MVR) review and accident review.

- Costs associated with Health Safety Environmental project scope concerns are addressed up front and made a line item in the bid.
- Built a risk registry, which houses all our risk assessments for each cost type, for all construction and plant operations. These risk assessments are the starting point of our safety planning processes.
- Provide Safety Leadership support by equipping them with the newest electronic technology to include applications such as: OSHA's Safety Heat tool, light and decibel meters, flashlights, cameras, QR reader, severe weather/lightning strike tools, etc.
- "ComplianceWise" safety auditing process is an electronic, photo time-stamped process that is fully integrated into Company protocols. New hires are trained on the software, as are Executive team members who review audit data and must respond to identified issues or concerns. The cumulative data is reviewed daily, weekly and monthly to ensure timeliness of corrective actions, and once an item is identified, mandatory corrective action must happen in a certain amount of time or an email to management is triggered if there is an issue of non-compliance. <https://www.compliancewise.net>
- Project Execution Plan (PEP). We create a PEP for each project that establishes roles and responsibilities for all the deliverables including safety performance. Project teams break down the scope of work and identify the individual work events allowing us to identify the resources (personnel, equipment and training) necessary to complete them.
- JHA identifies hazards, outcomes and controls and has risk ratings for the hazards pre and post controls. This process allows us to look at the risk reduction afforded by the properly implemented control and allows us to evaluate whether the residual risk is low enough for the activity to proceed.
- A point system program for traffic violations and motor vehicle accidents has been developed and implemented. An employee can lose their driving privileges by reaching an established number of points in the program. A new fleet safety innovation for improving our employees' safe driving habits and managing the fleet has involved the deployment of telematics devices being placed in company vehicles.
- Once per month, the safety director has breakfast with all foremen to facilitate cross communication and encourage open discussions, closing gaps between crews and to allow direct access to the director's ear. These meetings have been a great way to communicate to all foremen and continue safety culture improvements.
- Developed new leading indicator protocol and processes to capture near-misses using Procore cloud software. Procore provides field teams a way to report near-misses in real time online from their smart phone or iPad making the reporting process as easy as possible. Definition of a near-miss to encompass anything from unsafe behavior or conditions to machine failure or faulty processes.
- Each month the operations team sponsors a Skype teleconference that focuses exclusively on safety issues and performance; incident review with lessons learned and corrective actions, Environmental Safety and Health (ESH) training, program developments and updates, project safety audits and "celebrating our successes." These meetings are hosted by our company president and attended by all District leaders and their key operations personnel.
- Use SmartDrive systems in every Department of Transportation (DOT) over-the-road vehicle. Driver and union buy-in is very strong. Any g-force event triggers the system's video capture. Drivers can also activate the system. Since 2016, with SmartDrive, OSHA recordables were reduced from 12 to 6, restricted days from 120 to 42, and total lost days from 193 to 0. <https://www.smartdrive.net/>

- Daily project safety meeting minutes are compiled on the company's server and analyzed for conformance, trends and identification of risks across different project types monthly by the Safety Manager. We modify our safety program according to trends and topics of concern.
- Smartsheet log - web-based collaborative log broadcasts a message immediately to field leaders and senior managers when an incident or near miss has occurred so hazards can be shared between jobsites. Reported events are then disseminated to workers during the next morning's huddle or immediately if they pertain to a serious injury or SIF hazard.
- Utilize GoPro cameras for visual confined space evaluations.
- Craft Safety Empowerment Program (CSEP). Members of the CSEP are working field employees identified by wearing a different color vest. Each member is a mentor, available to answer questions regarding safety, quality, production, quality of life on the project, etc. Every two weeks members of the CSEP meet with the project manager and discuss what they have seen and heard from our craft employees.
- Company Cross Site Safety Visits: Top Management, senior managers and supervisors are designated to conduct cross site safety visits on each of our projects bi-annually. The visiting team then develop a written report based on their observations and give recommendations for improvement to the project team.
- HCSS Safety software is used on all our new projects in order to improve our efficiency and effectiveness for both the safety staff and our field supervisors. The safety management system includes a web application and mobile app on the iPad that enables the paperless documentation and monitoring of training, meetings, JHAs, observations, inspections, near misses, incidents while reducing paperwork with fillable forms and having the ability to run reports to spot trends.
www.hcss.com
- Fatigue Management - overtime hours limiting program for employees with the goal of preventing fatigue or stress through internally developed software (called Acme Time) to easily identify those with high amounts of overtime and provides coaching and schedule adjustment feedback.
- Implemented a 10% progress shutdown review for individual activities. When 10% of the activity has been conducted on a project scope, work activity will be suspended to allow a meeting to occur with crew members and management. The review meeting is comprised of personnel directly involved with the task. The purpose of the meeting is to review associated hazards and the means and methods established to abate these identified hazards.
- Use seismographs on all blast jobs and use the square distance formula to design and bid blasting jobs.
- Walked away from a CCIP project due to concerns about the GC handling any blasting claims.
- Added a severity matrix to Job Hazard Analysis (JHA) to measure and focus on high loss potential. Prepared in the office by project team and modified in the field.
- Leading Indicator - require a written response rate of 90% on all project safety evaluation recommendations.
- Have in-house Industrial Hygiene capabilities, because of the projects they work on.
- Vehicle Telematics...A near miss was avoided because of telematics that found a brake failure. Equipment was taken out of service until inspected and repaired by a mechanic.

- Engineered a lift attachment where the crane pick software detected and lift problem that was solved by an engineered solution.
- Use Applications International Corporation (AIC) safety software program for site safety inspections. Has resulted in immediate notification of jobsite safety issues.
<http://www.applicationsinternational.com/>
- Had a total of 1,525 near miss reports in 2018....and used these as learning opportunities.
- Use advanced predictive analytics in their safety planning from data that is mined from the near miss program.
- Rotate assigned safety people to projects to keep things fresh.
- Goals: Reduce new hire recordables by 50%.
- Project was 12 weeks in duration, 7 days a week. Recognizing and preventing fatigue was a key risk factor. Developed a Fatigue Management System dashboard and transferred it to a manageable 1-page spreadsheet. Factors such as incident rate vs. hours worked was measured. If a Supervisor is going to work over 70 hours, then changes in shift schedule was made. You can't be productive, safe and manage jobs if you are working too many hours a week.
- All weekly staff, production and operations meetings are led off with a presentation of data from the risk management department with results of the previous week's observations, incidents etc., with an opportunity for Q&A and employee feedback at that time. Gives transparency and communications with entire workforce.
- The percentage of new employees per trade and job risk classification is tracked and logged as well as the number of new hazards found on the projects and new hazard corrections, along with people impacted by both.
- Conducting blood pressure testing for workers who routinely work at height and other high-risk activities, and worksite analysis beginning with a baseline of all potential hazards on site including an occupational health assessment by company physician.
- Safety alerts for observations go out via text message to all foremen.
- JHA's are revisited to determine modifications based on root causes from incidents.
- There's a technology committee where workers suggest new types of technologies to help eliminate/reduce risk.
- 3-day Safety Boot camp for hands on training for non-construction personnel entering the industry.
- Web based "SmartSheet" Log - broadcasts messages to field leaders and management when an incident occurs. Data from SIF's is constantly tracked, which has helped pinpoint the RED ZONE - the days and times incidents are most likely to occur.
- Utilizing pre-hire risk tolerance stress response assessments.
- Video communication between handheld mobile devices and home office to obtain most accurate site information, problem resolution and technical expertise.

- “Safety Swaps” of safety and occupational health staff between projects for rotational assignments allows for a fresh set of eyes one every project.
- Active participation in the AGC-OSHA partnership with the Construction Health and Safety Excellence (CHASE) program to reduce barriers and improve communication between field operations and federal regulators.
- Observation program includes structured questions that force employees to look beyond basic level hazards. The program provided more risk ID balance from just the identification of basic items (i.e. missing PPE, improper use of tools).
- Safety observation card linked to timecard - the two must be submitted simultaneously.

