AGC
THE CONSTRUCTION ASSOCIATION

Willis Towers Watson

2020 Construction Safety Excellence Awards (CSEA)

Safety Management Best Practices

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Introduction

On March 11, 2020 almost 700 contractors attended the AGC-Willis Towers Watson Construction Safety Excellence Awards (CSEA) luncheon that was held at the AGC National Convention in Las Vegas, Nevada.

Bill Creedon, Global Head of Construction for Willis Towers Watson, introduced the awards and noted: “Willis Towers Watson continues our 30 years of support and sponsorship of the CSEA and to help facilitate the industry’s commitment to safety. Last year we raised the concern around mental health in the construction industry and this year, we are putting an even greater sense of urgency around this critical subject. We all need to move our concerns into actionable efforts to help our workforce. This year, as we all listened to the presentations, it was clear the industry recognizes the myriad of impacts our industry could see in the near term and they are taking actions to work through the hurdles while keeping safety and health of their teams at the forefront of every decision. As I shared last year, 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 5-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 2020, there were 57 total finalists among 7 divisions and 18 categories.

AGC and Willis Towers Watson presented the Grand Award for Construction Safety Excellence to Faith Technologies. The first-place winner of each category was included in the evaluation that determined the “Best of the Best” of the 2020 Construction Safety Excellence Awards finalists.

Profile of the Grand Award Winner

Company Background

Faith Technologies is an energy expert and national leader in electrical planning, engineering, design and installation. Faith leads industry change through a dedicated investment in technology, strategic project consulting and process engineering that drives productivity, value, and above all, safety.

If you walked through a Faith Technologies jobsite or office in early 2020, you would have come across a number of employees sporting jackets or vests with some interesting numbers embroidered on them; 0.42 and 7. While those don't seem to be particularly noteworthy numbers, to us they most definitely are, as they are a real testament to Faith's safety efforts. Faith Technologies earned a Total Recordable Incident Rate (TRIR) of 0.42 in 2019 and worked more than 7 million hours without a lost-time injury. While we lead the industry with our safety results, we also continuously strive to be better.

Several key factors contribute to Faith's safety results: they include building safety into project planning from day one; the heightened use of manufacturing to move labor hours into a controlled environment; and daily engagement with all employees, beginning with jobsite operational risk management (ORM) reviews, our safety question of the day program and our daily safety bulletin. We have also placed an emphasis on the holistic wellness of each employee – mind, body and soul, caring for our employees and their families on and off the jobsite.

For 2020 and beyond, we have challenged our employees to achieve a zero-incident rate. We know that this is doable – we're achieving it nearly every single day on every job site and every Faith location. With all our employees fully engaged in working safely at every moment, we all achieve success.

What we have learned and changed in our organization over the years by entering the competition

When Faith Technologies received the Grand award in 2010, we were considered one of the best – but we were nowhere near where we are now. Having a culture based on safety means that safety is engrained in everything we do. There is no one thing that can make a company completely safe, but rather a focus on even the smallest things, day after day, that have continued to help us improve and set us on the course to strive for zero injuries. We don't just hit homeruns – instead we make sure all the little things are in place to create a strong safety culture.

Entering the AGC Construction Safety Excellence Awards (CSEA) program helps us become better. We use the award application as one internal benchmark to see what we've done, what we can do better and what we can document. Feedback from judges in the initial stages of application review also provides different perspectives on the safety program and helps inform changes.

Our message to companies who haven't entered the award competition before

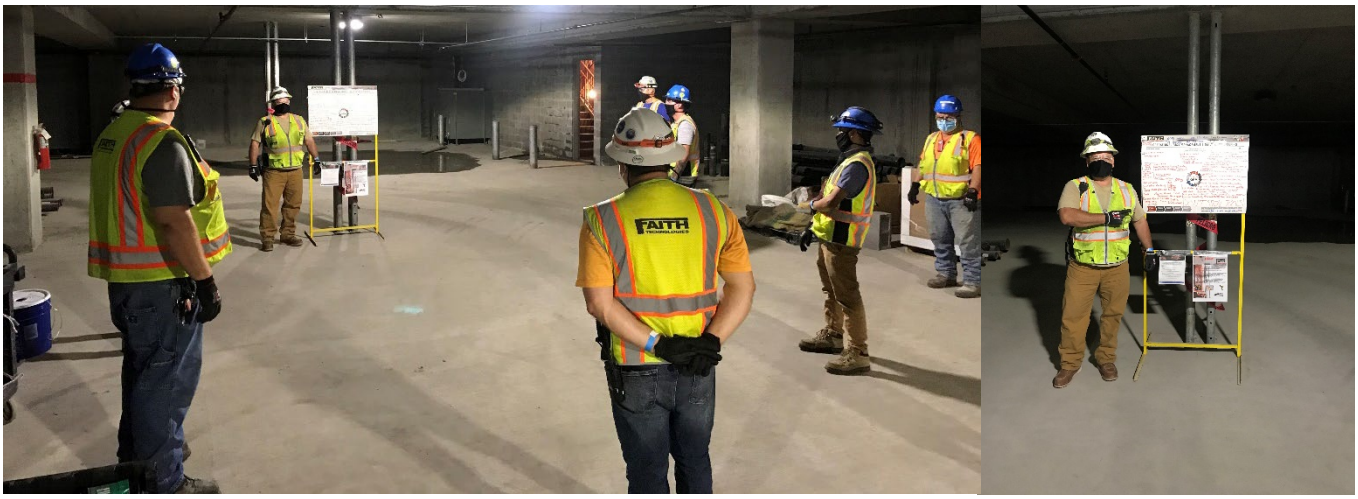
The application process for CSEA requires a significant amount of time, evaluation and planning, but the benefits are worth it. At Faith, we consider it a self-evaluation process that helps us determine if what we're doing is working, and how well. In addition, participating in or even observing the judging for the awards is a learning experience that you cannot put a dollar value on. AGC member firms as a whole are committed to meeting or exceeding the safety standards set by the organization, and the CSEA competition brings together the best of the best. Where else are you able to listen to these CEOs, company owners and safety professionals share what they're doing to keep their employees safe? The information communicated during the judging competition is invaluable when it comes to building or improving your safety program. If you're not taking at least mental notes during the competition, that's a huge opportunity wasted. Better yet, bring your tablet – paper or electronic – and capture ideas that you can turn around and implement at your company tomorrow.

How we plan to use our recognition as a competitive advantage

At Faith Technologies, we feel strongly that there's nothing we have from a safety standpoint that's a secret. If there's any information we can share with the industry that keeps everyone safer, we all win. We're proud to participate in the CSEA competition with the best construction organizations across the nation, and you can bet we're always looking for things we can do better.

Our safety record has enabled us to get into markets such as food and beverage, wind and solar energy, and big data/technology industries. These industries have high safety standards and expect their partners' safety records to align with or exceed their own programs.

Safety must be a top-down effort. Faith's CEO, Mike Jansen, is passionate about safety and is an active participant in our safety program. "The AGC Construction Safety Excellence Award is a result of an expectation we set for ourselves to continue to strive to be the best of the best," Jansen noted, and while positively affecting safety within Faith and the industry is the goal, having some hardware to show for it certainly doesn't hurt. "Getting recognition from AGC and our peers validates we're going in the right direction," he added.



CSEA Judges

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

Mike Fredebeil | **Treasa Turnbeaugh** | **Tony Militello** | **Jane Beaudry** | **Bill Parsons**

On January 13-14, 2020 preliminary judging for the CSEA final competition took place 2 days before the AGC Winter Construction Safety & Health Conference meeting in Austin, Texas. 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 120 CSEA applications from across the country.

CSEA 2020
120 Applications
57 Finalists

386
safety management best practices to share with the construction industry

CSEA
applicants provided an average of 4 hours of new employee safety orientation

84% of CSEA applicants have craft workers that completed OSHA 30-hour for Construction

CSEA applicants had an average:
Total Recordable Rate – 1.25
Lost Time Rate – 0.37
DART Rate – 0.90
EMR – 0.72

56% of CSEA applicants complete monthly safety performance trending reports.
12% – complete quarterly
13% – complete annually

37%
of CSEA applicants perform fitness for duty and agility testing

96% of CSEA applicants have supervisors that completed OSHA 30-hour for Construction

77%
of CSEA applicants use employee safety culture/perception surveys

49%
of surveys were in-house. 50% were administered by a third party

95% of CSEA applicants complete an annual formal safety program evaluation
75% are completed in-house
23% 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:
56% 1 hour or less
31% 2 hours or more

74%
of CSEA applicants conduct random drug tests and include subcontractors in the testing program.

92%
of CSEA applicants attend national construction association meetings such as AGC

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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

- President says safe practices yield high rewards: healthy and productive workers, quality construction work, lower insurance costs, and future business from customers who demand a safe workplace
- Safety performance is part of every employee's annual evaluation. Results of the 3rd party safety evaluation affect raises, bonuses, and continued employment.
- Senior management leads and participates in scheduled monthly, quarterly, and annual safety training. Executive level visibility is also evidenced in the intentional attendance of 2 weekly project safety training sessions per month
- Senior management leads and is involved in all root cause analysis meetings to ensure consistency of the process and to efficiently manage any identified shortfalls relating to personnel, equipment, and employee direction.

- 20% of all annual merit reviews directly relate to results and participation in the safety program. This includes all executive management under the President's supervision.

- "President and Senior Vice President have participated and completed ARTBA's SCTPP (Safety Certification for Transportation Project Professionals). This is a credentialed evaluation specific to road and bridge builders, the only current program of its kind. Executive management leads by example to emphasize the importance of safety credentialing amongst operations personnel (https://www.artba.org/wp-content/uploads/SCTPP/policy_manual_2016.pdf)"

- Weekly Project Manager meeting that includes executive management is hosted each Friday to effectively communicate and reproduce the safety message amongst all projects.

- Provide extra benefits such as 401K, bonuses, health insurance, life insurance, paid vacation & holidays, transportation allowances, and others, we promote a safety mentality and a healthy lifestyle.

- We participate in AGC safety conferences and find they are a great tool for us to learn new safety trends and implement new safety practices. For instance, we have started implementing employee guided safety meetings that promote participation and help the safety education process.

- "Our management philosophy is based on principles that guide our business strategy and influence our ways of operating:

  1) Do not sacrifice safety for progress
  2) Hire the right people for the right job
  3) Be honest and truthful to your employees
  4) Be open and truthful to your customers to gain trust
  5) Reward good behavior and hard work and recognize employee's ideas and input
  6) Grow through improving construction techniques
  7) Identify opportunities and act on them in a timely manner
  8) Keep lines of communication open with employees as well as customers
  9) Instill values, beliefs, and norms that contribute to ethical behavior
  10) Instill a sense of pride and belonging among employees to be able to grow as a whole"

- The managerial staff is required to obtain an additional 8 hours per year of continuing safety education that involves areas outside of the required OSHA training.

- Motto is "Powered by Safety" the success of our business and our employees must be powered by safety to continue our growth and success.

- Leadership developed an annual "Safety Shindig" that allows employees to spend an entire day just focused on the safety program and how they will work safely while on site.

- Senior management accompanies a safety team representative at least once a month for a full day of visiting projects and also makes non-scheduled job site visits to gain firsthand knowledge of project issues and challenges.

- Core value of "Builder Businessman." This value means that all management employees will have a more thorough understanding of the business side of construction and how safe operations affect the business. Historically, field operations have a limited understanding of the business facet and this training allows for a fully developed team who can apply both the field and business elements when making decisions.

- Ownership group established 4 core values for management to filter throughout the company. Those core values are Safety Commitment, Professionalism, Teamwork, and Continuous Improvement.

- Our COO who is one of our owners enrolled in a Safety Management Course at a local University to better understand what drives good safety programs. All of our owners have read books authored by Dan Peterson including “Safety by Objectives” and “Safety Supervision”.

- On project if there is a perceived lack of team engagement or clear deficiencies in performance, a rapid response team is mobilized to the site to address the concerns. Nothing is off the table in these instances. One-on-one coaching sessions to significant restructuring or changes to site leadership not meeting expectation are all possibilities.

- The company president and vice president attend all incident reviews regardless of the significance of the situation. These are typically performed at our main office with the entire crew involved. We feel that having this meeting away from the project increases the opportunity for impact to the employee.

- "Developed a Management Involvement and Commitment (MIC) procedure. The MIC procedure requires participation in various elements of our safety program from our management personnel. Elements that require participation from our management team include the following:

    1) Participation in a Pre-Task Planning Meeting - 4 per week
    2) Participation in safety inspection or safety committee meeting - 2 per month
    3) Completion of a Behavior Based Observation - 1 per week
    4) Recognizing an employee for one of the following: Displaying HSE Leadership; Leading Stretch and Flex; Participation in Safety Committee; Recognizing/Reporting/Correcting a Hazard; Reporting a Near Miss - 2 per month. The frequency requirements are outlined, and participation/documentation is tracked in our Safety Operating System (SOS)"

- Our management team expresses that safety is top priority, every meeting, regardless of the assigned agenda, starts with a safety topic. The safety topic may be brief, but safety is always discussed first; regardless if the meeting only includes estimators, company board members, etc., the tone is always set with safety.

- During business planning meetings each year, our top management team requires Division Management personnel to address how safety will be improved for the upcoming year. Safety initiatives are identified, and plans are outlined as to how those initiatives will be met. Before submission of the business plans, meetings are conducted that includes various levels of management personnel to discuss the safety initiatives. Best practices, possible hurdles and timelines are discussed in detail and agreed upon.

- Currently participates in Federal OSHA VPP program (Georgia DGA) and North Carolina OSHA Building Star program. Both rewarding partnerships require annual self-evaluations; basically, identifying safety improvement opportunities. Top management is part of this self-evaluation process and participates in the project visits during program renewals.

