

Partners in Quality

A Publication of the Maryland Quality Initiative
Steering Committee (MdQI)

Fall/Winter 2015

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Dan Cheng
MdQI Co-Chairman, JMT

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Welcome to the 2015 Fall/Winter issue of Partners in Quality!

The 2015 construction season got off to an exciting start when Governor Larry Hogan announced \$1.97 billion dollars in projects that will keep Maryland moving more safely, and with more mobility. The priority projects include \$1.35 billion in new projects going to construction and \$625 million in system preservation projects. The \$1.35 billion in new projects includes \$845 million for major projects and \$500 million to fix bridges and improve roads. The \$1.97 billion in 84 projects includes:

- \$790 million for 10 projects that support economic development
- \$250 million to repave 1,959 lane miles of highway
- \$355 million to improve safety in 25 locations
- \$25 million to fix drainage and keep roads from flooding in 10 locations
- \$355 million for 13 projects to improve traffic flow
- \$195 million to repair 26 bridges

The \$195 million to repair 26 bridges will be combined with \$830.7 million in existing state funds to fix the current list of 70 state-owned structurally deficient bridges, and maintain existing bridges.

This influx of funds comes as the State Highway Administration welcomes Gregory C. Johnson, P.E. as its new Administrator. Having spent 30 years in Michigan's transportation system, Greg calls himself a "highway guy" who is passionate about transportation. He is charged with getting projects done more efficiently, more quickly and of course, even more safely. Greg will join us at the MDQI Conference on February 4th, 2016. Hopefully you will have a chance to meet and talk with him there, if you don't get the chance before then. Many



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Maryland's Transportation Industry

Partners in Quality

An MdQI Publication

Chairman's Letter (Continued)

of the leaders of the Maryland Department of Transportation, FHWA, Baltimore City DOT, and County Engineers Association of Maryland will be participating in the conference as well.

The Maryland Quality Initiative's 23rd Annual Conference is quickly approaching and will be held on February 3rd and 4th, 2016 at the Baltimore Convention Center. Registration for the upcoming conference will open in early December and can be accessed through the MdQI website www.mdqi.org. We look forward to your attendance at the upcoming MdQI Conference and appreciate the efforts and commitment made by our many partners to invest in the quality of our industry.



Dave Coyne
MdQI Co-Chairman,
SHA Deputy
Administrator/
Chief Engineer for
Operations



Dan Cheng
MdQI Co-Chairman,
Johnson, Mirmiran & Thompson
Executive Vice President

23rd Annual MdQI Conference

The Maryland Quality Initiative (MdQI) is dedicated to improving the quality of transportation services we provide to Maryland citizens. For twenty-three years we have delivered on transportation priorities through continued engagement and communication with our partners and customers. Every year transportation professionals use MdQI as the platform to develop new ideas which often result in an improved quality of service with an improved value for our customers.

Since its inception in 1992, the MdQI has been a driving force in promoting partnerships among our sponsoring agencies and forging relationships which allow us to engage in candid discussions that will lead to a continually improving transportation product. The 23rd Annual MdQI Conference will take place on February 3rd and 4th, 2016, and for the fourth year in a row, it will be held at the Baltimore Convention Center located at 1 West Pratt Street, Baltimore, MD. This two-day conference will be attended by local, state and federal agencies, as well as consultants, contractors, and suppliers.

Industry News & Upcoming Events

Upcoming MdQI Events:

23rd Annual MdQI Conference:

The 2016 MdQI Conference is scheduled for February 3rd and 4th, 2016. The Conference will again be held at the Baltimore Convention Center. Conference details and registration information can be found throughout this newsletter, as well as on www.mdqi.org.