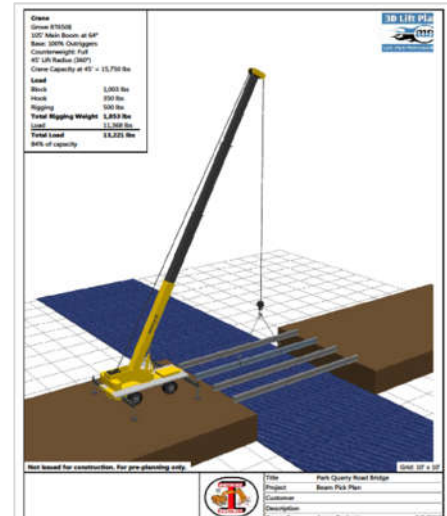
Task Design – Engineering Controls & Design for Safety

- Decibel readings of equipment are obtained frequently to assure personnel that the company “Hearing Loss Prevention Program” is working.
- Company invested heavily in Hydro-demolition equipment. This is a new way of performing demolition work. This process is quicker, uses less workhours and keeps the employees a safer distance from the demolition.
http://www.waterblast.com/uploadedFiles/Site/Service_and_Support/Resources/HydroDemolition_Brochure_Web.pdf
- Developed a patented Pile Cutting machine to cut concrete piles safely and efficiently. The machine takes one Operator working in a climate-controlled cab away from the risk of cutting, to cut up to 200 piles per day. The previous method would take two operators manually sawing the piles at the rate of 30 per day, exposed to the risks of the chipped concrete and the struck-by/caught-between risks of swinging of the pile once it is cut. Productivity is increased and fatigue is reduced by reducing the hours it takes to perform a task.
- Installed safety cables in the window openings of all wall panels prior to erection.
- Company invested heavily in Brokk robotic demolition equipment which allows the Operator to work remotely at a safe distance from the demolition area.
<https://www.brokk.com/us/>
- Install fall protection systems around all excavated areas.
- New initiative to develop emerging Project Engineers with regards to safety engineering and education. Entry level Project Engineers received more specific insight as to the importance of project safety. They also perform separate inspections and lead toolbox talks.
- Invested in hydro-vac technology to safely identify existing utility lines, as well as all new concrete cutting and drilling vac equipment to mitigate silica exposure.



- Introduced engineering controls such as HEPA-Filtrated equipment cabs to eliminate exposure to airborne dusts/silica.
- Example of reducing worker injury exposure through sequence of work is having our plumbers install sleeves prior to the concrete slabs being poured. Installing sleeves beforehand eliminates the need to core through the concrete slabs later.
- Engineering controls and phasing are two effective ways to reduce / eliminate risks to workers. This year we incorporated what is a new silica control for us into our concrete joint cleaning work. We purchased several Clemco wet blast injector systems to mitigate the dust from our joint cleaning operations. This unit introduces water to the blast media at the end of the blast nozzle and greatly reduces the amount of silica our workers are exposed to under the OSHA PEL.
<https://clemcoindustries.com/products/blast-machines/wetblast-systems/wetblast-injector/>
- We strive to eliminate the “confined space” title by using engineered stairs to eliminate the third leg of confined space requirements “limited access and egress”. On one site we built a multi-level wood stair system to enter a digester. This system was engineered so that it can be lifted from one tank to another using a crane. The employees feel much safer using stairs instead of a ladder and are also more productive as a by-product.
- Concrete pours are scheduled ~ 1am: Avoid hottest part of day, reduce heat stress probability. Avoid safety concerns of multiple trades working simultaneously or “onlookers”. Everything happens faster, uninterrupted, more efficiently at early AM; less wear and tear on crew – reduces time exposed to hazards; may deter/mitigate long-term injuries.
- Sequence of Operations and Use the Right Tools. Long-time believers in proper planning and having the right equipment on site for specific tasks. One example is ladders. We prefer to not use ladders whenever possible and to this end, we maintain and own a fleet of scissors lifts to have available for each job-site. If our project capacity exceeds our fleet, management has authorized the rental of lifts as a matter of policy. Our projects are sequenced in such a manner to facilitate safe operations.
- During a large congested downtown project, channeled the public using site fencing and a scaffold bridge over construction areas for safe access.
- Utilized timber piles for vertical support of a “stage top” style system which allowed several different trades to have an adequate elevated work platform from framing through rough-in phases. This engineered control eliminated the need for any Personal Fall Arrest Systems.
- Have increasingly went to prefabrication of structures on the ground to eliminate work at heights whenever possible. We have had great success framing the stair towers’ roofs of parking decks on the ground, leading to the elimination of framing, roofing and stucco work at heights and limiting it to only one crane lift. Similar to this type of planning, we have installed fall protection guardrails on tilt wall panels prior to erection to eliminate fall hazards. Casting fall protection anchor points into the panels for steel workers and roofers has also been integrated into the process.
- Add load tolerances into every design to account for dynamic loads during concrete construction. It takes a lot of planning with concrete formwork, sometimes up to thirty days of advanced planning – “all for safety.”
- All pre-con decisions are based on understanding every employee’s needs, our company does not find the employee for the task, we find the task that is suitable for each employee.

- Designed a ramp and pulley system to bring in materials to the basement of the courthouse for a remodeling project which eliminated the need for workers to have to carry and maneuver large bags of grout and other material. This idea significantly reduced the risk of strain injuries.
- Electrical contractor has continued to evolve with technology by providing special cut level 5 gloves. These gloves allow employees to use their touch screen devices in the field without removing their PPE.
- Had to install 200 light fixtures in a 35,000 square foot basement with a 24-foot-high exposed ceiling. To reduce production time installing over 200 light fixtures, installed (using total station) over 500 aircraft cables in the concrete deck above prior to the pour. These not only limited time roto-hammering in supports (silica), but also limited the time working on scissor lifts (caught between, falls from heights).
- Engineering procedures have been put in place by the means of required paperwork to be signed by an owner if it is deemed not feasible to deenergize an electrical circuit (i.e. existing hospital or critical system). The amount of energized work has been minimized with this procedure. If it is deemed that work is required on an energized circuit, a detailed Methods of Procedure (MOP) is required, reviewed and approved by the Vice President of Field Operations and Safety Manager prior to any work commencing.
- Continuous Improvement (CI) department implements value-added changes. Currently, we have leveraged CI to take our Motion Matters - Sprain and Strain Prevention Program and Cordless Power Tool Best Practices company-wide. These programs set the standard for improved organization, ergonomics and efficiency, while also reducing fatigue and repetitive motion.
- Equipment department is standardizing new technologies into our vehicle and heavy equipment fleet. Hands-free systems, backing sensors and cameras now come standard on all light vehicles. We are also currently ordering cameras and backing sonars on all heavy equipment with blind spots.
- Utilize Building Information Modeling (BIM) during the design phase to mitigate safety concerns such as potential fall protection hazards, site access/egress and logistics challenges.
- Deck installers have always used a lifeline anchored to the base of the deck to tie off from. The workers would be tied off, but the slack in the lifeline, and the fall arrest gear would not prevent them from contacting the deck 12' immediately below them, in the event of a fall. Company developed an engineered solution by fabricating a raised lifeline anchor post installed specifically for use by the leading-edge workers. With the extended height, there is sufficient room to absorb the slack preventing contact with a floor even as minimal as 12 feet below.
- Invested in 100% floor scaffold systems (aka “dance floor”) in a sloped floor auditorium. The angled floor auditorium created risk for any employee that was working on overhead systems. Determined that by creating and managing a comprehensive temporary floor system, multiple trades could work freely on a level and solid platform, eliminating the challenges from working on ladders, aerial lifts and rolling scaffolds.