- Our leadership team has undergone a Personalysis assessment to identify personality traits and characteristics in an effort to better communicate with each other and improve teamwork effectiveness. https://personalysis.wiredtothrive.com/assessment/

- Monthly superintendent meetings, led by CEO and/or COO, combined with competent person training during each monthly meeting.

- Our first core value is an "Uncompromised Focus on Keeping People Safe". This is demonstrated by daily Operational Risk Management (ORM) meetings, and through the 15,000+ site safety audits done each year. Our partners and employees know our commitment is to their safety.

- CSEA is part of our effort to continue toward zero incidents

- Launched “Monthly Meetings with Mike,” a monthly meeting with our chief executive officer (CEO), Mike where our 3,000+ employees can dial into a 1-hour webinar. The call always starts with safety, which includes a review of any recent incidents or near misses, reminder of upcoming training, and the sharing of other announcements. It also offers time for questions and discussion and is a great way to catch the entire company that is spread out from coast-to-coast.

- The HiPo programs are designed to identify and develop top performing employees at all levels for future leadership roles and organizational growth. Two of our high potential programs are Next Generation Leaders, an elite development program for apprentices entering their final year, journeymen, and office employees who demonstrate high potential for becoming leaders; and Emerging Leaders, which is intended for individuals who show potential for becoming superintendents and project managers.

- Our COO and others are actively involved with Safebuild Alliance, a local non-profit that promotes the transformation of workplace cultures to achieve an incident free construction industry. We are engaged as a mentor in the Safebuild Alliance Mentoring Program. Over the last three years we have helped our mentee who had a start-up construction business with developing safety and business practices, examples: onboarding process and training for personnel, audits, supplier network for PPE, and HR coaching. http://safebuildalliance.com/

- We demonstrate leadership peer transparency. Top and sub-standard performers are conspicuously shared and discussed to a great extent in each meeting. Top performers are recognized for their value, and sub-standard performances are addressed to ensure accountability after the meeting adjourns. This is not a blame culture approach, but recognition for areas of leadership improvement with solid action plans to ensure success.

- We are undertaking great efforts to get most of our front-line supervisors STSC (Safety Trained Supervisor Construction) certified before the end of 2020.

- Examples of sharing information with our peers include things like our silica training videos on YouTube (English and Spanish) which we encourage other companies to use in their training programs (now at 21,000+ views and 11,000+ view, respectively); a blog post with instructions on how companies can create their own hard hat QR code sticker program; and downloadable Safety Flashes and recall announcements on our website.

- To strengthen the safety knowledge foundation and awareness of our field supervisors, we implemented the NCCER Field Safety and Safety Technology curriculum. Twenty-five superintendents have successfully completed the Field Safety modules and have graduated into the Safety Technology curriculum. Due to the success of this program in 2020, the NCCER Field Safety curriculum is slated to be offered to an additional 16 foreman and general foreman. After successful completion, our field staff will become safety credentialed field supervisors, further strengthening our core safety foundation.

- Conduct monthly Executive Leadership Team (ELT) job walks which are critical to our ownership/management involvement. ELT members are paired with EH&S personnel to conduct monthly safety inspections on our projects.

- Senior leadership requires that a senior superintendent safety committee meeting is conducted monthly.

- President holds quarterly Taco Tuesdays to meet with craft employees and leadership, discussing what is occurring on projects as well as receiving direct feedback on improving programs and processes. This is a great way for the field to interact directly with the leadership and freely discuss any concerns or potential improvements that could make the building process safer.

- President developed a video about his expectations from all employees on Safety. https://www.youtube.com/watch?v=pJYxczyFt8I

- Safety Team is a group of field superintendents, project managers, project engineers, and VP's that meet monthly to discuss best practices, lessons learned, health and wellness for employees, and strategies to create a better safety culture.

- Established a Corporate Safety Leadership Group to help support and drive safety at the operations level across the company. The group is composed of influential, senior project leaders who were nominated by their regional vice presidents to represent each of our 10 offices. Through formal monthly meetings and a consistent communication channel, this group has established regional networking to share lessons learned, best practices and improvements. These individuals also serve as the chair of the Regional Safety Committee in their respective office.

- We didn't rest on our 2019 CSEA win, instead, we dove deeper and worked harder. We relentlessly took apart our processes in search of better execution and more effective ways to enhance our safety program across the board. Our committed senior management and engaged workforce are now addicted to improvement.

- Every employee is provided a hardhat sticker that lists company management cell phone numbers and our Owner/President is the first one on that list, followed by VP of Human Resources, Safety Director, Maintenance Manager, and General Superintendent. No one in company management is ever too busy to discuss safety with a field supervisor or hourly worker.

- If an employee is injured, the president goes to their house and ensures that the employee has everything he/she needs to recover quickly. Whether it's childcare, a ramp for a wheelchair, or delivery of groceries. We take the steps to take care of them.

- Projects are evaluated each month by firm ownership to gauge compliance with the safety initiatives of the jobsite. Monthly safety grading is built into our monthly financial reporting and evaluated with the same importance as the project’s financial performance.

- We believe by sharing what makes our safety culture successful, our best-known methods, and our safety innovations with other companies, we can change the construction industry.

- Our COO has taken the new role of President for NECA and for his time in this position he has led the large contractor's safety group for electrical contractors, which meets twice a year to develop best-known safety practices for the electrical industry. He has seen the need to involve electrical contractors to build a safety foundation for future generations to come.

- Foreman Leadership Training program is a five-part leadership course designed to support and educate personnel on Safety leadership, planning and communication, the cost of doing business, estimating, lean construction, time management, the importance of mentorship, expectations for policy compliance, stress management, and public speaking.

- Every week, the CEO of the company issues a safety newsletter to all employees.

- "Life Critical Rules" are a set of rules that if not followed has a high percentage of becoming a fatal accident. These rules apply to the following hazards: Fall-Protection, Lock-Out / Tag-Out, Confined Space, 15' rule around equipment, and Trench operations. Violation of these set of rules by any personnel will result in an immediate review for employee termination by the employee's manager. Banners are placed addressing these rules on specific jobs that have office trailers and/or posted on all project bulletin boards. This policy is not designed to terminate workers but an attempt of raise more awareness.

- Our safety managers are integrated into project teams. There is a constant cycle of mentoring – safety to field staff, and field staff to safety – so safety awareness becomes ingrained in builders and construction procedures become second nature to safety personnel.

- For each project, we hold one monthly safety lunch where the PM or highest-ranking field leader will meet with three to five workers and have a candid, open discussion about safety.

- Entire senior leadership team read a revealing book titled "7 Insights into Safety Leadership". The insight inside this book was influential in the company moving its core safety focus from failure-based metrics to a proactive, innovative ZERO Harm vision.

- Core Values: Accountability & Responsibility, Honesty & Integrity, Always Do the Right Thing, Firm & Fair, Lead by Example, Team Loyalty, and Empower People to Succeed, directly relate to our safety program. Our staff regularly shares stories of where these values have guided their decision process and how it directly results in a natural process of continual improvement.

- Management continues to support our safety programs through our 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, training) necessary to complete them.

- Top management knows that while industry RIRs are down, fatality rates are not. Therefore, we invented the STCKY messaging (Sh*t That Can Kill You) that we communicate in videos, meetings, and conversations. STCKY messaging is catchy and relays life and death information to prevent significant incidents by demonstrating that we can never let our guard down. We held our first STCKY video contest during National Safety Week and now have an established STCKY library available with many more lifesaving videos to come!

- Performing energized work takes a personal signature from a senior manager.

- CEO is the Chief Safety Officer

- Developed a gain share bonus program which is based on leading indicators

- President of the company comes to jobsites towing a BBQ pit behind his truck, He cooks the food onsite, and then serves it to the employees.
- President purchased a large public billboard with safety message to ask traffic to drive safe ahead of their work zones.

Risk Identification and Analysis

- Annual 3rd party safety program review, evaluation and summary
- Executive and project-based leadership, participate in a thorough risk identification and reduction program. This includes weekly documentation of safety audits and provides the basis for the company safety trends, as developed from a field level.
- HCSS Inspection/observation results, as well as, near miss reports and incident trend analytics and are shared at weekly project meetings. www.HCSS.com
- Safety starts at bid time. Risk reviews are conducted during the bidding process in order to understand all aspects of contractual and project risk along with their potential exposures. To identify risk and understand proper controls training is a must, we provide regular training in risk identification and exposure control for management teams well as field teams.
- Management refers to a near miss as a “great catch” placing a positive connotation on what’s typically seen as a negative. This small change of words sends a subtle message to our field: WE CARE
- During estimating, we build a risk register that highlights what we view as the most critical safety risks on the project. This document is reviewed regularly and updated accordingly until project is completed.
- Hazard Alert Learning Opportunity Program (HALO) was transformed into a near miss and safety observation program. The remodeling of the program has yielded over a 1000% improvement in the number of near misses and observations submitted.

- Each Regional Manager is provided a weekly "dashboard", that details incident and observation data from the previous week, month, and year as well as identifies trends in that data. This information is used to customize a plan to aggressively mitigate hazards and reverse any negative trends. Dashboards and analytical data are also used at the project level to compare statistical data across regions and job sites. Amazingly, the program can provide predictive data that will alert us where challenges are likely to arise which allows us to focus additional resources in that particular area.

- Developed a "Property Damage Incident Rate" that 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.

- Audits create trending metrics that allow the Safety Director and Senior Management to review data and implement additional measures if necessary, to help mitigate future occurrences in the field.

- Our program is not minimum standard based but is extensive and addresses OSHA regulations, NFPA requirements, ANSI standards, local codes and standards, and industry best practices including the CSEA Best Management Practices.

- Estimators are looking at bid packages and contractor requirements for possible safety issues and addressing these concerns during the bid stage. Project Managers are looking at contracts and partnering with general contractors during the pre-construction meetings to ensure everyone is on the same page and safety issues are identified in the early stages of the job.

- Online employee training tracking software helps us analyze data related to training to draw correlations between training frequency and accidents/incidents.

- To manage fleet and driving hazards we utilize a comprehensive GPS tracking system that sends alerts on all company vehicles that involve speeding, fast braking, idling, disconnection, and low battery. These alerts are received by management and concerns are promptly investigated and followed up with the appropriate corrective action. Depending on the situation employees may lose driving privileges and/or could result in termination.

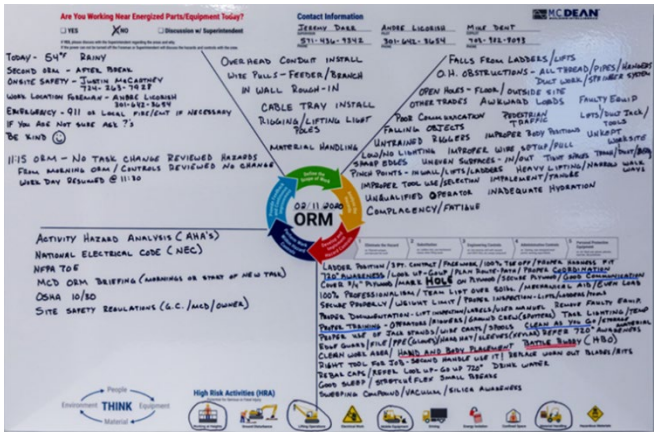
- We learn from our near misses. Recently we had one of our delivery trucks back into one of our employee’s personal vehicles in a loading zone causing minor damages to the employee’s vehicle. We realized we had a risk gap in the way our delivery trucks are operating. We took immediately action by adding back-up cameras to all our delivery vehicles and we implemented a process to have our drivers identify a spotter when they are onsite.

- We have continued to refine our business dashboards to report metrics related to fatigue, incidents and compliance. The four objectives of our strategic plan are to reduce new hire injuries by 50%, reduce safety related scheduling delays and unplanned costs, increase near miss reporting and achieve a positive to negative observation ratio of 4 to 1

- We have built a risk registry, which houses all of 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.

- To sustain high safety performance, every region is audited on a biennial basis by the corporate safety department. Prior to closing each audit, findings are reviewed with the regional management team and action items are assigned.

- We saw an increase in injuries and incidents that directly correlated to employees with less than 90 days experience. The leadership team shifted their priorities to include a heavier focus on safety education and skills training. This included a complete overhaul of the new hire safety orientation program, switching from dated OSHA 10, to a unique 3-day National Center for Construction Education and Research (NCCER) Safety Orientation curriculum taught in English and Spanish.



- We utilize ComplianceWISE, a safety management and inspection program to generate data to communicate assessments of potential risks to a specific project. Hazard findings and mitigation are tracked, to assure risks are fully mitigated and never ignored. https://www.compliancewise.net

- Recently implemented Procore's Observation Tool which allows the superintendent to document and time stamp a recognized hazard. The supervisor can then assign it to the responsible subcontractor to remedy the hazard and is notified when the hazard is resolved. The inspection data is also used during annual reviews, bonus pay outs, individual performance promotions, and program or policy improvements. https://support.procore.com/products/online/user-guide/project-level/observations

- We implemented a program that has external evaluations of each project at least twice a year to a set of 25 leading indicators. A score and formal report is issued and sent to our President and the Regional / Project Leadership. Our Company President responds to every report. In addition, he sends personalized thank you notes and special recognition to people that stand out in safety.

- Utilize Safesite Inc. App technology, every visit is documented, and a trend analysis is generated. We also use past incidents to observe both lagging and leading trends to demonstrate areas of success and improvement simultaneously. With the use of today's technology, statistical information is wonderfully illustrated in a clear and succinct matter. https://safesitehq.com

- Organize a network of regional safety professional for a group sharing meeting. We saw the need to connect safety professionals in our local area more often. This commitment also extends to our involvement with the local community colleges and high school programs in outreach presentation promoting the safe and rewarding career opportunity in the construction field.