Upcoming Industry Events:

Save the date for the following industry events. Further details on these can be found throughout this newsletter:

MTBMA Annual Meeting and Hall of Leadership Awards Dinner

December 3, 2015

www.mtbma.org

54th Annual Paving Conference

March 3, 2016

www.mdasphalt.org

16th Annual Concrete Conference

March 15, 2016

www.MarylandConcrete.com

Partners in Quality

An MdQI Publication

23rd Annual MdQI Conference (Continued)

Technical Sessions! The 2016 MdQI conference will focus on the rapidly changing landscape of the transportation industry. We will examine the possibility of changes in the way we design and construct transportation projects. We will consider not only keeping pace with the infusion of technology into our cars, roads and devices, but planning for practical, safe and sustainable ways our smarter world will serve us. A sampling of current topics under development include:

- Connected Vehicles – What is the impact to our industry?
- What is Practical Design?
- e-Construction
- Bus Rapid Transit
- Innovative Project Delivery using CMAR
- New Technology in Asphalt Pavement
- New Technology in Concrete Pavement
- Dover Bridge, More Than a Bridge
- Strategic Highway Safety Plan “Toward Zero Deaths”
- Construction Panel

Bonus Sessions! The 2016 MdQI Conference will be kicked off by two special sessions on February 3, 2016 beginning at 9:30 AM. These include:

Ethics Session - Article §14-314 of the Annotated Code of Maryland, Chapter 06 Continuing Professional Competency Requirements, requires that Professional Engineers complete 1 PDH for each 2-year reporting period in professional engineering ethics. This popular session will fulfill this requirement.

Personal and Professional Goal Setting for Success – Joel Oppenheimer has consistently received high ratings for his sessions on honing the soft skills of professional development and communications and we have made this available as another added bonus of the conference.

Vendor Theme and Contests! The vendor theme this year will be “To Infinity and Beyond: The Future of Transportation”. Each vendor is encouraged to creatively decorate their booth using the selected theme. In addition to this year’s vendor theme contest, we will again be cheering on our favorite pinewood derby vehicle in pursuit of the coveted Rose Cup. We have also added a new Crane Building Competitions as a new challenge for our engineers and contractors. Let’s see if the bridge builders can be as innovative when building a crane! Details for both of these contests may be found in this newsletter as well as on the MdQI website.

Registration for the upcoming conference will open in early December and can be accessed through the MdQI website www.mdqi.org. We look forward to seeing you at the conference!



*“The vendor theme this year will be **To Infinity and Beyond: The Future of Transportation**”*

Partners in Quality

An MdQI Publication

MdQI Conference Registration Information

2016 MdQI Conference ~ February 3 - 4, 2016

The 2016 MdQI conference is scheduled for February 3rd and 4th with the Annual MdQI Awards of Excellence presentation and banquet on the last day of the conference. Each year, breakout topics of interest to the Maryland transportation industry are identified by the MdQI Steering Committee and discussed at the conference. Each breakout topic is presented by a panel comprised of public/private professionals considered experts in the topic area. The presentations on breakout topics are followed by team discussions and brainstorming sessions. Conference attendees participate in the breakout topics of their choice. Vendor exhibits will be on display throughout the conference. More information, as well as conference registration, will be available on our website at www.mdqi.org.

MdQI Conference Sponsorship Opportunities

MdQI conference sponsorships are divided into the categories of Platinum, Gold, Silver and Bronze. The benefits and details specific to each are listed below. Sponsorship deadline is December 21, 2015. Please call Shelly Baquol at (410) 760-9505 for additional information.

Platinum Sponsor (Limit 4) - \$2,500

Benefits include one (1) conference registration at no charge, full page conference program ad, exhibit table, company name displayed on signage, organization logo with website link displayed on MdQI website for one year and conference attendee list.

Gold Sponsor (Limit 8) - \$1,750

Benefits include one (1) conference registration at no charge, half page ad (horizontal) in conference program, exhibit table, company name displayed on signage, organization logo with website link displayed on MdQI website for one year and conference attendee list.

Silver Sponsor - \$1,350

Benefits include one (1) conference registration at no charge, ¼ page (vertical) conference program ad, exhibit table, company name displayed on signage, organization logo with website link displayed on MdQI website for one year and conference attendee list.

Bronze Sponsor - \$500

Benefits include ¼ page (vertical) conference program ad.

