



Success Stories - How the Team Approach to Project Planning Equals Success

When the Illinois department of Transportation knew that the I-80 Bridge over the Mississippi River in the Quad Cities was in need of major repairs, they had to immediately develop plans to fix the major East Coast to West Coast link in our nation's infrastructure. **Civil Constructors** was contacted soon after to help with emergency temporary repairs and also began planning the major repair with IDOT.

The East Moline office's project team led by company president **Art Snyder** and project manager **Eric Loomis** started looking at some innovative and custom solutions to use when the major repair project was released for bid by IDOT. This think tank planning process enabled Civil to be successful in the bidding process, resulting in the award of the major repair work.

The Project Team designed and drew up plans for customized suspended scaffolding work decks that would hang under the bridge, allowing workers unobstructed access to the major structural elements that needed to be replaced. These work decks, which were approved by a structural engineering firm, allowed the safest and most productive access to the majority of the under deck repairs. A proactive Fall Protective Planning Process was implemented which included the spec and purchase of new harnesses, concrete anchors, retractables, and beam anchors totaling over \$35,000 in proactive safety expenditures.

Every management employee had input on the design and planning of the two stage construction process. This input enabled every point of view to be analyzed for overall project value. According to Project Manager **Eric Loomis**, the foundation for any successful project is to get the opinions of the people that are going to build it, then they have buy in and ownership of the final outcome. By valuing everyone's opinion, it makes them want to come to work each day and



take pride in what they are building. **Loomis** also created custom incentive plans for the employees to thank them for meeting both safety, and project goals. All employees including subcontractors were eligible for a weekly cash prize if they participated in a weekly safety planning meeting after achieving an incident free week of work. Monthly safety lunches were held to celebrate a successful incident free month, and custom designed hats and shirts were awarded at the end of milestone stages in the project.

But the most important part of the success story was the constant vigilance by the project team to make sure that the plan was executed every day in the same manner by all supervisors.

Everyone's input was valued and appreciated no matter what type of experience they had. When you take the time to gather all the information to develop the work plan and execute it with precision, you get the desired results. The value of pre-planning and listening to the ideas from the field, steered this project team to success on many levels, including a bonus for completing the first half of the project over a month early.

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Message from the CEO

I am frequently asked by prospective customers what sets our company apart from our competitors. My answer is that we are better than anyone else at managing tough schedules. I think that we have the best technical skills and the most productive employees, but our biggest differentiator is our ability to drive a schedule. The most recent example of us driving a schedule is our I-80 bridge project. The Illinois Department of Transportation had I-80 completely closed to Eastbound traffic and only one lane open for Westbound traffic and had scheduled fast-track repairs to the superstructure. Civil's project team planned their work to be able to complete each phase more than 30 days sooner than IDOT's aggressive schedule. At Silver Cross Hospital, the construction manager pushed Mechanical to accelerate their rough-in work and complete 15 months worth of work in 8 months. Most contractors can put the right number of people on a project to meet a tough schedule, but what makes these and other Helm Group projects unique is that the project teams planned each work activity so that the larger crew was

as productive as a smaller crew would have been. Most of us have heard the analogy that 2 people can paint a room in 10 hours, but it will take 10 people more than 2 hours to paint the same room. If it is a Helm Group project, however, the project teams make sure that all the materials are available, all the questions are answered, and all of the goals established so that we finish as close to this 2 hour mark as possible. Congratulations to both project teams for beating these aggressive schedules. Planning our work to drive a schedule is what makes us unique and what will allow us to continue to pull further ahead of our competitors in the future.



**Brian Helm,
Helm Group CEO**

Civil Roads - Giving 100% and Getting 102.8% Back

Prompted by issues pertaining to the Federal Highway Administration's goal of "Quality Delivered with Certainty", IDOT adopted "Pay for Performance" as an incentive / disincentive specification relating to quality on Hot Mix Asphalt (HMA) projects. The new specification which will be rolled out over the

next 5 years takes into account three characteristics relating to HMA quality which are Field VMA, Voids, and Density. These characteristics are then randomly sampled throughout the project and the contractor is paid according to the percentage of the tests that fall within the acceptable range for each characteristic. 92% of full pay being the minimum the contractor can earn and 103% of full pay being the most the contractor can earn.