- Even the smallest tasks are analyzed for hazards and controls are established. Our collaborative incident and close call log on Smartsheet is yielding even greater data since we improved our incident investigation processes this year. New workers are now trained on recognizing serious injury or fatality (SIF) incidents before they ever step on site based on our own real data.

- Root cause analysis are called Event Learning Opportunities (ELO)

- In addition to the standard KPI's like incident rates, we monitor loss cost per work-hour and target a goal of less than ten cents/man-hour in loss cost

- Use claim tracking in Viewpoint (a construction management software) along with SafetyNet in our monthly Project Status Summary (PSS) meetings that has furthered the line of communication between the project management team and senior management. https://www.viewpoint.com/solutions/construction-management

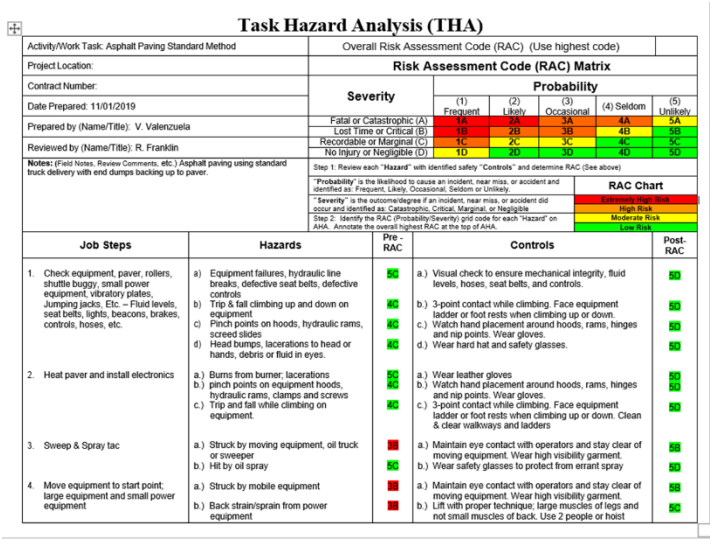
- eCompliance is a cloud-based system that allows users to provide real time information to the project team as well as aggregating statistics to allow trends to be tracked. The trending allows for our team to take preemptive measures to educate our teams about areas where we are seeing challenges. eCompliance allows a two-way conversation between front-line supervisors and management, including instantly reporting hazards and giving the management team systems that enable a prompt response. https://www.ecompliance.com/

- Require all subs to fill out the jobsite JHA poster (dry erase) each Monday morning. Company field staff take pictures for documentation and send with a Toolbox Talk report on Monday to VP via iScout. https://www.iscout.com/

- Safety Team holds an open and collaborative Superintendents' Breakfast Meeting every other month for our Management Team and Superintendents to have a step-by-step discussion of any incident that occurred on our, or other companies', jobs and implement preventative measures. These meetings and visits are meant to reinforce to Superintendents that they are an integral part of our safety program.

- Back-Up Spotters training and policy was set in place to improve safety when backing up vehicles. "Circle of Safety" reinforces survey of surrounding area to look for obstructions and to guide the driver in.

- Company began implementing with great success a Key Activity Review on specific key project activities companywide. A Key Activity Review is an informal, sit-down review with the crew to see if the execution of the work activity can be improved for Safety, Quality and Production; it has served as a method to validate that our planning procedures are effective. These reviews are performed at the 10 percent completion stage of the activity.



Task Hazard Analysis (THA)

Activity/Work Task: Asphalt Paving Standard Method			Overall Risk Assessment Code (RAC) (Use highest code)			
Project Location:			Risk Assessment Code (RAC) Matrix			
Contract Number:		Severity	Probability			
Date Prepared: 11/01/2019			(1) Frequent	(2) Likely	(3) Occasional	(4) Seldom	(5) Unlikely
Prepared by (Name/Title): V. Valenzuela		Fatal or Catastrophic (A)	1A	2A	3A	4A	5A
		Lost Time or Critical (B)	1B	2B	3B	4B	5B
Reviewed by (Name/Title): R. Franklin		Recordable or Marginal (C)	1C	2C	3C	4C	5C
		No Injury or Negligible (D)	1D	2D	3D	4D	5D
Notes: (Field Notes, Review Comments, etc.) Asphalt paving using standard truck delivery with end dumps backing up to paver.		Step 1: Review each "**Hazard**" with identified safety "**Controls**" and determine RAC (See above)					
		"**Probability**" is the likelihood to cause an incident, near miss, or accident and identified as: Frequent, Likely, Occasional, Seldom or Unlikely.				RAC Chart	
		"**Severity**" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Critical, Marginal, or Negligible				Extremely High Risk	
		Step 2: Identify the RAC (Probability/Severity) grid code for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.				High Risk	
						Moderate Risk	
						Low Risk	

Job Steps	Hazards	Pre - RAC	Controls	Post-RAC
1. Check equipment, paver, rollers, shuttle buggy, small power equipment, vibratory plates, Jumping jacks, Etc. – Fluid levels, seat belts, lights, beacons, brakes, controls, hoses, etc.	a) Equipment failures, hydraulic line breaks, defective seat belts, defective controls	5C	a.) Visual check to ensure mechanical integrity, fluid levels, hoses, seat belts, and controls.	5D
	b) Trip & fall climbing up and down on equipment	4C	b.) 3-point contact while climbing. Face equipment ladder or foot rests when climbing up or down.	5D
	c) Pinch points on hoods, hydraulic rams, screed slides	4C	c.) Watch hand placement around hoods, rams, hinges and nip points. Wear gloves.	5D
	d) Head bumps, lacerations to head or hands, debris or fluid in eyes.	4C	d.) Wear hard hat and safety glasses.	5D
2. Heat paver and install electronics	a.) Burns from burner; lacerations	5C	a.) Wear leather gloves	5D
	b.) pinch points on equipment hoods, hydraulic rams, clamps and screws	4C	b.) Watch hand placement around hoods, rams, hinges and nip points. Wear gloves.	5D
	c.) Trip and fall while climbing on equipment.	4C	c.) 3-point contact while climbing. Face equipment ladder or foot rests when climbing up or down. Clean & clear walkways and ladders	5D
3. Sweep & Spray tac	a.) Struck by moving equipment, oil truck or sweeper	3B	a.) Maintain eye contact with operators and stay clear of moving equipment. Wear high visibility garment.	5B
	b.) Hit by oil spray	5C	b.) Wear safety glasses to protect from errant spray	5D
4. Move equipment to start point; large equipment and small power equipment	a.) Struck by mobile equipment	3B	a.) Maintain eye contact with operators and stay clear of moving equipment. Wear high visibility garment.	5B
	b.) Back strain/sprain from power equipment	3B	b.) Lift with proper technique; large muscles of legs and not small muscles of back. Use 2 people or hoist	5C

- Electronic third-party jobsite audits are performed weekly. The project manager and safety review them, any issues are abated.

- To raise more awareness to Overhead Power lines, we created awareness signs by utilizing traffic control Vertical Panels. The VP's are easy to transport and stored in foreman's tool trailers. All crews are now allowed to place a sign in the area that have an overhead power line hazard.

- The first approach is bringing employees together from different facets of the business to discuss current trends, issues, and safety survey results. The objective of this team, which is called the Safety Steering Team, is to find areas of concern, propose different approaches to solving them, and passing these intentions off to a second team, called a Continuous Improvement Team. This team is comprised of field level employees that meet once a month until the subject at hand is mitigated.

- Our last layer of defense is our Last-Minute Risk Assessment (LMRA) process. We teach our Team Members to do a quick mental check before they begin any task - what could go wrong with what I am going to do? When we identify a potential hazard, we can then figure out how to control that hazard.

- 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.

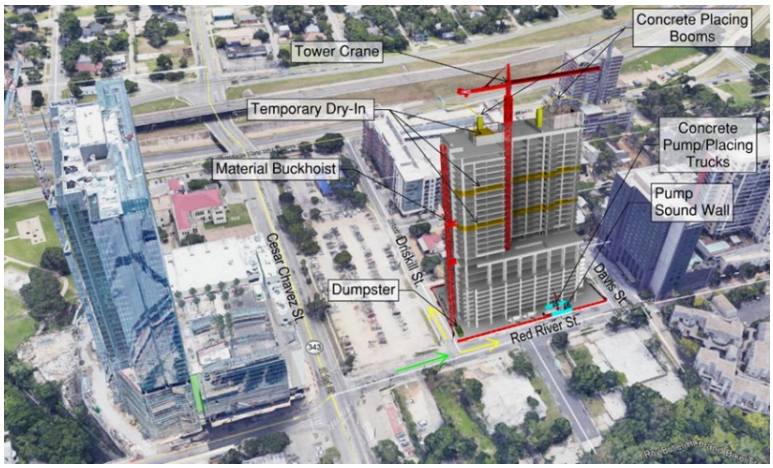
- When a new project is awarded to us, the project manager sends out a PM Checklist to the safety department. The checklist includes the scope of work and if the project will require any equipment that we may need our guys to train on. Job-site risks are identified by the Superintendent when he walks the project for the first time before any work commences.

- Our safety process starts before we even bid a job. Our estimators walk each job prior to bidding and look for possible pitfalls in the project. During this process a document we know as the risk log is generated. This document contains any item that may pose a risk to the company. Each risk is discussed amongst the management team (owner, operations director, safety director, estimator, project manager, etc.) in detail and plans/contingencies are developed to mitigate each item.

- Use fleet telematics to understand the driver's risk exposure.

- Using 360-degree cameras to document installation and quality. Used during the entire course of construction.

- Utilize SMARTDRIVE is a video-based program that uses cell phone technology to capture driver performance. https://www.smartdrive.net/



- Use Nex Traq vehicle telematics system to coach driver performance. When they started, they were averaging 10,000 violations each month and are now they are at 3,800 each month. They expect to see continued improvement as the embrace more coaching. https://www.nextraq.com/

- Lean practices have led to a focused safety assessment and is tied to the project managers bonus.

- Use a daily dashboard to communicate real time safety metrics based on leading indicators.

- Used OSHA consultation service on all jobsites in the past year. It helped them understand what worked well in their systems and what needed to be changed.

- Implemented a 10-member safety/risk oversite council. Their purpose is the review safety policies for feasibility. It consists of all levels of employees.

- Using fleet telematics from Verizon - Telogis and check MVR's. https://www.verizonconnect.com/company/telogis/
- For JSA's they use a severity/probability matrix to identify hazards in need of control. This effort results in a pre-control and post-control Risk Matrix Score.
- Use Matterport software and a 3D camera. A software program to show a jobsite walkthrough. It is a product that started in the real estate broker industry. It offers a 3D tour of a worksite. https://matterport.com/
- Score the attitude of project safety team as part of the project audit.
- Obtained a grant to design fall protection harnesses for women.
- Created a safety task force team made up of field managers and complete a peer review audit. 35 peer audits were done in 2019. These are not simple audits there are 327 questions. Many innovative safety ideas have come out of this process.

- They use a mobile app called SAFEPLAN that captures and allows data analytics. The has greatly improved their near miss tracking. https://navigate360.com/safeplans/
- Collaborate with Steel Erectors of America – they share fall protection ideas, etc. https://www.seaa.net/
- Company's belief - fail often, fail fast, fail forward.
- For $12 per person company uses Advantage program that on the spot validates with a yes or no answer employee's disposition to safety. This helps eliminated about 18% of the workforce that applies to the company.

Task Design – Engineering Controls & Design for Safety

- During the erection of the prefabricated structural wall panels where not especially heavy could have been lifted onto place with a 50-ton telescopic crane. Decided to use a 150-ton crawler crane. The smaller crane would have been more nimble but would have required numerous crane pads and a much larger controlled access zone. The larger crane allowed for fewer fixed crane pads and smaller controlled access zones. The resulting site logistics and safety plans were simpler and static, which enhanced our ability to sequence the adjacent work, to convey the sequence to the workers and reduce worker exposure to risk.
- Risk issue with fall hazards along a trenching operation. Replaced standard Personal Fall Arrest Systems with physical devices designed for vertical building construction with handrail systems that not only eliminate the fall, but to eliminate the hazards created by PFAS system.

- Prefabrication of MEP systems; Laser scanning decks prior to concrete placement to help prevent line strikes; Cover all temporary and permanent power duct banks in concrete regardless of requirements. Also use technology to limit exposure. BIM modeling is used to identify anchor points for fall protection, areas for leading edge handrail as well as inputting site utilities to avoid line strikes. Use BIM to inform sequencing of work scheduling to ensure trades are not exposed to unnecessary stacking. We also use Matterport which is a software that uses 360-degree photos to document in-wall conditions to prevent utility strikes. https://matterport.com/industries/architects-engineering-construction.

- Core construction used Aluma Gangwall form systems. Employees were having trouble utilizing fall protection as required while building the form system. The foreman implemented a static line for use on the forms to achieve easier and better protection during this operation. This was accomplished by extending the very outside 2 strong backs into the design, then installing 2 picking eyes and turning them around to install an engineered static line. Because the system allows the self-retracting lifeline to move with the employee, the workers were also protected from swing falls.

- Issued new style head protection with chin straps. A week after issuing the safety helmets, an employee was hit on the head from a glulam beam. The beam free-fell approximately 5' striking him directly on his head. The helmet's extra protection and chin strap did its job. Other than a sore neck, the employee did not sustain any head trauma or significant injury.

- Projects are planned to utilize equipment and machinery to reduce employees' exposure to injuries while carrying heavy materials by hand. This also allows our crews to use fewer ladders on the job.