Exhibit Opportunities for Non-Sponsors - \$955 (Member) \$1055 (Non-Member)

Along with the exhibit space, each exhibitor will receive one complimentary conference registration, the company listing in the conference materials and the company name on MdQI website for 6 months. Conference sponsors are automatically eligible for an exhibit space and need not apply separately.

Full Conference Cost

\$335 Early Bird (by January 14, 2016)

\$365 after January 14, 2016

\$280 Government Rate (by January 14, 2016)

Awards Banquet Only (Day Two - February 4, 2016)

\$100 Early Bird (by January 14, 2016)

\$130 after January 14, 2016

Registration Dates: Registration available at www.mdqi.org from December 2015 - January 26, 2016

Cancellations & Refunds (Full Conference and Dinner Only)

Deadline January 15, 2016

Must be registered for full conference to attend Ethics Training

Hotel Accommodations are available at the Hilton Baltimore Hotel, located at 401 West Pratt Street, for a discounted MdQI Conference rate of \$149.00 per night plus 15.5% state and local taxes. For reservations call 443-573-8700 or 1-800-HILTONS. Room reservations at this discounted rate must be made by January 3, 2016.

Contact Information: Shelly Baquol at 410-760-9505 or shelly@mtbma.org

Contact for SHA Employees: Tanya McNeil at 410-545-0360 or tmcneil@sha.state.md.us

REGISTER ON-LINE AT www.mdqi.org

Partners in Quality

An MdQI Publication

MdQI Conference Information

2016 MdQI Conference ~ February 3 - 4, 2016

Day 1 Technical Sessions~ Wednesday, February 3, 2016

9:00am	Vendor Exhibits Open	Registration Begins				
9:30am - 11:00am		Bonus Sessions:	Room 337/338	Room 339/340		
			Ethics Training	Personal & Professional Goal Setting for Success		
11:30am		Welcome, Overview of Technical Sessions, Lunch (provided) Presentation of FHWA Awards				
		Room 337/338	Room 339/340	Room 341/342	Room 343	Room 344
1:30pm- 2:30pm		New Technology in Asphalt Pavement (Pave Xpress + FORTAfi ed Asphalt)	Meet the Moguls: What's New in SHA Project Development?	Connected & Automated Vehicles – What is the impact on our industry	25 Years of Partnering	BWI Airport Runway Safety Program Update and Future Initiatives
3:00pm- 4:00pm		New Technology in Concrete Pavement	What is Practical Design? (Repeated Day 2)	Bus Rapid Transit	Strategic Highway Safety Plan "Toward Zero Deaths"	Dover Bridge, More Than A Bridge
4:00pm		Reception, Pinewood Derby Heat Races, Crane Competition				

Day 2 Technical Sessions~ Thursday, February 4, 2016

7:30am	Vendor Exhibits Open	Continental Breakfast and Registration				
9:00am		General Session: Modal Agency Updates				
		Room 337/338	Room 339/340	Room 341/342	Room 343	Room 344
11:00am - 12:00pm		Heat Curving/ Straightening Steel	What is Practical Design? (Repeated from Day 1)	Bidding Opportunities within MDOT Systems Preservation Programs	2015 Award Winners : Wedge Yard (MTA) and US 219 (SHA)	e-Construction
12 noon		Lunch with Fun Guest Speaker Brian Blasko				
2:30pm - 3:30pm		Project Closeout	Innovative Project Delivery Using CMAR on MD 24	Anytime, Anywhere Bidding...	MDE Delegated Authority: An Update on Permit Approval, Compliance and Field Modifications	Utility Coordination /Buy America
4:00pm - 5:00pm		Construction Panel	What is new? CHART/ITSD, OOC, OOM, OOTS and OMT	Canton Viaduct (I-895) Bridge Replacement Project	Work Zone Liability	Bridging Turbulent Waters - Baltimore City DOT's First Design-Build Project
5:00pm		Reception				
6:00pm		MdQI Banquet & Awards of Excellence Presentation				

Partners in Quality

An MdQI Publication

16th Annual Concrete Conference

Save the date of March 15, 2016! This is when the concrete industry along with the Maryland State Highway Administration and the Federal Highway Administration will host the 16th annual Concrete Conference for the Maryland transportation industry. The Concrete Conference continues to be a one-day educational and informational exchange for all parties involved with designing, building and maintaining Maryland's roads and bridges.