Prior to starting the Highway 20 paving project east of Freeport, **Civil QC Manager Paul Wilson** along with other members of the QC department met with the paving crew and asphalt plant personnel in order to refresh what was learned on last year's PFP project. This allowed the plant, paving crew, and the QC department to make sure they would keep doing the things that worked and avoid the things that might throw them out of spec. The results were worth the extra efforts. Civil's paving crew, led by foreman **Pete Rhode**, earned an almost perfect 102.8% pay for the paving performed on the project. Getting the results achieved on the Highway 20 project was truly a team effort. Everyone on the team knew how their work fit into and contributed to the overall result, and then executed with consistency.

Silver Cross Hospital

by Phil Ross

In July of 2007, the Silver Cross Hospital Board of Directors decided to build a new hospital to replace their aging facilities on the east side of Joliet. The Board of Directors debated for 18 months on how to upgrade their existing facilities instead of building the new hospital, but all of their answers were either too costly, or too disruptive to hospital operations. The replacement hospital is situated on a 70 acre lot near the intersection of US-6 and I-355 in New Lenox, three miles east from Silver Cross's existing campus. Silver Cross had acquired the land years ago, and has already built a Women's Health Center on the site.

The new hospital, designed by architects RTKL and MEP engineers KJWW, will have 289 beds, 13 operating rooms, and two MRI rooms in a hospital that has over 550,000 square feet of space spread over 7 floors. The hospital also features over 30 beds in the emergency room, and a dedicated labor, delivery and nursery floor. The building has been designed for future expansion of multiple floors to the top of the building, and by expanding its footprint on the east side of the building. A new two-story, 21,000 square foot, central plant is concurrently being built on campus to serve the heating and cooling systems.

Mechanical Inc. is responsible for the ductwork, hydronic piping, steam piping, medical gas piping, insulation, temperature controls, and an underground fuel oil tank. Included in our scope is the installation of 17 new air handlers, 50 supplemental fans, and over 1,000 VAV's. Three boilers, 7 chillers, and three cooling towers are being installed in the central plant, and two additional low temperature chillers are being installed on the 3rd floor roof of the hospital. Mechanical Inc. is also installing a design-build snow-melt system to serve the hospital's helicopter pad.



Above: Rendering of Silver Cross Hospital, scheduled to complete in Spring 2011.



Above: Pex tubing for in-floor radiant heat at the Silver Cross Hospital Entry.

Mortenson Construction broke ground on the project on September 24, 2008, but the MEP coordination process did not start until a year later. MEP coordination has been done entirely using 3D modeling, which has significantly cut down on the number of field conflicts with other trades. Field layout of the hangers was done using the CAD drawings and Trimble layout system, which provided more accurate hanger locations, and allowed for the lay out to be done in less time than traditional methods.

By the time Mechanical Inc. was on site, almost the entire steel structure was installed and pouring of the concrete decks was already under way. Our work started in December of 2009 with layout and installation of hangers, and underground piping connecting the central plant with the hospital. Mechanical Inc. had to provide significant manpower due to Mortenson's aggressive schedule; at one point over 120 sheet metal and pipe fitters were on site, including some sheet metal workers on a second shift, and pipe fitters working overtime. To date, Mechanical is about 75% complete with the entire project. All air handlers, boilers and cooling towers are installed. Duct and pipe mains are nearing completion on the 6th and final floor, almost all of the VAV's have been installed, and med gas outlets have been completed on three of the floors.

The commissioning process will begin in the Spring of 2011 and will take several months to complete. Substantial completion of the Silver Cross Replacement Hospital is expected on November 1, 2011, with the hospital opening in February 2012.