- Require guardrails everywhere and anywhere possible on jobs even if the fall hazards are below 6' to reduce all fall hazards and time spent wearing fall arrest systems. Have designed mobile work platforms that take the place of scaffolding and allow employees to work free of falls on the job

- Engineering - add additional jersey barriers than what were indicated in plans, install sheeting when necessary at our own cost, utilize additional shoring and trench systems even when competitors do not.

- The underground leadership team led a committee that developed a new underground utility damage prevention program that has reduced our at-fault underground utility hits by 87%. The upgrades in the program included the purchase of a hydrovac truck and creating a crew to operate it that services all of our projects' potholing needs. This also reduced the potential of injuries related to laborer hand shoveling operations. Once utilities are potholed the lines are GPS located and mapped for use throughout the project.

- Underground Manager in cooperation with our Structures Manager designed, certified, and had built a guardrail platform system that would fit on the top of manhole structures to provide safer access with a confined space tripod system.

- Recently implemented SmartDrive's video-based safety program to enhance fleet safety efforts, reduce unsafe driving behaviors and minimize incidents on the road.

- All company vehicles have been equipped with SmartDrive technology, which monitors drivers while their vehicle is in motion and sends alerts based on triggering events such as abrupt braking. The SmartDrive System has allowed us to identify areas of concern and mentor our drivers on safe driving habits in hopes to prevent accidents.

- Within the first six months, we saw a 100% reduction in rear-end collisions and a 96% improvement in their SmartDrive safety score. https://www.smartdrive.net/

- The Business Development team has been assigned a dedicated Safety Specialist who is committed to assist with all aspects of pre-planning and proposal development, such as project safety costs and implementation of engineering controls. This direct involvement from the safety team allows us to mitigate and/or plan for anticipated hazards before the job begins. An example of these engineering controls is the introduction of our HEPA-Filtrated cabs to eliminate exposure to airborne dusts/silica which have effectively removed potential hazards.

- Partnered with PureGPS to provide instant feedback to management about all employees that operate fleet vehicles and equipment. With this information, we can provide training, track trends in driving habits and effectively reduce exposure and risk to our employees and the public. We have witnessed a significant improvement to driving behaviors since the implementation of this program.

- While performing work off a barge for dam repairs, the use of generators was a necessity for power supply. The noise levels were in the 80-85 db range but was constant. To eliminate the need for hearing protection, an insulated three-sided shield was constructed. The generator was placed as far as practical from the crew work area and then the closed end of the wall was placed between the generator and the employees. This sound barrier wall deflected the noise away from the crew members. Crew members were excited by simply not having to wear ear-plugs.

- Sequence of Work - On a multi-bridge repair project in Charlotte, NC, our crews are were having to perform a lot of jackhammering operations. Instead of assigning this scope to one individual, crew members were rotating every 10 minutes. This was a small crew of six employees, so the outcome was that each crew members were exposed to the vibration of the jackhammer for only 10 minutes per hour. This proved to be a success and helped to eliminate fatigue and possible strain injuries. In addition to this crew rotation, anti-vibratory gloves were purchased/utilized; positive feedback received in regard to this PPE selection.

- The design team has implemented a note section on their drawings that outline expectations that need to be followed through deliberation with safety on areas of the project that could create risk as identified through certain tasks. (Steel erection, excavation, silica exposure, etc.) this allows us to review and maintain safety in design through engineered controls such as isolation barriers to protective systems or even administrative controls if necessary.

- Utilized prefabrication shop to build a majority of the lighting fixture packages, the electrical home runs and support racks, and the electrical power distribution panels. This effort saved the company thousands of dollars in labor costs. Workers were required to spend less time working at heights

- Design team designed a system to utilize the permanent piping for temporary power, eliminating the need for mobile temporary power stations and reducing the number of extension cords in use. This effort resulted in fewer trip hazards and exposure to energized electrical cords.

- Eliminated plastic danger and caution tape on projects reinforced or not. All areas that require delineation to note danger or caution zones or where authorized employees only are allowed will be barricaded using a hard-barricading system. This keeps paths clear and keeps danger areas consistently designated. Subs now provide and use the cone and expandable bar system.

- Management team worked to get the temp power stations off the ground and hung on the walls or placed on stands. Having the temp power elevated allowed workers to plug in their corded tools and equipment without having to bend over which reduces back strains and extension cords were elevated to reduce the tripping hazards.

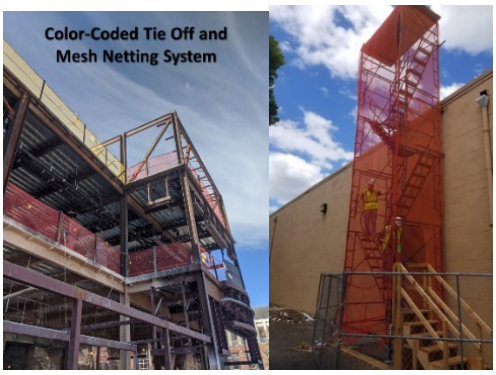
- Working with vendor partners to find alternatives to lighting systems that require less energy consumption, are brighter than the OSHA lighting minimums, allow for easier install, easier to modify lighting as building becomes compartmentalized, and minimize the number of fixtures required to light an area.

- Pre-Fab Teams continue to pursue safer installation. For example, projects that have high bend repetition can have several conduits bent in a controlled environment with optimum body positioning, great lighting and without trade stacking or congestion. Racks can be outfitted to be installed as a skid, thus minimizing time spent with going up/ down to take measurements and installing conduits on-by-one.

- Utilizing virtual reality goggles to see the future project in place. This new technology enables our employees to identify possible installation conflicts and to see the final project. Additional benefits include identification of areas where fall protection anchor points need to be installed or moved to provide final placement for employees to tie off to.

- Employ certified drone specialists. They are able to fly a drone over projects looking at high risk areas, thus removing employees from being exposed to hazards.

- On healthcare projects use prefabricated temporary wall systems to contain dust and maintain ICRA requirements also self-contained HEPA filtration units work to filter harmful contaminants and maintain negative air requirements



- Project team included in their package one-man lifts to eliminate the need for ladders onsite

- Through our Motion Matters program, we tested new tools such as duplex nail guns, cordless pipe cutters and even upper body exoskeletons to reduce wear and tear on the body. Videos of each study were uploaded into Stream and were shared company-wide

- Example of safety design during construction is for the installation of guardrails on steel stairs. The vertical members used to connect wire rope for guardrails are installed once the stairs are placed. Wire rope is then stretched and attached by the steel subcontractor and the installation of those as well as perimeter wire rope cable guardrails is always included in the contract. To go along with making the stairs compliant, and safe for use is that stair tread infills are pre-fabricated and ready to install once the wire rope guardrails are completed.

- Prefabricating the exterior skin (including metal stud framing, Thermax insulation, and miscellaneous steel for window openings) allows us to dry-in a building faster, creating a safer work environment. Prefabrication of building components allows for work to be conducted indoors, in a controlled environment where fall hazards are reduced, and exposure to sever weather is eliminated. Prefabricating interior items, such as overhead runs, offers the same safety benefit of building in controlled, ground-level environment. Building information modeling (BIM) is another technology that assists in constructing faster, higher quality, and far safer projects by allowing us to conceptualize whether a building's design is compatible with site conditions as related to constructability. BIM also allows for clash detection, minimizing rework.

- Recently were granted a waiver from the FAA to fly drones over active job sites (the first company in the US to receive this waiver), We have an initiative to integrate drone footage into their comprehensive safety management system. Have started employing drones to monitor large-scale activities that require large numbers of workers onsite, such as pouring concrete. Safety Managers can review the captured documentation, ensuring that everyone onsite is working in an appropriately safe manner. Our drone program can also view sloping of trenches and other safety conditions. drones also allow the project team to see the project site from a 3D view so that they can pinpoint risks early on and therefore sequence the work in a manner that helps to clarify the schedule, understand the site constraints, and look ahead to potential safety issues. Sequence videos show which type of work will occur when, allowing the trades to understand their own work within the larger context and thereby preventing both errors and accidents.

- Currently piloting a Prevention Through Design program that engages the client, various stakeholders, trade partners, design team, and maintenance on one of our projects. The program identifies potential risk for work at heights, access/egress clashes, logistical challenges, utility work risk and scope gaps. The team creates recommendations and implements corrective action ideas during design phase of work. The recommendations are priced and captured in "Celebration of Wins Log". Our wins and efficiencies gained in the program have received national attention, they will be included in the third edition of the national book "Advanced Safety Management: Focusing on Z10,45001 and Serious Injury Prevention".

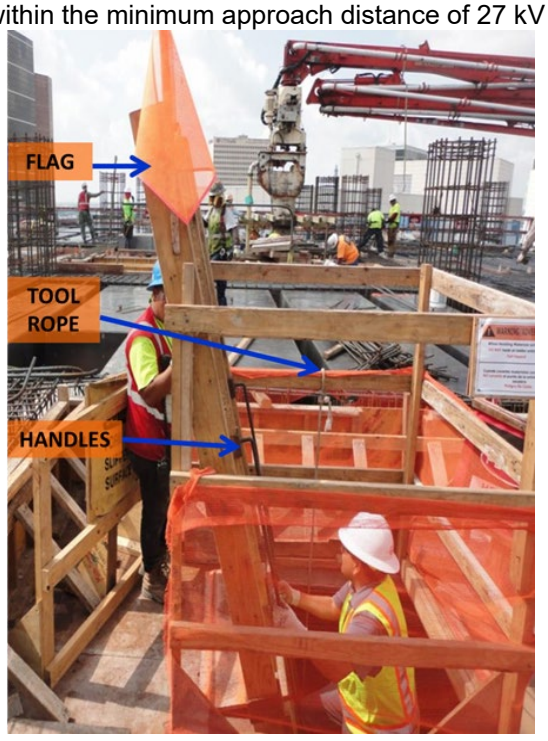
- Piloting projects throughout the nation for technology wearable devices that warn employees of emergency action notification, determine if an employee was involved in a fall, fatigue management, health and wellness bracelets. Piloting drone technology on specific projects with 3D modeling to design and build safer projects and mitigate hazards such as excavation crushing hazards.

- The decking sequence was reviewed and modified so that horizontal life lines were able to be used above a worker's head rather than workers anchoring at foot level to the deck as it was installed.

- A self-performed 14,000 piece cut stone masonry veneer project. There was little room to get mechanical equipment to help move materials to the scaffold, and a crane was not an option. This was going to result in a large amount of manual material handing for our mason and mason tenders compared to a job of similar size. We used proven ergonomic improvements from general industry and adapted them to our project. Rolling conveyor racks were used to move cut stones from one end of the approximately 125-foot-long scaffold to the other. This eliminated the need for workers to lift and carry stones or move stones with a dolly which would create an opportunity for poor lifting posture. The racks allowed the workers to lift and set stones on the racks and roll from one end of the scaffold to another.

- When working around underground electrical lines, electrical arcing is a serious concern. We observed the utility company utilizing a Quad pod set up with Technora rope, which is a dielectric retrieval rope. We then removed 90% of our tripods and replaced them with the Quad Pod system with Technora retrieval rope to create a universal non-entry rescue system for all our confined space entries. The Quad Pod can also be utilized to lower tools and equipment into confined spaces. https://www.3m.com/3M/en_US/company-us/all-3m-products/~/3M-DBI-SALA-Confined-Space-Rescue-Davit-System-with-Winch-8302500-Technora-Rope-50-ft/?N=5002385+3291827933&rt=rud

- We do work in proximity of energized lines sometimes within the minimum approach distance of 27 kV primary cables. To help protect our workers, we communicated with other electrical companies to find what are the best dielectric tools to help protect our workers from electrical hazards. From the information gathered and researched, we supplied dielectric shovels, prying bars, digging and prodding bars to go along with wearing dielectric gloves and overshoes to reduce electrical arcing immensely. Fire retardant clothing and arc-flash face shields are also utilized by any worker in proximity of energized lines to reduce risk exposure.



- To protect team members in the maintenance shops, a hydraulic lift system was developed and installed in order to replace the need for hand jacks when lifting trucks and equipment. This new lift system reduces potential injury from physical exertion as well as faulty, secondary support devices such as jack stands.

- Worked with a partner equipment manufacturer to redesign custom Reel Trailers to help reduce the potential for human error by incorporating automatic controls and safeguards

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- All corporate departments and each of our ten regional operations offices participates in Gemba walks twice per week. The Gemba Walk is an opportunity for staff to stand back from their day-to-day tasks to walk the floor of their workplace to identify wasteful activities. The objective of Gemba Walk is to understand the value stream and its problems rather than review results or make superficial comments

- "Used our 5S program in 2019 to address slip/trip/fall incidents, and to support our lean construction practices.

  1) Sort – minimizing the quantity of materials stored onsite by limiting materials to those that will be installed within a one-week period.
  2) Straighten – establishing designated storage and lay down areas on projects and keeping materials off the ground and mobile through storage on racks, carts, pallets, bins, etc.
  3) Shine – requires immediate deposit of trash and debris into mobile trash carts (nothing hits the floor) and cords and hoses must be suspended off the ground to minimize trip hazards
  4) Standardize – all contractors are assigned a color, and materials are marked as they arrive onsite.
  5) Sustain – with continuous daily cleanup enforced, weekly composite crews are focused on polishing the jobsite. Results: The 5S program generated a number of innovative ideas from our self-perform craft and subcontractors around material storage and continuous cleanup. Since the launch of the 5S program in April, we have seen a 65% reduction in slip/trip/fall injuries."