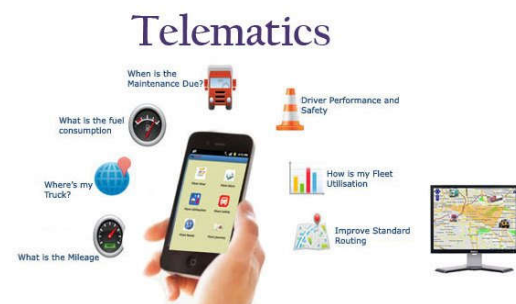
- Use 3D printing to build miniature models of proposed safety devices, railing systems, rescue stations, trenching conditions or structural conditions (e.g., cantilever projections).
- Panel Dollies. Prefabrication allows the electrical panels to be made up including the installation of breakers but can result in the panel being heavy and awkward due to the attachment of the “homerun” cables. To allow for the safe and efficient movement and installation of these panels, we created a specialized dolly that allows the panel to be rolled into place and secured significantly reducing manual handling and fall same level risks.
- Use of rolling stools to reduce kneeling and use of overhead drill presses to reduce shoulder and back injuries related to overhead drilling.
- Use Trimble Point Layout Software. Productivity is improved with the capability to scan the site before installation and outline an execution plan. By having the scanned floorplan model, we could pre-fabricate conduit and cable tray systems in-house. This method allowed us to be extraordinarily efficient and minimized the time it takes to install new electrical systems reducing fatigue and injury exposure on the job. <https://mep.trimble.com/electrical/layout-solutions/>
- "Developed an “Over OSHA” policy. After a detailed analysis of our safety data from previous years, we identified the most prevalent types of incidents and developed safety policies above OSHA standards to target those incident types. Examples of our higher than OSHA standards for Cranes include: Load moment indicators, Anti-Two-Block Stop Devices and Third-Party Crane Inspections.
- Engineering Controls for Safety - Examples include designing and building guardrails, picking attachments, working platforms and stairs, tie off/anchor points, bollards, design connections between beams limiting pinch points, ladder cages and grab bars, non-skid stair treads and grating, stamping weights to heavy objects and pre-plan shipping to limit fall exposures.
- Maintain an extensive supply of portable chain-link fencing on each project site, to deploy as-needed to prevent access to hazards ranging from temporary excavations to metal storage piles.
- Work with engineers and architects to provide higher parapets, strategically located roof access points and permanent roof anchors, making construction safer and finished facilities safer to maintain.
- Falls are most frequent and severe of injuries related to the steel erection industry. We go above and beyond the requirements for fall protection. While utilizing engineered and manufactured fall protection systems, we also design and test our own fall protection systems by performing drop tests with a dynamometer to understand the forces to the anchorages and fall distances an employee may be subjected to during a fall. We test engineered components to understand how they react during a fall to assure our employees are protected in the event of a fall. The drop tests are videoed and documented for sharing with our employees during our fall protection training.
- Co-developed a band saw with one tool manufacturer that stops working if you remove your hands. Should be out on our projects in early 2019.



- Working with a ladder manufacturer to make ladders with the bottom step a different color to help employees that wear bi-focal glasses see the lower step more effectively.
- When there is going to be a delay in the stair fabrication, we spend the money on setting a stair tower for access to all the floors instead of using ladders. This prevents fall exposures on ladders allowing us to gain some production efficiencies and provide better access in the event of an emergency requiring EMS response.
- Utilized a GoPro on a pole with a large light which were connected to iPad. This allowed workers to inspect HVAC ducts without having to physically enter the ceilings or ducts. This reduced time, injuries from lacerations, falls from ladders and risks of entering confined spaces.
- When our engineering team is designing a piping system our BIM program notifies them that a shut-off valve placement is in an area with potential fall hazards. If they designed the system like this, our owners would be put at risk during any future maintenance. But by bringing this spatial awareness to our design team, we can make changes that mitigate those hazards, prior to any install.
- Developed and implemented vertical jack-hammer mounts which alleviates our workers from holding the hammers.
- Robo flaggers were purchased to eliminate worker exposure to traffic. It is a small traffic signal with a crossing arm that drops down to block traffic when the lane is closed. DOT says the units are more visible than human flaggers and motorists tend to see them from a greater distance away. They are controlled by workers located a safe distance away from moving traffic.
<https://www.utilityproducts.com/safety/article/16019089/robotic-work-zone-flaggers>
- An employee asked to devise a fall protection system that would be conducive to working on an existing narrow concrete beam with embedded stirrups. Engineering drew up some plans, the shop fabricated specialized stanchions, and our survey and safety department tested the system. Field personnel had the opportunity to deliver a presentation to an audience of their peers to show everyone how it made the task safer.
- Utilized circular metal cage livestock round bale feeders to put around deep open holes instead of typical flagging/barricades.
- Use water trucks to provide water for silica dust control on all jobs and use powered air purifying respirator's for PPE.
- Purchased drill rigs that have operator cabs to reduce noise and eliminate dust exposure.
- Engineered a stabilizer for light stands to prevent tip over on slopes and from wind.
- Engineered pipe cutting table jig to stabilize pipe handling and has reduced ergonomic hazards as well as increased quality and production.



- Changed their trucking dispatching procedures to avoid risks associated with unnecessary trips.
- Stopped using the piano wire method of paving as a grade control method and that has eliminated trip and fall hazards from the piano wire.
- Converting pneumatic tools to battery tools to eliminate the trip and fall hazards created by pneumatic hoses.
- Use tier IV equipment to reduce nitrous oxide exposure.
- Use mineral oil in equipment instead of hydraulic fluid to reduce environmental hazards.
- Use a 3M Uvicator sensor that change color when exposed to excessive UV light. Worker emergency ID in hard hat. <http://multimedia.3m.com/mws/media/12249420/uvicator-sign-of-safety-technology.pdf>
- Use anti-fatigue ergo-inserts for boots... 90% reduction in reports of leg and back pain.
- Use Halo Light hard hats for better night visibility. All PPE is chosen by safety committee meetings.
- Started using puncture resistant boot soles due to an employee suggestion.
- Developing an 85-acre employee training complex for site work excavation equipment operators that will include an indoor dirt arena, haul roads, etc.
- Using stair towers to eliminate ladders to change floors.
- Concrete forming contractor uses signage with the phone number of who to contact to get access to a form wrecking area.
- To prevent Trips and Falls, we believe in vigilant housekeeping at the jobsites, cleaning up after yourself and maintaining solid level ground for walking.
- We focus on same level falls by identifying the contributing factors of each accident. Inspect. Use a focused checklist. Perform Access Evaluations using our “Access Champions” system. We verify pathways. When possible, team up when walking.
- Via the Monthly Craft Safety team program, we work closely with our Continuous Improvement (CI) department to implement value added changes - via this process they have developed Motion Matters, Strain Prevention Program and Cordless Powertool Best Practices company wide. These programs have improved organization, ergonomics and efficiency and reduced fatigue and repetitive motion (reducing recordable strain and sprain injuries 75% over 2 years).
- Use of sound curtains to minimize noise exposures.
- Using 3D printers to build models of what will be used in the field.
- LEAN principals like rolling racks and cutting tables with waste drop containers, reducing possible injuries, back fatigue and handling material multiple times.



- Use remote controlled skid steers for elevated demolition work.
- Use drones to construct topographical maps of the worksites.
- Annual review of all job hazard analyses to ensure reflect most current prevention measures and lessons learned from the past year.

Safe Work Methods (Planning and Validation of)

- Backing-up activities are monitored closely to be sure that back-up alarms are present and functional and adequately audible. If they are not, that piece of equipment or truck will be shut-down and red tagged.
- Task protocols, hazards, controls, PPE, equipment and housekeeping are written on a 4.5" x 8" "Pocket-Card" that is double-sided and laminated. Given to each employee or the team leader to have in a pocket while performing the task.
- "SharePoint" website that was obtained early 2017 to provide a way to have access to all company policies, forms, safety information, Safety Data Sheets, and plans, and job information. Everything imaginable that might be needed in the field is loaded in this website. Information is general and job-specific. Access for all employees 24/7.
- Safe work methods are constantly studied. Any time a new piece of equipment is purchased operator training is done by the manufacturer.
- Safety program and safety practices are measured and evaluated by independent 3rd party safety consultants annually.
- Hourly personnel are OSHA 10 hour trained and salaried personnel are OSHA 30 hour trained. Company has been an OSHA partner for 11 years.
- Pre-task planning that includes analyzing manpower, tools and equipment needed for the task(s) to assure proper identification of hazards and safety precautions are employed.
- Developed a 2-3 day "onboarding" training program that trains all salaried employee-owners on company policies and procedures before they ever step foot on a project.
- The week a team is about to begin a new task, the task is discussed at the end of the Supervisors' meeting to ensure project supervisors believe it is the correct approach and that the tools and trained personnel necessary are available.
- Motor Vehicle Records are monitored by a third-party administrator, who then alerts us when a driver has any form of activity on his or her motor vehicle record. When an injury occurs, an effective work comp injury claim management process includes light duty return to work policy, designated medical providers for the best level of care, and on time reporting.



- If anything unexpected occurs during performance of the task, the crew reevaluates whether the JHA should be altered/updated; this can sometimes include work stoppage. If an event does occur, a lessons-learned description is developed and distributed companywide immediately.
- Planning procedures are validated by a Key Activity Review which is a formal, sit-down review with the crew to see if the execution of the work activity can be improved for Safety, Quality and Production. It helps make sure our planning procedures are effective. These reviews are performed at the 10 percent completion stage of the activity. The craft and project teams attend and have a BBQ lunch after the review.