Fun Filled Quarry Day 2010



*Pictured Above: Row 1: L to R Rich Tessendorf, Roger Allen, Mike Zettle, Steve Rhode, Bob Geissberger, Bill Zerkel
Row 2: Eric Helm, Dave Chambers, Mike Milliken, Jerry Simler, Tim Clevelan Bob Albrecht
Row 3: Mark Helm, Terry Lindsay, Don Beaston, Bruce Helm, Terry Diehl, Gordie Pacey, Brad Milliken*

Many thanks to over 50 Helm Group Volunteers who helped make Quarry Day 2010 a success! On Saturday, September 18th, **Conmat's** Dwyer Quarry played host to Quarry Day, a community event designed to give kids a fun filled introduction to the construction industry. The event was put on by Pretzel City USA, and is made possible by the work of hundreds of community volunteers and donations from about a dozen corporate sponsors.

Activities at the event all had a quarry or construction theme, but everything was focused on fun! Kids got to do things like mix concrete, build a brick wall, and pan for (fools) gold, as well as shoot sling shots and throw rocks at targets, play quarry golf (lots of sand), test their skills on climbing walls, or just play around in the world's greatest sand box.

By far the biggest attraction, though, was being able to ride in

and actually run heavy construction equipment. There were a dozen pieces of construction equipment on hand ranging from bulldozers to loaders, to backhoes. The equipment was supplied by Rockford area equipment dealers Westside Tractor Sales, Patten Tractor, and McCallister Equipment Company with **Heavy Equipment Services** providing a few pieces as well.

Approximately 30 equipment operators from **Civil Constructors**, **Conmat Inc.**, and **Heavy Equipment Services**, as well as a number of retired employees who make it a point to help out with Quarry Day, volunteered their time to operate the equipment with the kids. Many volunteered this year, because they enjoyed it so much in past years. While taking a break for lunch, **Mike Morrison** a Civil employee stated, "Put me at the top of the list. I'll do it every year. I love doing this!" His sentiments were echoed by just about everyone involved.



Among the many fun filled activities offered for kids to participate in, were sifting fools gold, operating heavy equipment, climbing rock walls, and laying bricks... Quarry Day 2010 was a great success!



Conmat Employees Save Dwyer Quarry

If not for fast action on the part of a number of **Conmat** employees, the record floods that hit the area in July 2010 would have spelled disaster at Dwyer Quarry in Freeport. **Dan Dillon** came into work Saturday morning to load trucks, but when he got there he knew he would be doing something other than loading trucks. **Mr. Dillon** opened up the quarry to find that Yellow Creek had breached the rim of the pit, and was pouring into the quarry! The torrent had already washed out the ramp down into the quarry and was quickly filling the pit.

Mr. Dillon called in for help then started working on plugging the breach. Conmat employees **Gordie Pacey, Steve Wulff, Tim Cleveland, Wes Cowell, Bob Albrecht, and Jeff Bussan** were on site shortly, and went to work closing the breach. A channel 50 yards wide flowing about 2 feet deep had to be dammed off, and the narrower the channel got the faster the water flowed.

Fortunately the quarry's inventory of large riprap was stockpiled close to the breach. This material was large enough to be placed in the channel without being washed away. That created a base on which roadstone could be placed to stop the flow.

It took 3 loaders and an excavator running flat out for 4 hours to get the channel dammed off. At about 10:30 the breach was plugged! Had they not gotten that done that morning, there would have been no stopping the flow and the entire pit would have been filled. Over a million dollars worth of equipment would have been under water, and it probably would have taken until next summer to get the pit pumped down! These employees' good timing and fast action literally saved the quarry!

So, sincere thanks go out to **Dan Dillon, Gordie Pacey, Steve Wulff, Tim Cleveland, Wes Cowell, Bob Albrecht and Jeff Bussan**. Your actions that morning saved us all a lot of grief!