- For the last four years we have been practicing Single Piece Flow (SPF) scheduling. With this process, we break a project into similarly sized or dense areas (instead of an entire floor), determine the best sequence, and then set a rhythm or Takt time to complete those areas. This allows for a faster completion of the project, more efficient subcontractors, higher quality, earlier in place mock-ups, and a safer work environment for our trade partners. Our experience is that safety is improved because contractors are working in less congested areas

- We have engineering staff working in the corporate office that assists in engineering out hazards, designing anchor points and pick points of objects.

- Maintain an extensive supply of portable chain-link fencing on each project site, to deploy as-need to prevent access to hazards ranging from temporary excavations to metal storage piles.

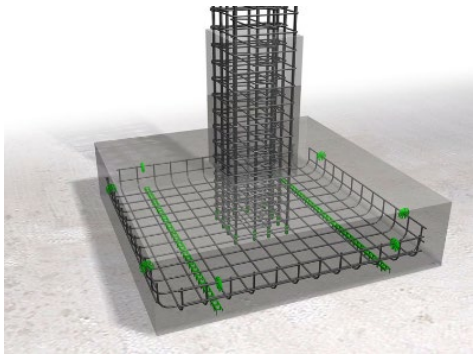
- A major point of emphasis for us in 2019 was to eliminate ladder access to roofs by requiring stair towers on 100% of our projects. We continue to champion LEAN principals like rolling racks and cutting tables with waste drop containers, eliminating trip hazards and reducing back fatigue.

- Upgraded our head protection when shown the statistics and the specs on the advanced helmets available today. Rolled out mandatory use of 3M SecureFit X5000 safety helmets. Despite early misgivings, they have been embraced and even lauded for their comfort and the feeling of safety they provide. https://www.3m.com/3M/en_US/worker-health-safety-us/solutions/securefit-safety-helmet/

- Backing was one of the most frequent and serious hazards we faced. We have adopted a “Forward First” policy in which employees are trained to park so that they can drive forward rather than backing. New trucks and equipment are being purchased with backup camera systems already installed, and a number of older trucks and equipment have had backup camera systems and additional mirrors installed. All trucks lacking a backup camera system have had G.O.A.L. (Get Out And Look) decals affixed to the mirrors (with associated training), and we require a spotter whenever backing in the blind.

- Rather than sending a worker down into a large permit required confined space, rigged up GoPro cameras with LED lights and lowering it into the tank to video internal conditions might provide the necessary outcomes. The results were amazing! All of the internal hazards were eliminated. No personnel entered the vessel. Client was extremely impressed, and the video served its purpose so well that the client scheduled future repair work as a result of the video.

- Our sheet metal superintendent worked with our sheet metal fabricator to layout and prefabricate the duct risers so all field joints could be connected at chest level and all duct supports installed at ground level. This completely eliminated the need to assemble ductwork off of ladders or do any overhead drilling for anchors to hang the duct – both of which represent common opportunities for injury in our line of work.



- Open roof exposures such as skylight opening are not cut in through the roof until the skylight is on site ready to be installed. The area is barricaded off until the skylight is installed, and protection of the skylight is in place.

- Worked with the product development team of a bandsaw manufacturer and gave them the idea to make a bandsaw that only operates with two hands on the tool. The idea was to have a trigger like device on both the top and bottom handle of the bandsaw causing the tool to disengage when neither hand is on the handle. This new development has encouraged other tool manufactures to develop similar products for safety and making our company safer and other companies as well.

- Utilize test boxes and chicken switches for reducing exposure to employees when performing electrical work. The best way to prevent electrical exposures is to perform the work de-energized and creating the safest work environment possible. Test boxes allow for our employees to check absence of voltage, check voltage readings, and rotation without having direct contact with the electrical system. The test box is designed to be connected to the system in a de-energized state, when the system is turned on the test box is located at a safe distance and out of the way where readings can be taken with voltage meters and measuring devices that allow for test prongs to be plugged into portals measuring each phase giving the necessary readings.

- Utilized a high-tech installation process which was the first of its kind in our 107-year history. This process virtually eliminated all fall hazards for a major portion of activities; no work from ladders, no work from scissor-lifts or platforms. We were able to accomplish this by taking 3D modeling to unprecedented levels, modeling the entire overhead conduit system. In turn, this allowed us to layout and install 90% of boxes and supports before any concrete was poured into the metal pan-decks between flooring. From this layout, we drilled holes into the metal pan-decking, dropped aircraft cable through to the floor below, where prefabricated assemblies were attached to the cable, pulled up and fastened by the crew above – all work performed without ladders or scissor-lifts, despite the 17-foot expanse between floors. This process eliminated literally thousands of trips up ladders and scissor lifts for our crews.

- Prior to starting construction activities, we will capture an underground survey using GPR (Ground Penetrating Radar) for boundaries that are not covered by public locate services. This survey is available for subcontractors to review at all our jobsite trailers

- Faced the unique challenge of removing 2000 timber piles, mostly all below water and full of debris, presented a hazard to our crews. Instead of sending divers to locate the piles or putting crews in the piles field we developed a patent pending extractor system that allowed the crane operator to place the hammer over the pile, vibrate it the mud, clamp the pile and extract it.

- Developed a system requiring workers to tie off while climbing scaffold ladders, gang ladders, ladders over 10', and have installed handles at the top of gang ladders to allow safe access while climbing on and off of them. We developed a fall protection system consisting of a cabling barrier installed six feet back from the perimeter of the building and all open shafts. The posts and cabling are put in place prior to concrete being placed on a floor and remains for the duration of the project

- When we have a cable system that is not for tying off, we use a different color mesh so workers can easily recognize it. Another example of engineering controls is putting in elevator divider beams before forms are taken down so the workers can install them on a deck instead of having to erect scaffolding floor to floor.

- We use cattle guards as barricades to maintain minimum approach distances for fall and electrical hazards on the jobsites.

- Company utilizes a hand-held wireless, remote control device which permits the user to control certain functions of the device in portable traffic signal trailers. The user can take control of a running signal operation and stop all traffic by a push of the "STOP" button. Normal operation of the signal is returned by pushing the "Resume" button.

- Our ownership has provided us with access to all dustless equipment that our workforce needs to be successful in reducing exposure. We use dustless grinders with the appropriate dust collection systems, water attachments for all handheld power saws, water attachments for jackhammers and rivet busters, and vacuum attachments for any core drilling. Along with all of these engineering controls, we have our own personal sampling pumps to determine any exposure we may to have a variety of hazards.

- Biggest struggle is not being asked to participate early in the design with the GC to engineer a means of fall protection.

- Use the Corp of Engineers critical lift plan which is above and beyond OSHA. In addition to the critical lift plan, we also have a huddle prior to the lift to make sure all parties are on board with the specifics.

- Have had good success in convincing owners that power can be interrupted in order to complete work…and in fact, shutting down the power is often necessary to ensure worker safety.

- Limiting string lighting to running wire and installing a temp lighting device in the location of a what will be a permanent structure. Thereby solving the age-old problem of poor lighting on construction sites.

- Using suction cup mechanical lift tools to lift and place roof pavers on commercial jobsites.

- RFI (Request for Information) system allows a way to advise the need for general lighting that the project owner isn't always aware of.

- Through prefabrication have dramatically reduced the need for jobsite ladders over previous methods.

- Develop a preconstruction traffic and access plan for all jobs
- Silica was a big challenge, so they found CLEMCO which is a company that makes a spray wand that uses water and air to blow out concrete joints that results in no measurable respirable silica dust. This engineers out the exposure. https://clemcoindustries.com/
- Use beacons on concrete saws to identify where the machinery is during work. This is especially useful at night.
- Built an automatic straight edge device for finishing pavement. Big savings in labor but also a big reduction in ergonomic exposures.
- Fabricated a tool to keep workers away from pinch point hazards when placing precast or tilt up panels. This allows the work to be done while eliminating the pinch point hazard.
- Manage project OSHA lighting expectations to include adequate room by room lighting after compartmentalizing
- Use drones to study worksite traffic patterns
- Roofing hot kettles require 2-fire extinguishers.
- Have moved away from using ladders and use lifts instead when necessary. We have displaced over 50% of our ladders to date which means we have better control over the work areas we use. This also takes hours off our bids and saves labor costs to the owner.
- Company recognized safety issues involved with manually handling materials and has purchased “Exoskeletons” outer sleeves for lifting objects that are lightweight and reduce arm injuries to employees.
- Require materials to be stored on carts – nothing on the floors. Rolling carts are to be used for moving materials whenever possible. All power cords are to be suspended. Company mitigates dropped object accidents by requiring tools to be tethered.

Safe Work Methods (Planning and Validation of)

- All workers are required to complete the OSHA 10-hour course prior to employment onsite.
- All site supervisors are required to complete the OSHA 30-hour course every 3 years
- Experienced worker mentor program – All new hire employees, regardless of prior experience are assigned a veteran worker mentor to help acclimate new employee to the open communication of hazard controls. The program focuses on both hazard recognition and the actual “how to” openly discuss and correct identified safety hazards.

- Life Critical Rules, a program developed to specifically approach high hazard exposures. This program requires thorough training to ensure all project personnel including subcontractors, fully understand how to safely execute these high hazard operations. Employees that choose to not abide by a life critical rule are immediately removed from the worksite.

- Before the purchase of tools, equipment and even personal protective equipment (PPE), we gather employee feedback to ensure we are not only getting the best, we are getting the best fit for our employees. We also know PPE and equipment it is not one size fits all, so we also accommodate individuals to meet their specific needs.

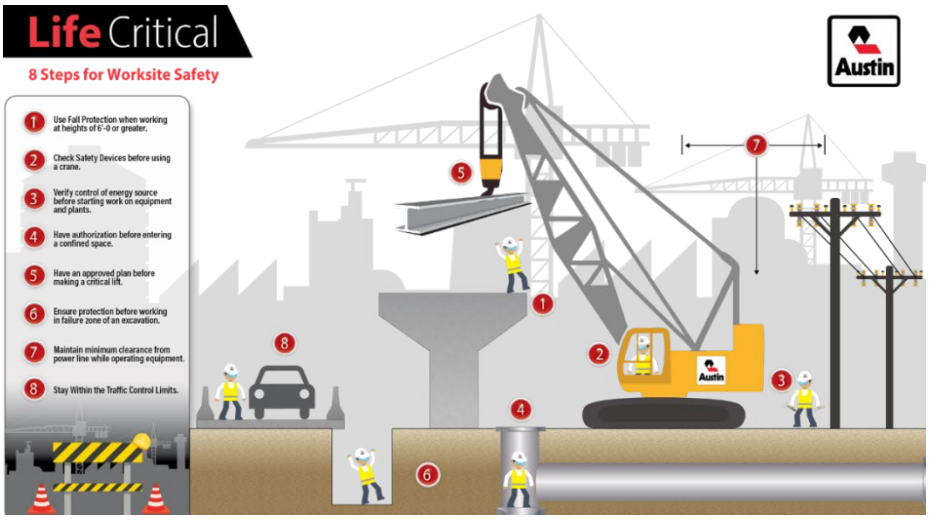
- New Employee Safety Training (NEST) program for all new and returning employees. NEST was designed by employees for employees to cover real-life safety, job hazards, and health awareness. The course allows new employees to gain hands-on training using the tools and completing the tasks they will see on the job. This not only gives them knowledge of how to stay safe, it also allows them to get some practice and demonstrate to instructors they are retaining the knowledge.

- Safe Performance Self-Assessment (SPSA) process. Employees should stop before beginning any task and go through the following mental steps: 1. Assess the risk. What could go wrong? What is the worst outcome if something does go wrong? 2. Analyze how to reduce the risk. Do I have the necessary training and knowledge to do this job safely? Do I have the proper tools and PPE? 3. Act to ensure safe operations. Take the necessary action to ensure the job is done safely. Ask for assistance, if needed.

- Have evaluated for purchase multiple simulator training programs that can be utilized for initial screening, retraining and skill improvement for select pieces of equipment. Much like a cockpit simulator, the technology provides real life situations that allow our operators to experience unique challenges to enhance their confidence/skills and ultimately promotes peak performance. This will give us the ability to not only develop talent, but effectively screen the skills of potential candidates in a safe environment, before they ever step foot into an actual piece of equipment.

- Safety best practices is our philosophy because it is the right thing to do, it should be shared with all who can benefit. We accomplish this through several avenues. Involvement at construction affiliation summits, at project executive leadership team meetings or through other means of networking. Our innovations are openly shared with all who are interested. At times this could include our customers, our subcontractors and often even our competitors

- The unique hazard of the project was the labor force. Due to the excessive amount of construction ongoing in the Charleston, SC region, the labor pool often resulted in less experienced personnel. An extensive training initiative was implemented on hazard recognition, situational awareness and Pre-Task Planning/communication.



- Apprentice Mentorship Program (AMP) provides all apprentices with a mentor that works with and evaluates them each month on how safely they worked, their attitude, their communication skills, their attendance, and whether they are asking questions to clarify their tasks. Mentors discuss apprentices' current goals. progress toward achieving them, and what support they need to improve. Each apprentice and mentor share the responsibility to develop a safer, better and stronger electrician.

- 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.

- OPERATIONAL RISK MANAGEMENT (ORM) DAILY WORK BRIEFING: The ORM briefing includes a five-step interactive process that involves all crew members in the discussion and developing work plan. The leader uses a whiteboard to illustrate five core functions - "Define the Scope of Work, Analyze the Hazards, Develop and Implement Hazard Controls,
Perform Work Within Hazard Controls, Provide Feedback and Continuous Improvement" - to identify and document the process of hazard identification and controls. It is generally conducted by the superintendent

- Our "Protect Your Hands" campaign has achieved a 28% reduction in hand injuries. This was achieved by identifying "caught-between" as the main cause of injury, adding focus inspection questions to our checklists, sourcing training and communicating that hand placement is more important than proper glove use.