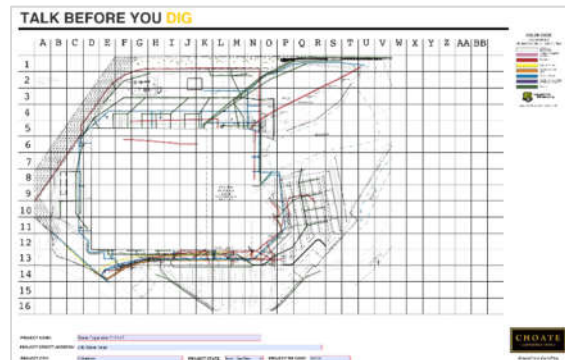
- Project team including Project Executive drafts a site-specific safety plan. It is a team “internal contract”, the entire group signs it with the responsibility of holding each other accountable for the implementation of the program.

- 8ft. tall reminder to protect yourself. This sign is a photo of an actual team member who is wearing all the proper PPE and illustrates what "Always Doing What is Right" resembles.

- Evaluated and selected the CAT "virtual reality" simulator that will be utilized for initial screening, retraining and skill improvement for select pieces of equipment. This is a cost-effective means to allow operators to experience a multitude of challenging scenarios without the associated risk.

<https://www.equipmentworld.com/cat-unveils-its-first-virtual-reality-trainer-simulating-workers-first-day-on-road-paving-crew/>

- After an increase in non-injury utility strikes was noticed by Senior management, the team created a new program called the Utility Strike Avoidance Plan (USAP). The USAP has two critical components: The Talk Before You Dig Plan (TBDP) and the Talk Before You Dig Log. Prior to underground work commencing, the Subcontractor performing the work is to review the TBDP with the Project Superintendent to identify the existence of existing or newly installed utilities in area. The Subcontractor and the Project Superintendent complete the information on the TBDL and open a permit by initialing in the Open Permit columns. Upon completion of the task, the Subcontractor is to immediately update the TBDP and both the Subcontractor and Project Superintendent are to close the Permit by initialing the Closed Permit columns. The permit is not to be closed until the Superintendent is satisfied the TBDP is accurate and completely updated. Utility strikes are down 72% in 2018.



- Developed a specific “Best Practice” method that specifically identifies crucial aspects of the site's specific concrete forming system and work methods. This easily accessible document allows our superintendents and employees to understand all hazards associated with the formwork they will be installing.

- Developed the "Dusty Trades" program that takes an in-depth look and covers all PPE and respirators used on site and includes silica sampling to identify hazard areas and levels of exposure.



- Placards have been added to Gang boxes and office trailers demonstrating the required Silica exposure engineering controls for most commonly used tools.
- Implemented a 50-100 rule: No single employee can lift more than 50 pounds. If the lifting of over 50 pounds is required, a tandem lift must be implemented. If lifting of over 100 pounds, a mechanical device must be used.
- All leadership positions are required to take an 8 hour course on energized electrical work and lock-out/tag-out.
- Pre-Activity Plans (PAP) are completed by the foreman to break down the overall JHA into a few days or weeks sub tasks which allows for the risk at hand to be addressed on an as-needed basis.
- “Enhanced Awareness,” program of eliminating headphones, earbuds and/or radios, to abate distraction.
- Developed a "News App" which allows employees to report safety observations from their mobile devices. We then analyze this safety data coming in from across our business. This allows us to tailor specific inspections, communications and training to help focus our efforts and drive specific injuries down that are currently occurring in the field. In one example this year, we reduced strains and sprains overall by 75% from 2016 to 2017 through this process along with our Motion Matters initiative.
- Risk information is communicated to our employees and subcontractors through daily pre-shift “Take 5” meetings. Additionally, all employees are trained to conduct documented personal risk assessments in the field prior to performing their tasks.
- Creating new personal risk assessment (PRA) booklets which hold a month’s worth of PRAs and fit neatly in a safety vest.
- Excavation Method of Procedure (XMOP) process ensures we do not hit underground utilities. Before mobilizing, projects must complete an Existing Utility Drawing (EUD). A EUD requires that a third-party locator, company staff or other consultants place all known or discovered underground hazards on one drawing. New structures and proposed new utilities are placed on the EUD to enable conflict identification. We require daily excavation permits when penetrations are within 25 feet of known conflicts or hazards. Superintendents issue daily dig permits before ground penetration. Our XMOP program has reduced accidental utility strikes by 90 percent.
- Safety Procedure & Guidelines Fact Sheets - 98 documents developed on specific exposures.
- Safe Task Analysis (STA). This is a four-fold card that covers their activity for the day and contains all appropriate forms (trench inspection, hot-work permit, PPE checklist, lifting guide, confined space checklist and safety rules). The foreman is responsible to make sure the STA is completed, to acknowledge that all necessary forms have been completed and to authorize permits.
- Recognize, Eliminate and Discuss (RED) book. This mini, task specific AHA is a pocket-sized checklist and planning tool intended to challenge our employees by thinking and planning out each task by breaking down the hazards and corrective actions and/or PPE required.
- Established both a Glove Use Matrix and a Respirator Matrix which identifies and helps individuals understand which PPE is required.
- Use Hug Lights on boom lifts to effectively illuminate concrete stripping operations.

- Replaced key safety checklists in our program with full color, easy to follow flow charts, which has led to more effective execution of safety processes in the field.
- Shift Prep! – and Joint Stabilization and Stretch Breaks! Program - Dynamic and static stretching program – is designed to prevent and/or drastically reduce occupational musculoskeletal injury risk and severity, including strains/sprains and slip/trip injuries, among our employees.
- Silica Pocket Guide: OSHA’s updated Respirable Crystalline Silica standards are dense, and this guide simplifies them. Printed on water-resistant paper, the booklet is produced in English and Spanish, fits into a pocket and withstands field conditions.
- Hydration Analysis Chart: Company project geographies range from the humid climates of South Texas to the dry heat of the Arizona desert. To ensure that employees were aware of the symptoms of heat exhaustion and heat stroke, we created a hydration analysis chart. We also have wall charts for our job trailers and a similar design has been created for key chains and badges.
- Require Level 3 cut-resistant sleeves for anyone working above ceiling grid and we require goggles and a hard hat above ceiling grid even in occupied buildings.
- Use ring tracing, a process of attaching a ring over the pipe system and pushing it along the pipe to the cut location to avoid cutting the incorrect pipe.
- Use Intalex corrective action tracking system to make sure identified hazards are tracked to completion. <https://www.intalex.com/products/health-safety>
- Fleet Safety - recognized that tight right turns are a big exposure...they promote that their drivers must own both lanes, not just their own.
- PDCA - Plan Do Check Act... patterned after the ISO quality standard.
- CHECK System – (Monitor and Measure), (Find and Fix) and Document results.
- Hold people accountable not just held responsible.
- Use the Army Corps of Engineers EM 385 standards on all their work, Federal or not.
- Have 360 walk around program before starting a company vehicle.
- Developed a “blind spot” monitoring program for large heavy vehicles and equipment.
- Golden broom award is awarded monthly by the president to the jobsite with the best housekeeping and organization.
- Use voice recognition technology to conduct pre-task planning...found that they get much better participation this way.



- Lessons Learned from working with the Army Corps of Engineers; “Master your paperwork. You can’t overkill in this area. Document everything”.
- Projects are stopped twice daily to talk about safety hazards; employees perform 3 safety inspections per day, and twice daily safety hazard review.
- Pre-task plans are used as a leading indicator - the hazards the crew forecasts each day are tracked and used as a guide to formulate safety training
- The ratio of frequency of inspections to who performs them is: Safety manager - weekly; Project manager - twice/month; Superintendent and foremen - 3 times each per day!
- Pictures of the project’s competent people are posted so others recognize them as someone they can go to for assistance.
- Steps and handrails are installed on frequently used truck/equipment to allow safer access.
- Safety audits performed at job set-up and 75% completion to make sure nothing has changed - and if it has, then the mishap prevention plans are updated and adjusted accordingly.