Continuing education credits are offered (up to 5) through a variety of transportation related concrete topics. Professionals working in the following areas of transportation should attend: environmental design, highway & bridge design, materials & technology, landscape architecture, construction & inspection, and maintenance. Federal, state, county and municipal government representatives as well as concrete suppliers, contractors, consultants, academia and other transportation building partners will be in attendance.

General session topics include FHWA's discussion of the Norfolk Tunnel Project, comments from ACPA regarding competition paves, specification updates from SHA's OMT plus an "in-your-face" presentation on Field Testing 101. The afternoon concurrent sessions will focus on topics relating to structures and pavements; highlighting several case studies of projects in Maryland including BWI taxi ways, SHA whitetoppings, continuous live load bridge at Boyers Mill and several roller compacted concrete pavement projects.

For registration information, please visit www.MarylandConcrete.com or email office@MarylandConcrete.com.

New MAA Website Launched

The Maryland Asphalt Association has launched a revised website. The site, www.mdasphalt.org, has a sleeker, more modern look and provides more current and up-to-date information for individuals working in the asphalt pavement industry and community members who are interested in learning more about the business.

The site provides numerous resources including current news and commentary related to the industry, pavement design tools, videos showing various jobs around the state and asphalt facts. It also provides information about upcoming events, the monthly asphalt index, asphalt plant locations, and a sign-up for HMA field technician certification on-line training.

The MAA's mission statement and a list of Board and staff leadership are also provided, as well as benefits of MAA membership and photos of members building roads. Visit www.mdasphalt.org and take a look!



Partners in Quality

An MdQI Publication

MDQI Hosts Anne Arundel County High School Students Career Day

On October 21, 2015 MDQI hosted students from several high schools across Anne Arundel County for Engineering Career Day. The event, held at Michael's 8th Avenue, introduced approximately 400 students to the many different career paths in the transportation industry. During the event, students were able to interact with professionals and were able to see and have hands-on experiences in the various design areas of the industry. The event was covered by both WMAR and WJZ news.

The annual Career Day event would not be possible without the support of many partners in MDQI and the Anne Arundel County Schools. Our thanks go to the following companies who provided the speakers for the event: Century Engineering, JMT, DFI, WRA, RK&K, AECOM, and SHA.

Our next events will be at the Engineer's Club on February 24, 2016 to help celebrate Engineer's Week, and April 13, 2016 when we again travel to the Anne Arundel County Fairgrounds to host our 2016 Construction and Engineering Career Day. If you are interested in helping on the MDQI Industry Training and Recruitment Team, please contact Mark Crampton who co-chairs the team. We are always looking for outgoing speakers for our events. Mark can be reached at 301-624-8102, toll free at 1-800-635-5119 or by email at mcrampton@sha.state.md.us.



Partners in Quality

An MdQI Publication

Eastern Shore to Get New Bridge Connecting Talbot, Caroline Counties

The 83-year-old Dover Bridge is getting a sidekick to bear the traffic loads while it gets a facelift and remains in place after construction for historical purposes. McLean Contracting Company is building a modern 2,021-foot long, 44-foot wide, 50-foot high fixed span bridge along MD 331 over the Choptank River which will connect Talbot and Caroline Counties.

The Dover Bridge Project is more than the construction of a bridge and supporting infrastructure over a river; it is the construction of a bridge and roadway in the very environmentally sensitive Choptank River Basin. With such an environmentally sensitive resource at risk, every effort has to be taken to minimize disturbances while maintaining the flow of necessary commerce and emergency vehicles between Caroline and Talbot County.

McLean chose to use an innovative construction access solution, the Omega Trestle, capable of supporting 300 ton capacity working crane, as well as 100 ton assist crane and railway track for delivery of critical construction materials along the project.