Rock Valley College

by Kyle DeWall

Mechanical Incorporated was the mechanical contractor of choice for Rock Valley College for the construction of the new Karl J. Jacobs Center for Science and Math. We received our nearly \$7,000,000 contract from the general contractor, Sjostrom & Sons Inc., this spring. Shortly after, the construction began in May 2010 with a substantial completion date of May 20, 2011. The final completion date will allow for classes to begin in this new building during the fall semester of 2011.

The total scope of work includes 30,000 man-hours to be completed in this time frame. Our scope of work includes the



plumbing, hydronic piping, and sheet metal installation. The plumbing scope includes the domestic water system, pure water system, storm, sanitary waste and vent, acid waste and vent, natural gas, compressed air, and vacuum piping as well as the purchase

and installation of the domestic water booster pump, domestic water heat exchanger, water softeners, pure water system, air compressor, and vacuum pump. The hydronic scope of work includes the heating water system, chilled water system, and chilled beam water as well as the purchase and installation of two custom air handling units, two energy recovery air handling units, hydronic pumps, chilled beams, fin tube radiation, and modular heat pumps. The sheet metal portion of the work includes all exhaust, supply and return, and stainless steel lab exhaust ductwork as well as the purchase and installation of two large laboratory exhaust fans. Also included in our contract are the Building Automation System and all mechanical system insulation.

This new science and math complex on the Rock Valley College campus contains 106,000 square feet and three floors, life science and physical science labs, resource labs, math labs and classrooms, faculty offices, conference rooms, and several open student areas including a greenhouse. This impressive new building is striving to achieve an accreditation of LEED Gold and will be obtaining several points through the use of unique mechanical system components and design features. The main distinctive feature of the mechanical system is the utilization of a geothermal well field consisting of 164 vertical wells to a depth of approximately 370 feet. The capacity of

this geothermal field is 420 tons. The well field is serving the two modular Thermostack heat pumps which will generate all of the heating water and chilled water for the building including the generation of domestic hot water via heat exchanger. The cooling system for the building is another unique feature of the building's mechanical system. The cooling in this building is accomplished by the use of chilled beams which are installed in a fashion similar to radiant ceiling panels. The chilled beam system does not require the amount of air or chilled water flow as compared to a typical cooling system in this area thus allowing for less equipment cost, installation cost, as well as energy savings.

Once again, Mechanical Inc has taken the leadership role in the coordination of all mechanical trades on this project. Early on in this process the facility management for Rock Valley College expressed interest in completing building information modeling (BIM) for this building. Through a team effort with Mechanical Inc's service team, the college decided to pursue this option and Mechanical Inc. will be completing a BIM model for this project which is to include the plumbing, hydronic piping, ductwork, electrical, and fire protection systems along with the structural steel and reflected ceiling plan.



The building is currently under construction with all structural steel set in place with all floors poured. Exterior and interior wall framing is underway along with the rough in stage of all mechanical and plumbing systems. Fabrication of several pump skids have recently been completed and have been delivered to the site and the remainder of the mechanical room fabrication is underway as well.

The project team consists of the **Bob Wooden** as general foreman, **Jim Reeverts** as hydronic piping foreman, **Randy Allen** as plumbing foreman, and **Denny Lizer** as the sheet metal foreman. The CAD efforts have been led by **Herb Smith** and **Kyle DeWall** is the project manager.

Outstanding Safety Performance Awards

by Shawn Meier when identifying hazardous conditions and providing solutions.

The Helm Group Safety Committee which consists of General Superintendants and representatives from every business unit recently recognized several employees for their outstanding safety performance this last quarter. These employees were nominated for their attention to detail, leadership, planning, and enforcement of our safety policies. The nominations were reviewed and the selected recipients will all receive a gift card, certificate of appreciation, and listing on the Helm Group Safety Merit Award Plaque. The award winners are:

Todd Whitlock – Mechanical Inc. Todd was nominated by **Bill Hoffman** who states that Todd's attention to detail and his ability to investigate and document incidents as well as takes proactive action to prevent hazardous conditions from existing, is second to none. Todd also does not hesitate to hold people accountable for their actions and leads by daily example.