Worker Engagement, Involvement, and Participation

- Employees participate in the “Weekly Walk-around Safety Audit” where they give their perspective on site hazards observed and controls and processes to mitigate them. They give peer to peer input from spot inspections of the subs work and their equipment fitness.
- Families are invited to participate in “Topping Out” celebrations.
- “Weekly Walk-around Safety Audits” are monitored to: 1) be sure that they are being completed, 2) to be sure that they are not boiler plated and 3) that team members other than just supervisors are being utilized to conduct the audit to get a fresh outlook and to give others an opportunity to be involved.
- Employees are encouraged to share safety ideas with their families such as the safety protocol if encountering a downed high voltage powerline and safe work practices with chemicals.
- Smoking causes problems on many of the jobsites. In 2018, company decided to offer help to those workers that want to quit smoking but say they cannot afford a treatment program. On a voluntary basis, any employee that wants to quit smoking will have their initial doctor visit paid for as well as four hours’ time off of work to go to the appointment. If the Doctor prescribes a drug to help the employee quit smoking, the company will pay for up to a 90-day prescription.
- Safety goal setting and measurement to track progress of plan (published, communicated and celebrated when appropriate).
- Provide our front-line leaders with the interpersonal skills to successfully practice empathetic accountability with their crews; “Empathetic Accountability” is the ability to hold others accountable to achieve results without making an enemy.
- Field employees are integral to identifying training needs and developing materials rather than simply being passive recipients.



- Jobsite briefs are conducted three times per day; morning, mid-day and end-of-day. Each brief is similar in nature but unique providing the opportunity to focus on specific relative elements. The briefs allow us to plan our work (morning), address any changes in that plan or the work environment (mid-day) and recap the events of the day, as well as provide a message to take home to our families and communities (end-of-day).
- Award a Safety Personnel Time Off (PTO) hour for each good catch reported to management.
- Retain a licensed counselor/chaplain to assist with personal issues and help our team achieve emotional and spiritual wellness.
- Have increased worker welfare by providing areas that have shelter, tables and hand washing facilities.
- One of our employees asked if we can create a "2 eyes 20 feet" rule. This employee was very passionate that if you do not have 2 eyes locked with the operator you should maintain a distance of 20 feet from the machine. Safety created hard hat stickers as well as stickers for windows on each machine with the pictures of 2 (eyes) and 20 (feet).
- Think Z was a concept conceived by our company, instilled on all employees, and a measure of accountability to each level of leadership. Think Z is constructed around the concept and goal of Zero Incident, Zero Defects, Zero Losses. That is the goal of each employee, for each task, during each job and during all phases.
- All lead employees received Dupont STOP training, which is tailored specifically to our work. Through STOP training, employees learn that; all injuries are preventable; employee involvement is essential; management is responsible for preventing injuries; all operating exposures can be safeguarded; employee safety training is essential; working safely is non-negotiable; safety observations are vital; all deficiencies must be corrected promptly; and every employee has the "stop work" authority.
<https://www.training.dupont.com/dupont-stop>
- All employees who drive company vehicles are only operated by Defensive Driving trained personnel. Training is completed through the National Safety Council every three years.
- Employees are rewarded regularly with weekly gift-cards for safe behavior, safety leadership, safety innovation or stopping the job.
- In the past year, we began utilizing shade trailers and mobile water wagons to significantly improve employee welfare.
- Annual all employee Safety Fair: Employees get to preview new state of the art safety equipment while fraternizing with one another and their families. Fair activities and refreshments are provided so while training is taking place, the families can watch and have a good time. Believe that by inviting family to attend this annual event the point is driven home "safety is of the utmost importance".
- A daily "safety slogan" is texted/emailed in the morning to every company employee that has an email address/cell phone number.



- Each piece of equipment has its own specific inspection form that's specific to the type of equipment. No longer use one inspection form for all equipment.
- “Force Multipliers” - We don’t rely on a single person to identify hazards on our projects. With an educated, empowered and motivated workforce we have over 95 hazard identifiers.
- Safety Xchange’, an information tool that has been shared with employees, subcontractors, associates and clients. The database contains over 1,200 subscribers and is growing; it has proven an effective mode of communication. The email blasts contain pertinent safety issues encountered in the field.
- Safety Systems Improvement (SSI) Task Force collects feedback regarding the development of procedures, accessibility of information and near miss reporting from our employees in the field. We used this feedback to invest in technology, simplify requirements and improve the way we engage with our employees.
- Our perspective is that humans simply perform better when they are directly involved with the risk assessment process and empowered with the ability to dynamically decide our work practices.
- 60-second employee-produced videos discussing relevant safety topics like stress and weather-related challenges.
- Special emphasis program targeting the prevention of head injuries associated with children who ride a bike or skateboard was initiated. The program involved the distribution of a free child’s bike helmet from a specially designed web site for any employee having a child or grandchild. In placing the helmet order, a suggestion to donate to the company's Employee Assistance Fund (a tax-deductible contribution) was placed on the website.
- Off-the-job safety and health is part of the overall program which has involved activities such as guest speakers presenting programs on cancer, heart illness and diabetes.
- Employee Assistance Fund was developed to financially help employees who have fallen on hard times.
- Safety captains are craft-level leaders chosen by each crew who facilitate open communication between crews, discussing near misses, hazards and lessons learned.
- Instituted the Together Employees Accomplish More (TEAM) concept. Each employee signs a pledge and takes a safety promise certificate home so their significant other can participate in committing their loved one to safety on the job.
- Crews participate in daily warm-up and stretching prior to commencing work, which has shown significant results in reducing injury and increasing performance.
- All new apprentices are given new tools as they embark on their journey as an electrician.
- Hosts “Open House” events throughout the year. During these hands-on, interactive workshops employees at all levels are given the opportunity to learn how to use and safely operate tools and equipment within our industry.



- Each month, an "Observations Scorecard" is sent to all employees and posted on job sites. The scorecard includes top submitting employees, most recognized hazards, number of at-risk and safe observations recorded and participation from various projects. Through the implementation of the scorecard, employee participation has increased 250% with over 9,000 at-risk and safe observations recorded this year.
- During Safety Week 2018, more than 5,000 people our project sites participated in safety training, stand-downs and appreciation events. Every site held a safety event every day of Safety Week. Area leadership participated in these activities and provided face-to-face support for every site in their coverage area.
- Utilize a "S.A.F.E." card hazard identification "game" and individuals that participate received public recognition.
- Weekly, crew led safety audits are conducted with an employee and management to encourage employee involvement and buy-in to our safety culture. Employees are chosen weekly at random to participate in a safety audit. Employees participating in these audits have proven value by pointing out hazards and/or best practices that they may or may not have felt comfortable discussing without a mandatory invitation or in a large group. These are tracked monthly for completeness and participation.
- Company-wide Safety Week heightens safety awareness through activities that engage employees and at an award-winning Touch-a-Truck weekend event, their families and the greater community. Attendance topped 1,200 at our most recent Touch-a-Truck.
- Management pays for dinner safety meetings for each division quarterly and companywide annually. Elevating safety in such a way elevates safety in every employee's eyes. Guest speakers go beyond OSHA compliance to best practices. One speaker, for instance, was a decorated Navy SEAL who likened his experiences training for combat in Iraq with the readiness and awareness construction workers must exercise to stay safe.
- In 2018 "hired" Darwin, a crash test dummy, to provide more hands-on rescue. On all projects with roof work, Darwin participates in actual fall and roof rescue practice; helping to improve the planning on that specific job, as well as, on future projects. The kind of real world, hands-on risk assessment Darwin provides makes us extremely proud, and the workers in the field love it when he shows up.
- Provide preventative care consultations with EMT's to workers with aches and pains on site. We modify their work, so they can get back to 100% thereby avoiding injuries and time loss.
- Line of Fire (LOF) program that allows all employees to record and submit any hazards requiring immediate attention and to recognize other fellow employees for working safely. Employees write and submit LOF cards daily for review by the Safety team onsite. Upon receiving three (3) positive interventions from an employee, the employee is given an incentive award.
- All job tasks are completed around the idea of "would I put my child in this situation?"