The new bridge will feature concrete granite lined river foundations supported by 48-inch steel pipe piles. The substructure will have hammerhead caps and columns with architectural concrete that features marshland and wildlife accents. The superstructure will consist of haunched structural steel girders over the river and adjacent spans. The approach spans over the marshland will be founded on 36-inch steel pipe piles with concrete caps and pre-stressed concrete girders.

David A. Bramble, Inc. is performing the sitework which includes roughly 200,000 cubic yards of embankment, 12,500 of graded aggregate base and more than 10,000 tons of asphalt in road construction.

The Maryland Asphalt Association has a webpage dedicated to the Dover Bridge project. The page features videos of the project along with descriptions of the progress. The goal of zero environmental impact is evident in the technologies being used in the construction process.

For more information visit <http://mdasphalt.org/2015/dover-bridge-replacement-project/> or scan the QR code:



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Celebrating 25 Years of Partnering Success

In 2016 the Maryland transportation industry is celebrating 25 years of partnering success. Thank you to all partners who have helped shape partnering in Maryland over the last 25 years!

That's right! In 1991 the Partnering Process was piloted to positively and cooperatively manage the MD 450 Severn River Bridge construction project in Annapolis, Maryland. Hundreds of projects statewide have benefited since then from using the Partnering process and tools.

After 25 years of success, the MdQI Partnering Subcommittee will continue to boost participation and involvement in Partnering, and strive to grow and improve the process for Maryland's Transportation Industry.

What is Partnering?

Partnering is a process based on trust and open, honest attitudes that are developed over time affording the owner, contractor, consultant, and all other stakeholders an open environment for effective communication, expedient issue resolution and mutual project success.

How does partnering work?

The owner, contractor, and consultant assemble a team of decision makers for the purpose of facilitating combined issue resolution efforts, motivating quality progress and advancing cost effective project execution.

Why should my company choose to partner?

Partnering in our industry has many benefits including:

- Effective communications
- Team cooperation
- Team approach to problem solving
- Timely project completion
- Reductions in project claims and claim disputes
- Cost effective decision making

For more Partnering information contact Bridgid Seering, SHA Partnering Coordinator, at 410-545-0361 or bseering@sha.state.md.us.



Partners in Quality

An MdQI Publication

54th Annual Paving Conference

The 54th Annual Paving Conference, sponsored by the Maryland Asphalt Association and the Maryland State Highway Administration, is scheduled for Thursday, March 3, 2016, at Martin's West, Baltimore, Maryland.

The conference is a full-day event and will include expert speakers from the National Asphalt Pavement Association, Federal Highway Administration, the Asphalt Institute, and the University of Maryland, Maryland Fire and Rescue Institute, and State Highway Administration as well as other agencies/organizations/firms.

The program will conclude with the presentation of annual paving awards. For more information about registration, vendor space or the program, please visit www.mdasphalt.org or call 410 761-2160.

MTBMA Annual Meeting & Hall of Leadership Awards Dinner

The Annual Membership meeting, reception and dinner will be held at The Hotel at Arundel Preserve, Hanover, MD on December 3, 2015. The Membership meeting will begin at 4pm, followed by a reception beginning at 5pm, followed by dinner and awards program, 6pm – 8pm. The Maryland Secretary of Transportation, Pete Rahn will be the keynote speaker for the Annual Meeting.

Paul V. Facchina, Sr., Facchina Construction Company will be inducted into the MTBMA Hall of Leadership. The purpose of the Hall of Leadership is to honor men and women of the construction and aggregate industries in Maryland who have been a major influence on both the industry and their professional colleagues over the course of their careers. The leadership awards will be presented during the dinner following the annual membership meeting and reception.

The Board of Directors Officers and Directors will be introduced to the members following the election during the Annual Membership Meeting as well. Also, William F. Childs, President & CEO, Chaney Enterprises, Chairman of MTBMA will be recognized for his commitment and dedication to the association and the industry for the past year as Chairman.

Additional information available at www.mtbma.org. Please contact Shelly Baquol at shelly@mtbma.org or 410-760-9505 for registration or program information. Registration will also be available on-line.