- 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. Risk assessments become a real tool for planning, assessing hazards, and controlling the hazards associated with our work, and not just a document that gets submitted to the owner in order to check the box.

- We provide and ensure employees use Kevlar body protective gear when using chain saws and concrete cutting saws.

- An AHA (Activity Hazard Analysis) is required for a given DFOW (Distinguishing Feature Of Work) and must be submitted and accepted prior to the commencement of work.

- Superintendents are held responsible as the onsite safety manager, conducting weekly safety meetings, weekly project safety and environmental inspections, and site-specific orientations for all subcontractors. Our project supervisors are the leading force in maintaining safety awareness on the jobsite and championing positive work attitudes.

- Implemented a policy for Safe Dig Practices. Each operator is required to complete a dig permit each day prior to engaging in any type of excavation or dirt movement. Furthermore, each Supervisor is required to complete an excavation permit daily that includes site locate information, soil identification, and specific hazards within their scope of work being performed. In order to reduce the exposure and heighten awareness of the utilities in the areas, we have also implemented a color coordinated cone policy. Each crew has color coordinated cones to match the locate colors of buried lines. The cones have been a critical illustrative tool when working around overhead lines and buried lines. They have proven to be very effective in minimizing strikes.

- We recently combined our daily work plan and JSA's into one document to encourage more discussion and input from crew members rather than the JSA simply being "something you have to sign". Daily work plans are production focused and JSA's are safety focused. Initially these were two separate documents; the two documents were combined because safety and production go hand in hand. You must know what you are going to do today, what tools you need to get the job done, and you need to know what you're doing to properly protect yourself and your crew members from any hazards.

- Our safety practices are built around the 21 elements of control and seven key conformance areas identified by the ANSI Z10 standard to provide a world-class occupational health and safety management system.

- We use USACE EM 385 1-1 model for Accident Prevention Planning

- We took the key features of ANSI Z10 and EM 385 1-1 to establish the concepts of Operational Risk Management (ORM) to ensure continued safety and health of our employees. The ORM structure includes a safety policy, safety objective, and safety management plan for success.

- Unique hazards and controls: a unique risk was the total exposure from high voltage utility substation construction to the entire building/structure installation on a fast track schedule. A "near energized" management system was developed to control the unique risk of working near (not on...) energized equipment and developing a strategy to control human performance and error in high-risk operations.

- Maintain a bank of more than 100 Standard Work Practices for some of our most common tasks. These documents are created, reviewed and regularly validated by experienced company craft professionals to provide guidance on how to perform these activities in the most safe, efficient and reliable manner.

- Another element of our safety program is a process called a "line break process". We follow this protocol any time a member of our crew will be tying into or breaking open a live plumbing or piping line. In the work we perform, this type of line break could be anything from a hazardous chemical to high-pressure steam and loss of containment has a high potential for physical damage to property or worse, personal injury. The form is a detailed review that walks the user through a series of checklists of items that require physical verification and sign off and a listing of all upstream or downstream systems that could be affected. It also identifies all work activities required before, during and after the line break as well as the timing and responsible party. Finally, this process requires numerous signatures from the facility representative, general contractor, and our team to ensure everyone is on the same page and back-up plans are in place before commencing work. In the case of anything dealing with high pressure (over 250 psi), Our COO or CEO must also sign off before work can proceed.

- We developed "A Better Way" program to assist with changing the means and methods that have been accepted by the construction industry but have the potential to cause harm.

- We use a "Pocket JSA" that can be updated as tasks may change during the day. When the tasks do change, a "Take 5" briefing is held to update all crew members and to observe any hazards the new task might face.

- Improved Energized Work PPE to include Arc-Flash gloves and lighter, more comfortable apparel, along with lights and ventilation systems.

- After the morning huddle, employees utilize the “two-minute rule”, a checklist process for identifying and correcting issues for 2 minutes pre-task.

- Established a clear policy that prohibits texting and talking on a mobile phone while working on our project sites. At all our projects, we assign an area where it is designated “safe zone” to use a cell phone. We also understand that certain individuals are required to have a cell phone or an iPad for their work assignment; these individuals are issued a distinguishing hard hat sticker. Since enacting the policy less incidents and distractions have occurred.

- We conduct a 10% Progress Shutdown Review with all our crew members who are directly involved with the task. When 10% of the work for a project is completed, the progress of the project is thoroughly reviewed before the next step of the project commences. This is a vital aspect of our program and one that has continued to keep our crew members engaged in safety management of our projects.

- Pre-Construction Utility Identification/Clearance Procedure identifies utility conflicts before construction begins. Project Manager, Safety Manager, General Superintendent, Survey, Project Superintendent and Craft Manager walk the entire job looking for known and unknown utilities by looking for obvious signs such as reviewing the project Utility Plans, identifying utility boxes and pedestals, to identify potential conflicts that could delay our operation. Once all utilities have been identified, all potential conflicts are potholed and brought to the owner’s attention for resolution before construction begins.

- 3D Lift Plan is a lift planning and crane selection application. We provided the weight and dimensions of the object we are lifting and the location and size of any obstructions on the job site. 3D Lift Plan will search the load charts for a selection of cranes to fine the most economical crane configuration for the lift. We can also simulate the entire lift in 3D Lift Plan to save time and increase efficiency on the job site. 3D Lift Plan database has over 1400 cranes that contain accurate crane dimensions and load charts. 3D Lift Plan also provides hundreds of customs 3D objects, enabling us to deliver a realistic rendering of our lift plan to our customer.

- Life Critical Rules have been implemented in the areas of fall protection, lock out tag out, trenching and excavation, confined space entry, and equipment operator acknowledgement. The advancement of these life critical rules helps the organization to protect the safety of employees performing these critical work activities.

- Not only have STOP work authority but have START work authority too. Once all stakeholders agree on a path forward.

- The dump truck spotter wears a different colored vest so the driver can easily identify the spotter and distinguish them from other workers.

- Company does not chargeback jobs for safety resources – all safety is tracked in a separate cost code and added to overall cost.

Worker Engagement, Involvement, and Participation

- Safety is the first message received when a worker arrives on site. Safety is the first agenda item for every job meeting.
- Supervisors encourage worker input to supplement their daily and weekly site safety inspections. That input increases their ability to recognize issues, modify site operations and protocols, and effectively update their site safety plan.
- Safety program is not a rules and regulations compliance manual, but rather designed as a total employee health program, focusing on risk elimination and control at work, as well as at home. The program engages all levels of the workforce. Participation expectations are clearly designed for workers from new hire employees to executive management.
- Stop work authority for all employees on the worksite is paramount and is continually reinforced in orientation and weekly at the required toolbox training in order to provide each worker with a voice in the risk mitigation process.
- “Uncompromised Safety” is our motto and reinforces that there is never a task so vital to risk the health and safety of our workers.
- Safety Observation Reports allow employees to give details on what safe and unsafe acts they are seeing when on site. Employees are required to turn in four observations a week and are encouraged to submit safe and unsafe observations. This also provides us a great opportunity to reward employees who complete the best and most observations. This also allows us to prevent future incidents and focus our on-site safety training
- Employees from the field are given time to sit and discuss what they would like to see from our safety department. We have used this committee to rewrite policies, plan safety events, review incidents, and develop a game plan to continuously improve our safety culture. Employees enjoy seeing into the corporate side of safety and like to be involved with brain storming and decision making at a higher level in the company.
- Have adopted a phone app that we were able to build our safety audit into that allows employees to attach pictures and document hazards in a more in-depth manner.
- Our belief is that it is not enough to focus on zero incidents and injuries, but to focus on each team member’s wellbeing.
- "Stand Tall" program promotes and rewards our team members for standing up, speaking out and taking personal responsibility for their safety and that of their fellow team members. The program emphasis is on individual responsibilities, which reinforce proactive safe procedures and behaviors. Employee engagement in these four key principals are what drives safety on and off our projects: (1) Safe Work Practices: (2) Proactive Safety Engagement: (3) Safety Leadership: (4) Safety Training.

- "Freedom from Danger" safety program.
- Implemented the "Safety Innovation Award Program" (SIAP). We believe the field crews know best how to implement changes to make their work safety and more efficient. Each quarter, an employee has an opportunity to receive a $500 bonus for their submission which is voted on by the safety committee.
- Click-Fix-Win program. Driven by top leadership, the program encourages employees to identify and correct safety hazards on the job by sending in their fixes each month. We on an average give out $2,500 in cash to our winners. In 2019, over 200 near-misses were reported through Click-Fix-Win.
- Changed the company's focus from not just being 'committed to safety' but working towards all employees being engaged in our safety processes.
- Project crew safety 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. These 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).
- Team members are rewarded for near miss reporting. Near miss reporting is one element in our employee incentive program and allows team members to earn points for each near miss that's reported. Points can be used to purchase merchandise from our online store. In addition, the team who reports the "best" near miss each month receives a larger incentive point award for the team, as well as a safety luncheon where they are thanked for their contribution and awarded our "Near Miss" trophy that will remain at the site until the next presentation the following month.
- Wellness program exceeds the standard "healthy lifestyle" approach. We offer discounted insurance premiums for participating in the wellness program, but also offer much more. We retain a licensed counselor/chaplain to assist with personal issues and help our team achieve emotional and spiritual wellness. In addition, our teams have access to a third party, financial consultant who, at no cost to the team member, will provide counseling to assist is achieving financial wellness.
- Hand written cards are mailed quarterly to employees who our executives have recognized for going above and beyond expectations. These are sent along with a gift card to the employee's home address. The intent is that the employee's family will see the recognition and ask questions about the circumstances. Our desire is that the family of the employee will embrace the concept of safety as a beneficial journey.
- Our values clearly state that "the employees are the solution, not the problem," and we facilitate a vision of "servant leadership,"
- Our employees are incentivized for participating in our safety program. On the other side of the coin, our management personnel are required to recognize our employees for participation. Participation has a focus on being truly involved in the process and not just being present with no input.

- Implemented a process that we refer to as Dynamic Learning Activities (DLA's). DLA's have one simple objective - employee involvement. Edgar Dale's cone of learning states that after two weeks, people will only remember 20% of what they hear. However, after that same timeframe, people tend to remember 90% of what they say and do. DLA's are providing visual aids, interaction and communication by all. Granted, weekly safety meeting material is generated and distributed to all projects. However, DLA examples for the topic is provided as options. Creativity is encouraged.

- Employees participate in various safety initiatives throughout the year such as; Safe + Sound Week, National Safety Month, National Suicide Prevention Month, American Heart Month, and National Electrical Safety Month.

- Each employee is given the "Safe Work Guarantee Card" upon new hire orientation. It is the commitment from the president, and EHS director, that they will work to find a safe solution with anyone who has concerns. Our supervision are all fronted with the expectation of the card and take it seriously if someone raises a concern.

- Rolled out Mobile Escape Room to students all over Colorado to teach them about what it takes to be an electrician, and more importantly, what it takes to be safe around electrical construction. After hearing from an electrician about the trade, students are taken into an “escape room” which is a trailer with a series of puzzles designed and built by our team. They wear PPE and solve those puzzles with an eye toward learning what it is like to be in the trade. The construction industry is in crisis, and it is difficult to find talented people. This is one way to reach out to the next generation and let them know a career in a safe trade is a great choice for their future.

- Company philosophy of “People Producing Safely” illustrates the commitment to everyone in and around jobsites returning home safely...every day.

- Provide employees with an in-house Wellness Program Administrator, who guides the company and employees in the journey toward optimal health. Creating personalized health plans for employees, developing health promotional programs, and organizing health-related events are among some of her responsibilities.

- We use “Bucketlist” an online employee recognition and rewards program that works like Facebook. Employees can post shout-outs to each other and award up to 50 points a month. These points are redeemed for events, donations and/or gift cards. We encourage shout-outs to include how someone has demonstrated our core values or gone above and beyond. Managers also have a “safety” and a “manager” spot award they can issue monthly for $25 each. https://bucketlistrewards.com/employee-incentives.

- A key initiative of our Strategic Plan was to improve craft workforce engagement. Re-branded as Craft Safety Connection (CSC) we formalized guidance for our safety teams and reemphasized the importance of including our craft workforce in decision making related to their safety. We strategically selected leaders in the field to be the voice of safety for their coworkers. CSC Members are future leaders, often considered for advancement opportunities into supervisor roles. Craft Safety Connection builds confidence, aids employee development and provides much deserved opportunities for our craft workforce.

- Our supervisors are trained to elicit employee responses through asking of "open ended" questions, which are questions asked of employees that require an explanation instead of a simple "yes" or "no" response. The helps to ensure employees are authentically engaged in safe work processes and are not allowed to be disengaged.

- Plan of the Day (POD) meetings are held every afternoon and bring together the project leader and the subcontractor leaders currently working onsite. This is a concise conversation to evaluate daily performance, review any safety or logistics concerns, discuss identified barriers and highlight daily successes. PODs foster higher levels of communication and collaboration with the project team, driving better and more predictable results.

- Each year, projects compete for the Excellence in Safety Award (EISA). Project teams assemble presentations, vying for this highly coveted award. Requirements/judging criteria include 100% team involvement in the site safety inspection program, site safety committee program, safety training program, 100% safety documentation, zero lost time incidents, OSHA total incident rate 25% below national average, and demonstrating the team's commitment to safety.

- We use the motto "PPE is more personal than you think" to remind our teams that safety is everyone's responsibility and to put safety first.

- "CARES" program. Craft Awareness, Recognition and Engagement in Safety (CARES) creates a culture where everyone has a role in our safety culture. Craft work in partnership with management through ownership, communication and prevention to achieve our goal of zero accidents. CARES is a craft driven program that ensures they have a voice in their safety and the safety of their fellow craftsmen and women. The CARES program bridges the gap between craft and supervisors.