- Public Safety & Community Outreach recognition program – A crew demonstrates concern for the public's safety/welfare and is courteous/professional to the traveling public and business owners.
- PRIDE prevent injuries, increase productivity, decrease potential for fines, effectively complete.
- Community outreach - knock on doors of residences near jobsites to make them aware of the job and unusual noise.
- Heavily promote a physical and mental health wellness program.
- Use a poster board that displays each jobsites commitment to safety that is very large and the workers on-site sign.
- TEAM - Together Employees Accomplish More.
- A safety promise is signed by all employees AND their significant other.
- Use a Safety Crew of the Month recognition program to promote safety.
- Launched program to address suicide prevention and opioid abuse.
- Have a Caught in the Act program that rewards people who do everything right. Short term employees wear red vests and when able to answer questions about safety are given spot rewards.
- Use pictograms for signage that solves the language barrier for multiple cultural challenges.
- Use a "Coaches Playbook" that focuses on the 6 C's. Hold a coach's clinic that has resulted in better planning and employees having better soft skills of coaching for performance and avoiding unforced errors. The 6 C's include Care, Communicate, Consistency, Challenge, Committed and Culture.
- Three C's of safety: Care, Courage and Courtesy
- Have a Discovery day for potential new hires for both existing employees and prospective employee.
- Employees don't have Stop work authority, but they have Start work authority. The concept is that planning work before one starts and doing it right is the key.
- EMAD - a program called Everyone Makes A Difference.
- Operational excellence involves an idea is generated, a video is made, it is shared online and ultimately incorporated into company best practices.
- Have a spiritual advisor on staff to help combat the high suicide rate in the construction industry.
- Offer free PPE to employees for their personal use off the job.
- "Ideas for Success" program where employees are rewarded for submitting innovative ideas.
- Employees have to make safe choices every minute of every day for others and themselves.



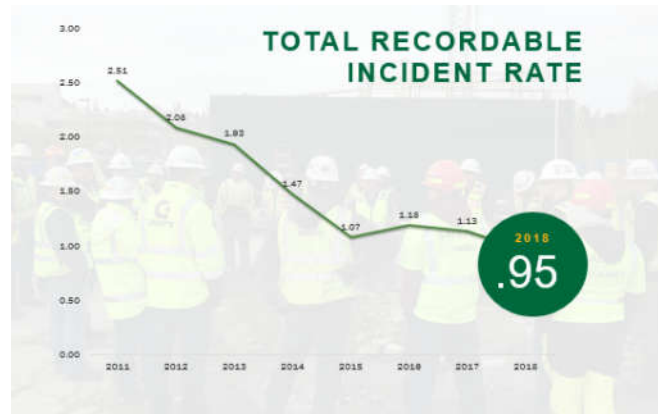
- Our safety core value is relentless focus on keeping everyone involved in safety day to day.
- We continue to add new employees each year (25). We still feel like a small company even though we have grown because of our caring culture. Our people go home safe every day. Great place to work.
- Use observations during daily pre-planning sessions to drive training topics, content and/or frequency.
- Field employees are invited to deliver a presentation to an audience of their peers on their project safety programs.
- The company News App allows employees to report safety observations in real time, which is then analyzed and trended by the safety department.
- An orientation video titled Make it Personal-Take it Personal features field employees commitments and testimonials.
- Each day the foreman involves a different crew member in the creation of a JHA, aiding in crew bonding and reinforces buddy system.
- Crew ride-alongs: a different member of the crew rides along with safety professional to identify safety hazards and controls throughout the job site.
- Different crew members are assigned as visitor escorts when A/E's or owners arrive.
- A weekly newsletter goes to all employees, featuring updates about recent incidents, a root cause analysis of each incident and corrective measures. It also includes a 60 second employee produced videos discussing relevant safety topics like stress and weather challenges.
- CSEP program (Craft Safety Empowerment Program) - members are working field employees identified by wearing a different color vest. Each member is a mentor, available to answer questions regarding safety, quality, production, quality of life on the project, etc. Every 2 weeks, the CSEP team meets with the PM and discusses what they've seen and heard from craft employees. Agenda includes: What are we doing well? What do we need to improve upon? What bothers them?
- Worker engagement surveys - in English and Spanish - are anonymous and online and provide senior leadership with actionable information to improve the company's safety culture.
- Safety professionals help in business development and project bid processes to ensure projects include accurate estimating for mishap prevention and risk mitigation strategies.
- Safety mentorship program gives those interested in pursuing a career in safety with an opportunity to accompany corporate safety professionals to evaluate the career field.
- Management engages family members, high school students, college students and tradespeople by offering free safety training such as OSHA 10 and 30 hour courses, wellness tips and health screenings.
- Employment of bi-lingual safety advisors to ensure entire workforce understands safety protocols and can be provided with accurate information in their native language.

Safety Training and Validation of Training

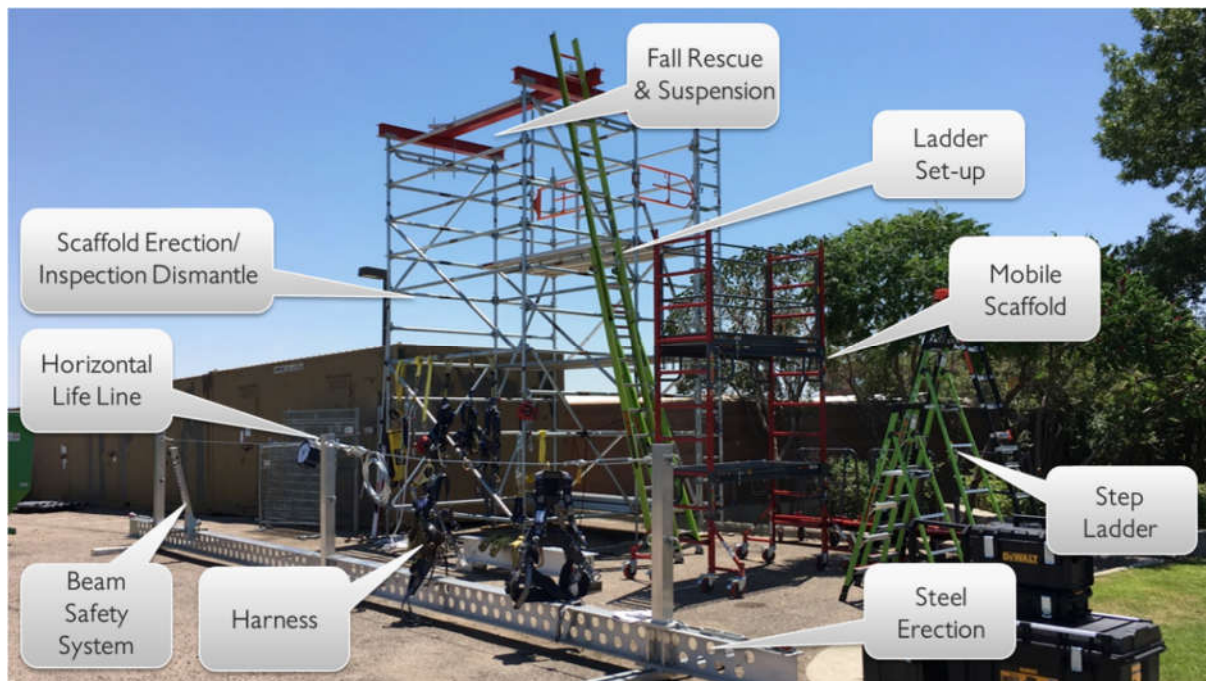
- Encourage DOT employees and inspectors to be a part of the safety of each project by requiring them to use all appropriate PPE and be engaged in weekly progress meeting's safety topics and joining our "Weekly Tool Box Talk" meeting.
- Safety "Flash Drives" were initiated in 2018. They are populated with all of the information that is on the company safety "SharePoint" site. They provide access when internet and data reception is not available.
- Employee safety orientation and other safety topics like tool operation, safety concepts and processes are trained by an "Alpha Dog", who is anyone qualified to train on a specific subject because of their knowledge and experience.
- New employees go through two days of orientation, then on the job training with a company designated trainer. Field Operators have OSHA 10 and OSHA 30 training, National Safety Council Basic Plus and Confined Space training, First Aid and CPR training as base training. Depending on job assignment, employees complete several Site/Task Specific training programs and other job required training each year. Training records are kept on each employee to show the tasks and jobsites they are qualified for.
- Implemented TEXO's Safety First program on the project. The Safety First program was introduced to provide standardized safety information suitable for construction personnel at all levels. The safety culture on the project was very notable. The team worked diligently to create a safe and health conscious culture that resounded through every work activity.
- If someone when asked can't explain the risks and the safe aspects of performing the task, they don't know it. We leverage the power of simply asking open-ended questions to engage a quick effective knowledge and coaching test. For example, our Foremen are coached to ask employees "What are the tasks being performed today?", "What could go wrong? How could we get hurt?", "What controls do we need to keep those hazards or risk in check?"
- Learning Management System (LMS) was developed to provide consistent/customized training including onboarding, annual, refresher and specialized training. This ensures everyone receives the knowledge of Safety/Health requirements and familiarization of risks.
- Developed a "Heavy Equipment Operator Qualification" program by utilizing CATERPILLAR e-Learning CD software for classroom training. The key component from CATERPILLAR e-Learning software is the equipment walk-around segment. This portion of the training is very detailed from pre-start, mid-day and end-of-shift inspections.
- All new hires are required to take an online safety orientation course from Health & Safety Institute, (HSI) Online training. A score of 80% is required to pass. <https://www.hsi.com/>
- Provide each employee with over 16 hours of safety training before they leave the corporate office to go to a job site. This training reviews the tools and equipment employees will use in the field. It covers all regulatory issues required and seeks a personal commitment from each employee to work safe.
- Our responsibility is to provide the highest level of safety orientation and craft safety training possible. We are moving from a two-day orientation to a three-day safety boot camp. This will be especially helpful to the non-traditionally trained craft workers entering our industry.