The MdQI Steering Committee is jointly sponsored by representatives of the following agencies:



Maryland
Transportation
Authority



Continuous Quality Improvement
Maryland's Transportation Industry

Don't forget to visit our [website at www.mdqi.org](http://www.mdqi.org)

The MdQI Mission - "To provide the Maryland transportation industry a forum that fosters coordinated and continuous quality improvement in order to ensure safe, efficient, environmentally sensitive and sustainable systems to meet the needs of all transportation stakeholders."

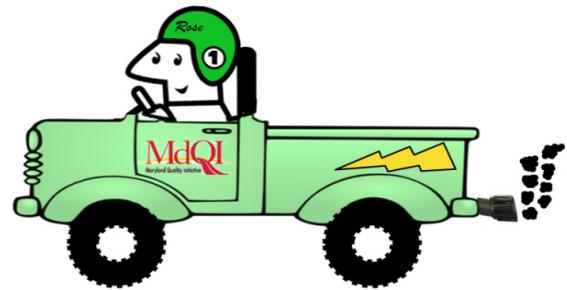
Back By Popular Demand

MDQI - 2016 Pinewood Derby

"Quest for the Rose Cup"

Interested vendors are asked to build a pinewood derby vehicle, with the following dimensions:

Maximum Height: 2"; Maximum Width: 1.75"; Maximum Length: 7.0"; Maximum Weight: 5 oz.; Axle width (Lane Guide): 1.625"; Minimum Height to bottom of axle: 0.25"; all cars should be marked with your company's name or logo.



For 2016, we are continuing with the following Rules based on comments received over the last several years: Your vehicle must have started out as part of a "basic" boy scout pinewood derby kit (ie: a block of wood, 4 nails, & 4 plastic BSA wheels - see www.boyscoutstore.com for details); **NO** solid axels; **NO** "pin" axels (you must use nails); **NO** "wafer" wheels, the front of the car must be clearly identified, the front of the car must be at least 0.25" wide so it can rest on the starting pin (**NO** pointed or slotted fronts).

**** NEW FOR 2016:** In 2016 we want to get as many participants as possible. Sure winning is fun, but being able to represent your organization with a snazy vehicle is important as well. We will reprise the Tabacek Trophy for the vehicle that most closely resembles the Vendor Theme (perhaps a Buzz Lightyear or Jetsons, etc...). In the spirit of more competition we are opening up this year's event to vehicles that **have graced** the Mdqi track in previous years as long as they meet the specifications outlined above. The only change we are making this year is that you have to have four working wheels, they still have to be BSA wheels, & they have to spin. So take your best shot at EJ as they have been sitting at the top spot for a couple years now & are itching for someone to come knock them off.....or jump in line for the Tabacek Trophy for "best in show".....

Weigh-ins will occur prior to racing so please make sure your car meets all of the specifications. Only **one (1)** entry per complany/organization, please. The track will be available for a "race-off" for companies with more than one contestant. The winner of the Derby will have their company logo prominently displayed on 2017 Conference promotional items.

Please contact Brian Lange at mdqiderbymaster@yahoo.com by COB on Thursday January 28, 2016 if you will be participating in the Derby competition this year. More details will be sent out to participating vendors prior to the conference.

THANK YOU - Mdqi Pinewood Derby Contest Team

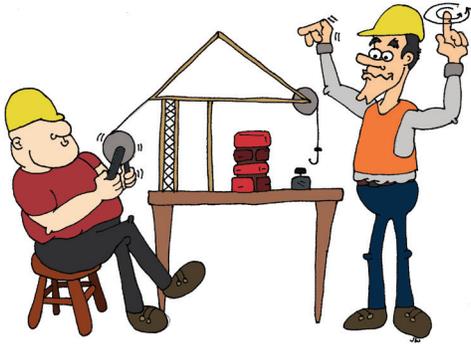
Past Champions: Flanigan, McCormick Taylor, EJ/East Jordan Iron Works, Century Engineering



MdQI

Maryland Quality Initiative

2016 CRANE BUILDING COMPETITION



RULES:

- All movement must be accomplished using a system of hand operated cranks.
- The container that you pick up will be one of your own design (you design it, build it and bring it).
- You may not touch the attachment mechanism or container with any body parts or tools during the pick up to set-down process.
- Container and attachment mechanism shall be made of materials of the contestants choosing.
 - No electronic controlled attachment mechanisms.
 - The container shall be capable of opening to hold a wooden block (1 ½" x 1 ½" x 3 ½").
 - Container must be closed on all sides to completely cover the block from view.
 - Contestant may use an elastic band to hold the container shut after the wooden block is placed inside.