Harry Dupasquier – Mechanical Inc. Harry was nominated by **Ed Bowen** who states that Harry successfully communicates his expectations with his crew and asks that they maintain a constant and open line of communication with him if they do not understand something. Harry has also been praised by both General Contractors and Subcontractors who report that he really helps them out

Mike Kozac – Mechanical Inc. Mike was nominated by **Jeff Beebe** who states that Mike is always well prepared and gives plenty of notice when specialized safety training is needed for a project. He does not cut corners to complete tasks and always puts himself and his crew's safety first.

I-80 Mississippi River Bridge Repair Project Team – Civil Constructors (Eric Loomis, Don Goodridge, Al Tynan, Nick Roe, Barry Nelson, Jeff Paul, Greg Hoppe, John Russell) This team was nominated by **Shawn Meier and Terry Watts** for their advance planning and daily execution of a complex one of a kind project located 70 feet above the Mississippi River. The team members were faced with custom scaffolding design and construction, as well as substantial fall hazards and staging issues which were planned for and managed on a daily basis with great success.

We appreciate all the efforts that these award winners put forth to make our projects safe for everyone. If you know of someone who deserves to be recognized for going above and beyond our expectations for creating a culture of safety, please let your Superintendants or Safety Directors know so they can be considered for special recognition.

Key Mechanical Acquisitions

by Brian Helm

One good thing about a recession is that at the beginning of a recession, the playing field is leveled. An interesting thing happens mid-way through a recession, however -- The gap between good companies and bad companies widens. The recession hit the Illinois and Wisconsin mechanical commercial markets starting in the first quarter of 2009. Soon after, as contractors worked off their backlog, commercial contractors saw the number of jobs decrease and the bid margin on these projects go down as well. Owners were less willing to use design-build concepts on their projects and they weren't willing to pay for higher initial cost systems that saved operating costs in the future. Instead, everyone competed on price for a much smaller pool of work. At **Mechanical**, we worked on identifying where we wanted to be when the recession ended and figured out how to change the company to meet these goals. Many of Mechanical's competitors downsized to wait out the recession and laid off good staff in the process. Mechanical identified a scope of work gap and a geographic hole that led us to two key acquisitions. The first was the acquisition of Norstar Mechanical

in July 2009. Norstar, based in Rockford, was a 15-year old sheet metal contractor that was a subcontractor to Mechanical on many projects. Customers wanted us to avoid double mark-up on projects and wanted us to have total control over the HVAC piping and sheet metal scopes, so buying Norstar was a natural fit. Barry Thomas Plumbing was the second acquisition in July 2010. Barry Thomas was one of Mechanical's main competitors in local 501 in the Chicago collar counties, but they also had a great reputation and workforce in local 130 in Cook County. Mechanical had not performed much plumbing work in Cook County and even though we are one of the largest HVAC contractors there, we did not have the plumbing workforce or reputation to perform the plumbing scope. Both Norstar and Barry Thomas Plumbing now operate as Mechanical Inc. We gained a lot of quality managers and tradesmen out of the two acquisitions and we are in a great position to continue as the most profitable specialty contractor in the Midwest into the future.



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Safety First!

by Chris Loring

This slogan is often used to promote jobsite safety. The obvious meaning is that safety is the most important aspect of our jobs and should never be placed second to "getting the job done".

Bottom line, a jobsite supervisor that takes a pro-active safety approach such as planning for safety FIRST before a job begins, and identifying and correcting jobsite hazards FIRST before an incident occurs is more likely to have safety success than one that doesn't.

Mechanical Incorporated has reached its lowest EMR in 5 years, at 0.61, way below the industry average! I'd like to take this opportunity to thank Mechanical Inc. SAFETY FIRST supervisory teams that have been pro-active regarding safety and have performed incident free this year and putting SAFETY FIRST!



Thank you to all employees that donated two hours of pay to the United Way and it's member agencies in September. Employees donated \$42,000 and the Helm Group matched this amount for a total donation of \$84,000.