- Using QR codes stickers on our hard hats identify a person by photo and their training and qualifications.
- Anyone who enters a trench, confined space, uses fall protection equipment or operates motorized equipment must also present a certificate of training. In addition to a certificate, our trade partner must prove it has met or exceeded our company's minimum training standards.
- We focus on quality of training and verification rather than catch, punish and release.
- Provide safety support to clients and contractors on projects, such as facilitating the OSHA 10 and 30-hour classes at no cost.
- Frequently Asked Safety Questions - top 10 safety questions asked and answered.
- Motor vehicle accidents are classified as "preventable" or "non-preventable". Employees involved in a preventable or non-preventable motor vehicle accident are required to take a defensive safe driving class within 30 days of the accident.
- Provide a set of stickers to new hires help communicate to everyone that they are new. The sticker looks like a yellow street sign and it says "Caution I'm New" which helps everyone support them and train them. They get up to speed with how things are done. The stickers are all marked with an expiration date of ninety days following their hire date.
- Developed Top Drum Training for our ready-mix drivers and Top Wheel Training for our aggregate drivers
- STOP - Safety Training and Orientation Program is a site specific, one-on-one orientation with a project manager. New hires must achieve a 100% on the multiple choice exam following the on-line training to verify comprehension. Completion is tracked, and certifications can be printed out via a LMS (Learning Management System).
- Saw deficits in providing ANSI-compliant lift training. Owners committed to take the lead with an industry best training program. While most IPAF training centers are rental companies, we now have that capability in-house and is Connecticut's only IPAF-Certified Training Center. International Powered Access Federation (IPAF) <https://www.ipaf.org/en>
- New hire training center is especially effective for addressing workers new to the construction trade. It includes 18 modules or work stations and is a hands-on learning center. This portion of the safety orientation takes around 3 hours to complete. All workers who are new to the site receive a red vest for 90 days this alerts other workers to assist in coaching and mentoring the new worker to the site.
- Provide monthly safety training for all employees using a state of the art, web-based training and validation system called Vivid Learning. With Vivid, we can now provide required training and validation in English and Spanish along with over 100 optional courses. This gives us the confidence to know that everyone who reports to our sites has the competence necessary to work safely regardless what language they speak. <https://vividlearningsystems.com/>



- Training staff discovered that people learn and respond to visual presentations far better than bulleted PowerPoint slides. All of our training is very visual and always includes an engagement activity to further foster comprehension.
- Have a licensed physical therapist provide one on one training with each new employee on proper lifting and body positioning so they can safely lift and perform the job.
- Speak Up! / Listen Up! for Construction program – this training course is attended by all employees within 30 days of hire. The program is designed to foster safe work environments by helping employees overcome the anxiety that can be associated with giving or receiving safety-related feedback. <https://www.masoncontractors.org/education/speak-up-listen-up-for-construction/>
- All supervisors receive OSHA 30-hour training, plus 8 hours of continuing education safety training each year.
- Designed in-house Diver and Tender training, focuses on diver fatigue/alertness/readiness and provides hands on, real situation training.
- Have established an in-house National Center for Construction Education and Research (NCCER) Accredited Assessment Center for Crane Certifications). <https://www.nccer.org>
- Use QR codes specific to each employee and will show the employees training history.
- Use language conversion software to allow employees to complete online forms, etc. in their native language and then it gets converted to English for management review.
- Equipment Mechanics – developed a work order time card system that asks a few hazard recognition questions before than can submit a time card.



- Use a safety training software development program called Kahoot. <https://kahoot.com>
- 12-month driver training program using simulators and interactive modules.
- Company shuts down for three days at the beginning of each year for an all employee safety meeting.
- Use a language neutral safety orientation video.
- Invested heavily in virtual reality technology and have created VR scissor lift and boom lift training.
- Three important aspects of our safety program: Honest Reporting, Synergy Training and Cross Training.
- Training records are available via foreman mobile devices, so they can verify competency before assigning tasks.
- "Know Safety/No Injury" where workers are randomly quizzed on current safety topics from company newsletter or current safety campaigns - when a worker answers correctly he receives a gift card.
- All employees are required to take a minimum of 12 hours of training a year in their LMS but are encouraged to take 25 hours.
- Use of QR coded stickers on hard hats which link back to employee training records, accessible to supervisors assigning work.
- Hands on safety training validation makes it impossible to cheat or "fake it".
- Training effectiveness is validated by performing a 30-day performance review with all employees after completion of mandatory training.
- A follow-up summary sheet of information presented in training classes is provided to employees after 30-days as a reminder of course content.
- Fall protection training provided to employees via a mobile fall protection training tower.



Subcontractor Management

- We are having a positive impact on our colleagues by the example we demonstrate to our subs, suppliers and community.
- We have an open source policy on all our safety programs, testing and documents. We are willing to share our resources with other businesses at no cost and will sit down and mentor them while they develop their safety program.
- Participate in subs "Weekly Tool Box Talks" or have them participate in ours. We will shut down their activities if they are not complying with sound safe work protocols.

- Bid Books” provide project site-specific information: leadership names and contact information, plus subs and contact information, sub scopes of work, supplier information and addresses, phone numbers and pertinent company information for establishing vendor accounts.
- Subcontractor Site Specific Safe Start Program (5sp) – The 5sp document provides a condensed version of our policies/ procedures/ paperwork and OSHA VPP for subcontractor responsibility and accountability. Any site-specific safety items/hazards are included in the 5sp. The 5sp is the most efficient document for employee involvement and subcontractor participation.
- Goal is to build relationships with all subcontractors and to partner for success. We want subcontractors to want to work with us and try to make the job fun by engaging their employees in topping out parties, giveaways and outside functions.
- Subcontractor Prequalification was improved by developing a safety and risk potential scoring system. Lower scoring subs must have their president come in to discuss a corrective action plan before they perform work. Presidents discuss progress monthly. Used to help improve the subcontractors who show a genuine interest in improving their safety programs. It is also an internal tool to help make sure there is adequate safety monitoring of the subcontractors.
- Encourage subcontractors to comment on our safety program and give us feedback on ways we can improve.
- All subcontractors are required to have a valid "SafetyFirst" orientation badge prior to starting work. https://www.texoassociation.org/web/Online/Events/Event_Display.aspx?EventKey=SFTE070116&hkey=0dd51f06-23df-4ab4-b561-74213f6cea70
- Hold Safety Summits with hundreds of our top trade partners across the Southeast. These events are geared to inspire the hearts of the owners of our trade partners. Our Division Mangers (DM) personally call each partner inviting them to the Summit. At the Summit, the DMs speak from their heart on why safety is so critical to them. After the Summit, our partners receive hand-delivered plaques commemorating the critical partnership commitments that were made at the event.
- Peer-to-peer safety inspections have replaced safety talks with foremen and managers who, hopefully, disseminate the message through their ranks. All subcontractors attend monthly safety training meetings. Afterwards, taking turns each month, one trade will walk the entire site, not just their own work zones, to inspect and reward safe practices with gift cards.
- Conduct a post-job safety performance review on each subcontractor and assign each subcontractor a GO/NO-GO rating for future work.
- If there are safety observations, both positive and negative, observations are documented in the BIM360 field software system and opened as safety issues and they are emailed directly to the subcontractor to correct, document the corrective action, and then close the issue so we know it was corrected in a timely manner.
- Created safety requirements for new Temporary labor agreement.