- Continuous Improvement Process (CIP) allows all employees to improve processes for future activities. Employees are encouraged to offer suggestions for changing procedures, processes, or practices to improve safety, production and quality. Our CIP empowers all employees to examine each aspect of how their job is performed and provides a resource to bring potential improvements to management's attention.

- Every supervisor is required to take several "safety breaks" per day. During the safety break the crew's safety behavior is observed. Then the supervisor gathers the crew together to discuss the good and bad safety behaviors observed and the corrective actions necessary.

- Launched a monthly safety and health magazine that promotes physical fitness, dieting, estate planning, managing of money and home, pet tips, etc. These programs are creating cultures of caring and the importance of safety on-site as well as home life.

- During our Safety Day event in December, we hand out a Safety Perception Survey (in three languages) to find out what is going well and what the workers think would be best to do to help improve the company. Upper management collects all of the surveys, reviews them, and communicates the results along with an improvement strategy back to the workers.

- In 2019 were establishing the foundation for a consistent flow of proactive communication, developing a safety charter focused on delivering value to project teams, standardizing site-wide morning huddles, bringing a renewed focus to housekeeping and project organization, and improving collaboration among our Craft force, Operations teams, Subcontractors and Safety Department.

- Our “MicroLearning” videos are a unique way to highlight innovative tasks and provide quick, effective training across the company on topics such as dust control and proper table saw use. They feature our employees and are published and distributed to our management and craft employees.

- Safety Advisory Council (SAC) is working. They wear neon green Safety Mentor shirts so they can be easily identified and approached with questions and concerns. The members now recommend their peers for SAC based on observed safety mindsets and safe work choices. In 2019 all new foremen were promoted from within the SAC system.

- Company website includes a Safety page summarizing the major elements of our safety program and the results for the world to see. Under Company News on the website we share photos and stories of our safety activities, accomplishments, and awards with everyone

- Have instituted monthly, quarterly and annual safety awards. Monthly, an employee nominated and elected by his peers is chosen as Safe Employee of the Month and awarded $100, a hardhat sticker, and announced in a local newspaper advertisement.

- Have a 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 which may include a company hat or shirt, thermos bottle, safety glasses or another similar item. The LOF program has been a great tool in engaging employees to recognize and speak up about safety.

- Created a video that simulates what would happen to the human body if a person were to fall from a height of 12, or 20 feet. Using ballistic dummies that are 95% direct recreations of the human body, the team was able to get real results in a controlled setting on camera. A doctor was also brought in to provide an onsite analysis of the injuries sustained immediately after each fall, what the possible cause(s) of death were, and to perform a mock autopsy in order to discover any internal damage to the body. The video includes statistical analysis of the force of a fall, how a fall effects the human body, and ways to ensure that our workers can keep themselves safe on a project site. The goal is to educate the industry on the importance of proper fall protection and how it can prevent severe injuries and/or death. Full Video at this link: https://rosendin.box.com/s/qpea213unf6ac4mhl60rasw84h6dp2md

- Developed a “Thumbs Up” Program, that rewards workers for finding and eliminating hazards, and suggesting safer work methods. The project management team is responsible for reviewing the suggestions and implement the changes. When a safety suggestion is implemented, the worker’s photo is published and shared with his / her company and given an award during the weekly toolbox meeting.

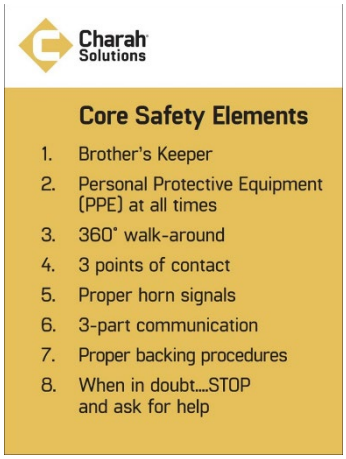
- With Speak Up! Listen Up! training offered during mandatory orientation, workers are provided the tools and language to use to keep themselves and their co-workers safe and alert to risky behavior.
- We promote "Good Catches" instead of near misses. This allows a worker the opportunity to display their knowledge by sharing a time where they fixed a problem prior to an incident or accident taking place.
- Company has a "right to refuse" unsafe work policy and procedure that is communicated to all employees not only in their new hire orientation, but throughout their time with the company. During the new hire orientation each individual is given a refusal of unsafe work card which has the call-in number in the event that there is a task they feel is to dangerous.
- Another strategy we use for orienting new-hires is what we call “pairing.” We pair less experienced workers with experienced, safety-minded workers. In doing so, the safety, work ethics and culture are passed on to all newcomers.

- Company provides an annual Safety Expo with ALL employees and key vendor partners. This is a full day of employee training that consists of interactive, station-based content based on actual project conditions and situations while still in complete compliance with the content requirements. This creates an awesome atmosphere for everyone involved to experience the training as well as take in the technical aspects. Teams are built with a strategic mixture of executives, mid-level managers, supervisors, support staff, and Field Operations. These teams then rotate through the training experiences, each led by manufacturer representatives and safety professionals, and interact via hands-on instruction that includes actual situations that are encountered in the field.

- Social safety: The safety team is even using hashtag safety campaigns to help with addressing targeted safety issues and trends by using keyword items such as #SIF or #EyesUpScreensDown, which involves performing safety observations when stopping Partners who are walking and texting or unsafely distracted by their mobile device or when alerting to SIF potential hazards.
- Using the principle of Mindfulness to prepare workers for all day focus. https://www.assp.org/news-and-articles/2018/03/08/what-is-mindfulness-and-how-can-it-improve-safety.
- Short Service Employee (SSE) program to focus loss prevention efforts on newer employees.
- Safety program is based on not only worker safety, but also worker financial, emotional and social health as well. It’s about work life balance and total worker health.
- We embrace the core values of WeCare, WeListen, WeShare, WeInnovate and WeExcel
- Embrace employee wellness - at their office, they have a gym with personal trainers.
- Company has communication that goes out to employees and spouses in weekly emails.
- Company recognizes the Veterans who work for them by offering appreciation lunches.

- Have implemented a Veteran's Hiring Program and is addressing /recognizing common stressful mental health issues they may encounter.

- Company in process of adapting Toyota's Workers Health Platform to their own Corporate Wellness programs focusing on poor nutrition, fatigue, exercise, heart disease, aging workforce, high blood pressure, etc.) This is being rolled out in each region across the company to over 600 craft workers. The analogy is to speak with them like athletes – we take baby steps and correlate it to increments on a ladder.



Safety Training and Validation of Training

- Encourage Annual training with minimum training hours according to work discipline are tracked and are included on the annual merit review of each worker

- Produce and lead micro training sessions for common construction safety mistakes to ensure that good safety information is presented at a high frequency to all workers. Each foreman is outfitted with an electronic tablet that allows for viewing and assessing each micro training module with their individual work crew on the project.

- Utilize a mobile training center (bumper pull trailer) to take the training out of only lecture style training, and into the worker's actual work environment. This allows the practical, hands on training to supplement the material for better worker retention for each subject.

- Employee training certificates are accessible electronically through smart phones and tablets using employee ID cards, with QR codes, giving project team's instant training verification prior to task assignment.

- One recent improvement that we have made is through a partnership that we have developed with SafetySkills, a company specializing in interactive, trackable and relevant courses in safety. Personnel are provided monthly on-line safety courses catering to the individual and designed for their job duties. https://safetyskills.com/

- Created a safety orientation video specifically for temporary labor and labor brokers and have partnered with a few of the local temp agencies to provide those workers with the safety training and knowledge to understand the hazards they may face on the job.

- In-house training has changed to detailed/more specific training in class sizes not to exceed 15 persons. This has proved effective offering a more comfortable environment for asking questions and increased opportunity for one-on-one instruction. This method has resulted in accelerated learning growth and retention.

- New hire orientation begins with 3-days at our corporate office; regardless of individual's prior experience. The 3-day process allows for 1-day of basic safety training and meeting with all department heads to learn of expectations and standard company processes. Each person is paired with a Mentor for a duration of at least 6-weeks to aid with continuous learning of our company processes, culture and safety expectations. We have multiple check-ins with the new employee to validate training; at 2-weeks, 30 days, 45 days, 60 days and 90 days.

- Employees are required to take monthly safety courses as part of their continuing education.

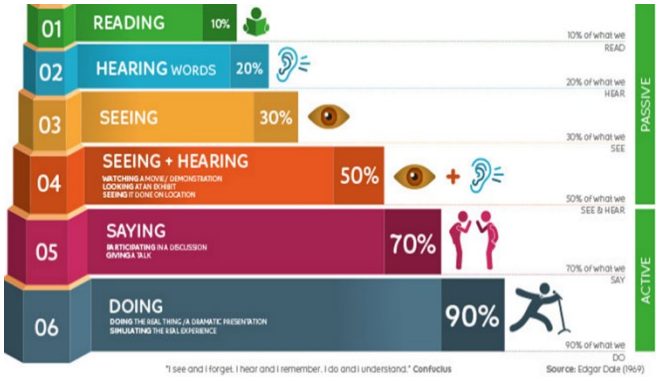
- Training for employees is accomplished through a multi-tiered approach which involves in-house training, third-party accredited training providers, and online training modules. Training is tracked and monitored through the use of online software

- In 2019 we kicked off a Safety Question of the Day, which is emailed directly to every field employee. Employees who respond to at least 75% of the daily questions and maintain a minimum score of 75% are eligible for a monthly cash incentive. The key advantage of this program is that we are connecting with nearly 2,000 employees daily, and each is on an individualized program, with questions tailored to improve on needed reinforcement. This initiative has created a welcome increase in the number of safety discussions with our field employees – they are challenged and take a lot of pride in getting these questions correct.

- Safety begins in the interview process, where safety-related questions are asked of each candidate. Safety training starts with new employee orientation, continues with our Short-Service Employee (SSE) six-month mentorship and is maintained throughout each employee's career, with a mandatory 20+ training hours annually.

- We enhanced our JSA process to include validation using what we call our Daily Understanding Plan (DUP)

- During week 2 of orientation field employees participate in a Quick Start class where they are introduced to site-specific tasks/tools and are trained on how to safety perform these tasks prior to going out to a project.



- Have invested heavily in Intelex (https://www.intelex.com/) and Vivid Learning Systems (https://vividlearningsystems.com/) to support our professional training staff to deliver quality safety training to all employees.

- Recently revised our subcontract requirements for a subcontractor's designated on-site competent person to have obtained or possess a minimum of an OSHA 30 hour Construction course within the last 3 years, versus an OSHA 10 hour course within the last 3 years.

- Created a "2 eyes 20 feet" rule. If you do not have two eyes locked with the operator you should maintain a distance of 20 feet from the machine. We created hard hat stickers, as well as stickers for windows on each machine with the pictures of 2 (eyes) and 20 (feet).

- New hires are assigned a red hard hat and are mentored for the first six months to ensure that safe work practices become routine. At the end of the six-month period, the employee receives a white hard hat, which is replaced with a gold hard hat at the end of five years of employment with the company. The five-year employee provides guidance to our less-experienced employees.

- Use Human Performance Improvement strategies while analyzing processes notated in the Good Catch/Near Miss reports. Focused safety education based on Leading and Lagging Indicators are then provided to all team members for future improvement. The in-person education and training are then converted into a video available for all team members on our online Learning Management System.

- Craft employees complete an average of 42 hours of safety training per person per year

- We utilize engineered and manufactured fall protection systems, we also design and test our own fall protection systems by performing drop tests with dynameters 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.

- IT Department has helped with safety innovation. We have a growing need for MEWP (Mobile Elevated Work Platform) training and our team sought out new ways to incorporate more virtual reality (VR) training. Employees receive classroom training, and they also go through a course on the VR system covering limits and functionality of the equipment, along with possible scenarios that operators may encounter on a construction site or warehouse setting. Once the employees have completed the course with a passing score, they are then re-evaluated on the equipment they are operating to verify that they understand the functionality and manufactures recommendations.

- We print a personal QR coded decal that goes on the hard hat of the new employee allowing us to track their training and is available in real time.

- Healthcare Environment Training is a 3-tier course which educates electricians on the intricacies of live healthcare environments, with an emphasis on prioritizing patient safety.

- Data Center University training program is a 3-tier course which educates electricians on the sensitive and high-risk environment of live data processing facilities. Topics include emergency backout planning, Method-of-Procedure, and working safely with complex systems.

- Airfield University program is comprised of four training videos and in-class discussion, which addresses the unique environment of airfield work and associated hazards which are significantly different than standard construction environments.

- Most training programs are centered around OSHA codes and violations. While meeting the standards of training, we developed our program around Employee Exposure to Hazards rather than OSHA violations.

- We have developed a learning management system — NextCode – that standardizes training, tracks trainees and confirms that training is consistent across the board. By educating our teams on our safety policies, procedures and our corporate safety values, as well as integrating best practices and lessons learned over the years,

- iScout's 20/20 training program is being incorporated into our training processes to assist the organization with real-time tracking of course completion and to provide an interactive training format.

- "When a new employee begins their career with our organization, they attend an interactive safety orientation of 3-4 hours (training Room) and 2-3 hours of H.O.T.T. (Hands-On-Tool-Training).
- At the conclusion of the orientation a written exam is administered. The written exam is used to solicit feedback and allow the employee to demonstrate their understanding of the company safety policies, topics, tools trained on and various safety requirements applicable to the type work they will be performing. It's a time to re-emphasize the role they'll play in helping build a stronger safety culture within our company. The safety materials are presented in a win-win atmosphere, where, new employees are indoctrinated into a safe way of looking at their everyday job(s). "
- Use mobile apps to provide access to all safety materials a worker would need…Including JHA's, safety huddle topics, etc. and document training using mobile apps.
- Recognize the need to use Human Organizational Performance as opposed to something in the worker needs to be fixed.
- Focus on education not simply training people.
- Use CAM (Comprehensive Advance Metrics) a tool for knowing the skills and education of each worker.
- Not focused so much on regulatory compliance but rather on behaviors.
- Utilize a mobile craft training with an education trailer for hands on training.
- We believe there is a difference between training and educating. You "train dogs" but focus on "educating employees".
- Since 1953, the company's commitment to Workforce Development and Apprenticeship Training has grown to now over 250 apprentices who work up and down the east coast.
- Required to complete an instructor led OSHA 10-hour outreach program within 30 days of hire.

Subcontractor Management

- Require subcontractor site-specific safety plans and hold planning meetings for hazardous activities. Contractors agree to safety policy terms, and then sign a "Safety Annex" at the project start. Superintendents enforce the Safety Annex. For contractor violations, written notification is provided, and corrective action is followed up
- Subcontractor employees are incorporated at the same level as company employees for their participation in the safety program and joint audit/risk mitigation planning.

- GC hosts an annual subcontractor safety summit to promote alignment with core safety principles. The executive leadership of each subcontractor company is represented.

- Subcontractor pre-qualification process that verifies safety history performance as well as safety performance on our prior contracts. Each subcontractor is led by an assigned supervisory professional with GC to aid and assist in the risk reduction process and acts as the primary contact for that subcontractor.

- Subcontractors attend project orientation as well as a pre-construction program that inundates messaging on the core safety principles and the Life Critical Rules, building redundancy in the training at multiple levels of each subcontractor organization.

- Trade Partner management - added a robust section of our contract called Trade Partner Health, Safety & Environmental Performance Requirements that ties our Trade Partner safety performance to our contract.

- Worked with local software developers to upgrade our Safety Operating System to include our Subcontractor Prequalification process. Various approval elements are included, but their safety program/performance is a stand-alone section. The basics from submitting programs to past/present performance is captured (standard rates are automatically generated). Any comments made by our safety staff are neatly organized/stamped, with the capabilities to attach files. This information is housed, and evaluations are averaged over multiple projects that a particular subcontractor has performed work. East accessible by estimators, PM's, Superintendents, etc.

- Use Bid Smart to grade clients and customers to ensuring they have the same high safety standards as we do https://bidsmart.solutions.

- Subcontractors are graded accordingly, which results in Green, Yellow, or Red rating. Green are those contractors who may proceed with work; Yellow contractors must submit a site-specific action plan to be approved by the Safety Manager. If they do not, we find another sub-contractor; Red means they are not considered for our work pending improvement in all areas.

- We developed a custom inspection checklist in HCSS to help manage and track the safety of our subcontractors

- Hired a pre-qualification coordinator who works with EH&S, pre-construction and operations. Utilize a pre-qualification software, iSQFT, where subcontractors supply their financial and safety qualifications. Subcontractors' programs are reviewed for quality. The EH&S team works with subcontractors to help them develop their programs if areas of weakness are identified pertaining to their scope of work. Drug and alcohol screening, new employee orientation, EMR, OSHA logs, citations, and safety statistics are all used as part of the subcontractor qualification process. iSQFT is also used track subcontractor performance after a project is completed. Allowing us to track a subcontractor's performance over several projects and base future decisions on historical performance data. https://www.isqft.com/start/general-contractor/

- We conduct Executive Safety Culture Charrettes where our executives engage trade partner executives to share best practices and lessons learned. These meetings focus on safety for the upcoming areas of construction activities and are held at time appropriate points throughout the project with all involved trade partners to be pro-active and partnering.

- Along with the contractually required daily reports, subcontractors submit a comprehensive monthly safety report which includes: safety statistics; accident investigation reports; S.A.F.E. summary; new AHAs; safety meeting documentation; log of safety training for all employees and trade partners; and job site audits and inspection reports. These reports are then discussed at the weekly meetings.

- Project Safety Leadership Team is intended to discuss upcoming risk with critical path work, mitigation of risk, potential schedule impacts to safety, man-power updates, positive indicators, logistics and reinforce leadership commitment to safety. The Safety Leadership Team is comprised of senior leadership from the Client, GC, and Trade Partners.

- In 2019 we launched a revised project safety orientation process to bring consistency to the way subcontractor employees are onboarded onto our projects. This orientation involves a live project-specific component and viewing of a company-produced video outlining our general safety expectations. This video also includes messages from the CEO, COO and other company leaders emphasizing our Zero Injury philosophy.

- Maintain a zero-tolerance drug policy that begins with pre-employment and includes random testing and reasonable suspicion testing if a supervisor feels that an individual is under the influence. In the event of an accident or equipment damage, the responsible individual is tested for potential drug use if impairment is suspected. Everyone in our company is subject to these random drug tests, including our CEO, CFO, President, Vice Presidents, and Safety Director, as well as each individual field worker and supervisor.

- Worked with our attorney and completely changed our subcontract language regarding safety. We added much clearer safety work requirements and contractual stipulations around failure to perform work safely. This has led to a much clearer understanding by subs on site and a dramatic reduction in on-site arguments about what is required or in the contract.

- In the past, as a general contract we tended to “talk safety down” to our trade partners where we as the General Contractor would present safety to our trade partners and how it should be done. We are pushing to flip that concept. We want to hear more from the trade partners on how they think safety should be done, giving them more input on how we run safety on our jobsite. When we do this, they have more ownership of the process and feel more valued and engaged.

- Subcontractor management begins in the Pre-construction process with initial vetting and selection. Safety policies are written into their contracts to ensure full compliance. Kick off meetings are held with the subcontractors foremen and project management staff to review their contract and all site-specific safety items. All subcontractor employees must go through our Safety Orientation training.

- Safe Start Program allows us and the sub to review their scope of work 's hazards. Utilizing the safe start-up program, we can plan beforehand to identify specific risks and coordinate corrections should the scope change or when new obstacles arise. The safe start program is designed to be a living document and is reviewed and maintained at the jobsite. The scope of every safe start meeting is to best protect our employees, subcontractor's employees and the public.

- Housekeeping is managed by contractually back charging subs for housekeeping.

- Identified that falls were more caused by housekeeping than by working at heights. They responded with stronger contract language for housekeeping and just in time delivery of materials.

- Will invite an employee or subcontractor employee to take the day off after non-compliance.

- Developed a program called "SubCentral" that measures/scores subs in a number of categories, including safety, and it is transparent. Subs can see the metrics and what contributed to their score.

Emergency Response and Crisis Management

- Written crisis management and emergency response plan, including muster points is developed for each work location and is reviewed in both the weekly training meetings and the task specific crew training JHA.

- Each project has a specific safety Emergency Safety Program. The closest Hospital, EMS, and Helicopter service is identified and contact information is provided and posted.

- As part of the injury management plan we have incorporated an on-site health care company. This allows employees to have minor injuries looked at on-site to determine if first-aid care is enough or if a higher level of care is needed.

- Crisis Management approach includes having crisis management stations equipped with necessary components, hard hat stickers that are on the inside of hats with personal contact information and Crisis cards that have necessary contact information for those on site.

- Crisis Management table top drills with project leadership to ensure all team members understand their roles in the event of an emergency. In addition, physical drills are conducted simulating Crisis.

- To plan for emergency response at a remote location, local police, fire, and EMTs were given a tour of our construction site. In addition, a high ropes emergency rescue team provided training on how to deploy emergency rescue systems

- For all incidents, regardless of severity, our IT Department has created and implemented single click function within Outlook that notifies Management personnel of any type of incident; project and incident type is included in the distribution.

- Our safety efforts include personal protection, workplace safety, driver safety, home and community safety, worker wellness and mental health, as well as workplace violence

- Company focused on emergencies and crisis management by bringing a guest speaker to prepare us for when the "Big One" hits the northwest. Each region's session was recorded and tailored to their area. The presentation revealed what kind of earthquake to expect, what to do during and after the earthquake, what supplies to gather now, and how to establish a meet-up plan for families after an event. Each Branch office has been outfitted with a three-day supply of water and food for each employee. Extended the preparation to employee's personal households by providing a dried food discount.

- Have further developed our Emergency Response Team (ERT). ERT team training occurred with First-aid/CPR/AED, fire drills, incident crisis management, active threat/ shooter, moving immobile employees with a stair chair, back-boarding injured employees, and Emergency Medical Response Certification. HAM radio certification is being sought after by team members.

- Each employee is given a wallet-sized crisis card to keep on their person at all times 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, human resources and CMO.

- A critical component of our safety program is emergency and crisis management of which communication and training is vital. To assist with the development and training of our procedures, we have established relationships with a variety of local First Responders from the Fire Department, Police Department, California Highway Patrol, and Special Weapons and Tactics Team. We conduct annual training for employees and family members to assist in the awareness of Fires, Emergency Situations, Defensive Driving, and Active Shooter Scenarios. During project mobilization, our teams invite First Responders to tour our jobsites, review emergency protocols and ensure paths of travel provide easy access for emergency vehicles.

- A majority of our projects are executed on occupied school campuses, our project teams meet with school representatives to incorporate their procedures for fire, earthquake and lockdown drills into our emergency action plans. Once construction is underway our jobsite crews become active participants in campus drills. This commitment to understanding and participating in school drills has proven essential on several occasions when campus lockdowns went into effect in response to active shooters in close proximity to project sites.

- Our New York City projects are supplied with FDNY First Responder Boxes. These 2’ x 4’ gang boxes are conspicuously located on site and provide first responder with valuable information in the event of an emergency or inspections. Contents include emergency contact list, FDNY permits, floor by floor egress plans, standpipe diagram, site safety plan and daily log/checklists.

- This year we had an employee on the job site talking about ending his life. He had a medical condition that was causing him a great deal of pain. The foreman stopped work to take him to breakfast and then brought him to HR to discuss and connect him to the various resources available to him. He took a leave of absence and later returned to work in a better place.

- All managers are trained in emergency and crisis management and a 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.

- Have a separate Field Crisis Management Plan (FCMP) that is utilized at the field level to coordinate site-specific emergency needs. The FCMP includes site-specific contacts, muster points, response team members and the distinct roles for each project team member. The FCMP is posted on the job and is reviewed weekly during the site-specific orientation with all subcontractors and updated as the project changes. Project drills are conducted to ensure competency with the FCMP.

- Partnered with Able Shepard Training and Crisis Management to develop a company specific Emergency Response Plan and Guide for training purposes. The Guide is an easy flip binder for employees to refer to. Each site receives specific training to their location in order to prepare for an event. Also developed the D.E.F.E.N.D. module for our employees. With change occurring and the increased risk of domestic violence and hostile work employees in society, we took chose a proactive approach to the issues. 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 empowers our employees to be safe in all areas of their lives. https://ableshepherd.com

- Project managers and superintendents review and update their project's CMP quarterly, including conducting a drill involving applicable response team members such as local fire departments or owner's representatives. A "First Hour Response Checklist" is made site-specific based on this plan. In the event of a crisis, laminated cards and/or PDF version on a cell phone with this information can be easily brought into the field.

- Utilizes a third-party company for training designated management. Key personnel receive training on how to properly address and manage media via all outlets. During a crisis, mis-information and rumors may increase when accurate, timely information is not available. CMP appoints a spokesperson in time of a crisis, with provided training they can be more prepared to mitigate panic and provide factual information.

- Focus on employee wellness for mental health and physical wellbeing by launching a Mental Health and Wellness Prevention month, partnering with health and wellness consultant Dr. Sally Spencer Thomas and vendors across the country. The mental health and wellness program is available to all subcontractors onsite.

- For emergency and crisis management our process derives from OSHA 7600 Disaster Site Worker. https://www.osha.gov/dte/outreach/disaster/index.html

- We are piloting the integration of safety and logistics plans into the 3D building information model. This allows an interactive view of—and more robust planning for—egress points, fire extinguisher locations, overhead protection, crane swing radius and other safety systems. These models can be used to virtually orient employees, visitors and first responders to the site.

- All hourly field-level employees are provided American Heart Association Heartsaver First Aid/CPR/AED training and American College of Surgeons Stop The Bleed training. All supervisory employees, and hourly employees who have volunteered for additional training, receive ASHI Advanced First Aid, AHA BLS Provider CPR/AED and American College of Surgeons Stop the Bleed training, which is 3 days of intensive classroom and hands-on training.

- Employees are provided with a Pocket Crisis Management Card on-site displaying sequence of reporting.

- Our plan is broken up into 4 sections: Mitigation and Prevention, Preparedness, Response and Recovery. This all begins by identifying the project rapid response team.

- Emergency Response Stations (ERS) are staged at key locations on our project sites. ERS each are stocked/equipped with eye wash, first aid kit, fire extinguisher, air horn, emergency contact numbers, jobsite map and map to the nearest urgent care facility. Promotional safety signage and a white board for motivational messages or additional information are posted at some of these stations and our staff tries to keep the postings "fresh". We have clearly defined Roles & Responsibilities for our Crisis Management Team, which are reviewed monthly by staff. Our "red ready bag" emergency kits containing essential response items are staged at the office door ready to be deployed at all times.

- In 2020 intend to use Vangent Risk Assessment to identify those applicants with high risk or violent tendencies.

- Recognized that suicide for construction workers is 4-times higher than the industry average. It takes strength to ask for help and that is what we are focusing on – taking care of the whole employee including mental health issues. It's all about work life balance and the total employee's health which includes emotional, financial and taking care of yourself. We try to reduce the stigma of mental health issues.

- Company supports acupuncture treatments.

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.

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