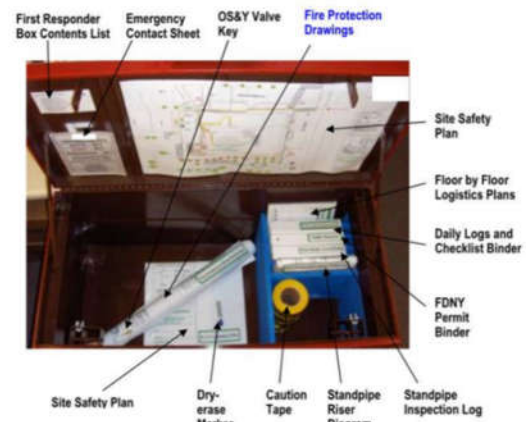
- Use Capital City Safety a company created internally to make safety excellence a standard for themselves and subcontractors.
- “Penalty Box” – Identifies individuals or crews not complying with company standards.

Emergency Response and Crisis Management

- “Evacuation” map, contract information with the location of the project including GPS coordinates and a physical location.
- “Emergency Contact” section includes: First Responders, Police, Fire, Hospitals, Environmental Remediation Contractors, Emergency Retrieval responders, addresses and person of contact. All phone numbers and services are verified.
- “Emergency and Crisis Management” plan has recently been re-designed to produce quicker and more effective results in the event of a crisis. The key change is a written plan that is not burdened with verbiage rather than with activity that may save a life, limb or property. Company has divided the plan into four parts.
- “Courage to Care” training to help provide leadership/supervision with practical tips whenever an employee is behaving suspicious or out of ordinary.
- The company developed the D.E.F.E.N.D. module for our employees. With changing world of occurring and increased risk of domestic violence or hostile work employees we took the proactive approach to the issue. The module states that the situation will dictate the order of the approach but know the D.E.F.E.N.D. method when dealing with an emergency. Defend, Evacuate, Fortify, Emergency Medical Aid, Notify Others, Dial 911.
- We continuously seek ways to improve safety, which is not possible without the full support of our upper management. We have developed a smartphone safety app called SmartSafety to make our crisis management procedures easier to use and more accessible. The app connects project teams and provides crisis management, general safety information, and contact information. The app can issue an emergency alert to all workers onsite, help summon medical support and first responders, or help navigate to the nearest hospital or minor emergency clinic. The app displays the site-specific evacuation routes, assembly areas, and the locations of fire extinguishers and first aid kits.
- “First Hour Response”. This is the action plan with an outline of the hierarchy of the response team, their responsibilities and team members and contact information for anyone needed to be involved. Each subordinate individual completes their “to-do” list and reports back to the Team leader.
- Preconstruction meetings called “Mentally Installed Systems on Paper” (MISOP) have a safety component which covers emergency-response procedures specific to the working location, chemical inventory for known chemicals to be onsite, work scope hazards and mitigation planning. These plans are reviewed and modified as needed during the project to maintain effectiveness.
- All employees are required to carry accident forms with them at all times. These forms list the Chain of Command within the company as well as 911 and local authorities.



- Potential crisis situations are formally reviewed each year. Some of the items covered are Active Shooter, possible heart attacks, suicide on the job, domestic problems brought to workplace and drugs in the workplace.
- Conduct emergency safety drills twice a year which involve local emergency providers and personnel. Feedback from project stakeholders is that the local fire and rescue find this is crucial to their training as well as ours.
- Provided Automated External Defibrillators (AEDs) on every project, over 120 life saving devices and counting! Along with proper training, these have been put into service 4 times in the past year. Fortunately, after the AED analyzed the patient, no one has required a shock from the AED but the comfort it provides our teams is worth every penny.
- Monitor the hourly weather forecast and communicate warnings to our crews. This gives them time to secure all loose materials prior to any significant weather developments, thus reducing employee and public exposure to flying debris.
- Crisis communication plan identifies who is responsible to make statements, provides guidance to employees about any media inquiry they might receive and provides guidance for directing members of the media or law enforcement to the correct person in charge of a jobsite or office.
- Each employee is given a wallet-sized crisis card to keep on their person at all times while on the job. The card has a check list of actions to take if there is a crisis or emergency, as well as contact information for members of the leadership team. Each employee also receives a hardhat sticker with direct contact information for the safety director, director of human resources and chief marketing officer. They place the sticker on the inside of their hardhat, in the case that they are unable to find their wallet card.
- All managers are trained in emergency and crisis management and are required to complete an interactive training course. The instructors of the course are industry attorneys and media professionals. This training includes a hands-on exercise in which teams respond to a hypothetical crisis situation. The teams are timed and must manage a quickly evolving crisis as new details emerge. A lead person is identified to speak to the media. Interviews are videotaped and are reviewed by the class, making this training very realistic. We also communicate and provide access to our crisis management plan and crisis quick reference card on all company issued mobile devices through our "News App".
- Invited city first responders to conduct emergency crane safety training. There are two tower and seven mobile cranes on the site, bounded by potential hazards: a rail line, an interstate highway and heavily travelled streets. Approximately three hundred tradesmen can be at work on any day. We donated specialized equipment to the first responders that they would need should our crane emergency plan need to be executed.
- Conduct various occupational health drills such as heat stress, heart attack, snake bites, bee stings and chemical burns. Our drills also cover adverse weather events and time is taken and recorded to determine how quickly workers can get to safe shelter.



- Every supervisor must attend a four-hour workshop covering our crisis management plan. The training is based on the “table top” structure, developed by the U.S. Department of Homeland Security. The half-day sessions provided participants a simulated crisis to discuss their role and response during an emergency situation. The content was developed in-house by Safety, Human Resources (HR) and Marketing departments. The training consists of small group exercises with scenarios such as crane collapse, falls, fires, active shooter, bomb threat and gas leak to name a few. Each group is role play tested by the media, EMS/Fire Response and OSHA to ensure our project teams handle the response and investigation properly.
- Hard hat sticker contains personal and medical info for use during an emergency.
- Working with the city on developing e-scooter safety programs to deal with scooter and bikes that travel around and through their jobsites daily.
- Canvas neighborhoods, knocking on doors where they are working to alert people of what to expect out of the ordinary on their jobsites. Also, communicate through other outreach programs when high-profile work occurs in a community.
- Crisis Management preparedness includes inviting OSHA, attorneys and TV investigative reporters to simulate a true crisis.
- A site-specific emergency action plan, including identification of evacuation routes, primary and secondary muster points and emergency communication system, is developed, posted and reviewed with every employee on the project site.
- Fully certified rescue team, which consists of employees, who are fully trained and certified to carry out emergency rescue procedures on any project.
- Created a safety action plan video that showcases the safe steps to be taken during an emergency.



The Word Cloud below represents the most used words in all the finalists’ applications. The size of the word represents how often it was used.



Contacts

For additional information, please contact:

The Associated General Contractors of America and Willis Towers Watson believe that Risk Control and Safety are not proprietary. Please feel free to share this document with other contractors, subcontractors, design professionals, owners and whoever else that can influence our industry, so every worker returns home safely to their family.



Kevin Cannon, CSP

Senior Director, Safety and Health Services
Government and Public Affairs Dept.

Associated General Contractors of America
2300 Wilson Blvd, Suite 300
Arlington, VA 22201
(703) 837-5410 Direct
cannonk@agc.org

Mike Fredebeil, CSP

Senior Vice President, North American Director
Construction Risk Control

Risk Control and Claims Advocacy Practice
Willis Towers Watson
Concourse Corporate Center Five, 18th Floor,
Atlanta, Georgia 30328
Phone: 770-815-6006
mike.fredebeil@willistowerswatson.com

2019 CSEA Finalist Judges

Bill Parsons, SMS - Air Force Chief of Occupational Safety, Headquarters - Air Force Safety Center
Anthony J. Militello, PE, CSP - Director of Occupational Safety and Health, Department of the Navy
Treasa M. Turnbeaugh, PhD, MBA, CSP, ASP, CET, CAE, IOM - Chief Executive Officer, Board of Certified Safety Professionals
Jane B. Beaudry, CSP, CHST - Construction Safety Manager, AstraZeneca Global Engineering, Americas
Mike Fredebeil, CSP - Leader, North America Construction Safety and Risk Control, Willis Towers Watson



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