ACCEPTABLE MATERIALS FOR CRANE:

- 1 pizza box
- Two 3 foot long, 3/8" diameter wooden dowels (total of 6 feet) cut/spliced to any length needed
- 1 wire coat hanger
- Fishing line (any size)
- Maximum of 6 empty thread spools (wooden or plastic)
- Unlimited McDonalds drinking straws
- Glue (any brand)

MISSION:

Build a model crane capable of quickly attaching to and lifting your container off a pick-up platform, transferring it over a wall and lowering it to a set-down platform under your crane where it must release from the attaching mechanism.

THE COMPETITION:

The Crane Building Competition will be held on Wednesday February 3, 2016 outside of the Vendor Area beginning at approximately 4:00 PM.

At the Competition, contestants will be given a maximum of 2 minutes to set up and align their container on the pick up platform and crane on the set-down platform with the attachment mechanism in the raised position. A timer will start and the contestant shall lower the attachment mechanism to connect to the container on the pick up platform, raise the container and transport it over the wall, lower the container to touch down on the set-down platform, release the container from the attachment mechanism and then raise the attachment mechanism to the raised position to stop the timer.

Three Contestants with the 3 fastest times will be entered into a playoff round. During the playoff round each contestant will move the container from the pick up platform to the set-down platform 3 times (Someone on your team will hand carry your container from the set-down platform to the pick up platform after each completed move). The team with the shortest overall time for the three playoff moves shall be declared the winner.

The winner of the Crane Competition will be announced and trophy awarded at the Luncheon on Thursday February 4, 2016.



HOW DO I ENTER THE CONTEST?

There is no entry fee for this year's contest. You must register with gvaughan@SHA.STATE.MD.US prior to 12/31/2015. Firms may have multiple entries but you need to indicate how many when you register. Check the MDQI website for answers to frequently asked questions as they come in.

Q - Why did we get away from the matchstick bridge building contest?

A - There were numerous reasons for the switch from bridges to cranes, first we thought that we needed to make changes in order to keep things fresh. The mission of MDQI is to promote improvement, which by definition requires change. Second the feedback we got from Contractors was that the bridge contest was unfairly slanted toward bridge engineers. We agree. We wanted to come up with something that would attract participation from the Contractor side of the owner/contractor relationship. Contractors use cranes to pick things up and set them down, so now we have a contest that's unfairly slanted towards them. As a betting man, my money is still on the bridge engineers, but I suppose that's like Pete Rose betting on the Reds to win. Finally, we got tired of seeing Hardesty & Hanover kicking everybody's ____.

Q – How high is the top of the wall? How long is the wall? How thick is the wall?

A – The wall is 12" above the pick-up and set-down platforms (which are $\frac{3}{4}$ " thick and 6" in diameter). Note this makes the wall $12\frac{3}{4}$ inches above the table top. The length of the wall is 2 feet however this should not be a factor as the rules require the container to move over the wall. You may not swing the container around the end of the wall to avoid lifting it over the wall. The wall is $1\frac{1}{2}$ " thick.

Q – How far is it from the pick-up platform to the set-down platform?

A – It's 24 inches from the center of the pick-up platform to the center of the set-down platform. The wall is midway between the pick-up platform and the set-down platform. Crane must be positioned over the set-down platform, however it does not have to sit on the set-down platform; it may span over it.

Q – Can we turn the crane during the contest?

A – Since all movement must be accomplished using a system of hand operated cranks, if you want to turn the crane, swing the boom, lift a load or translate a load along the boom, you must use a system of hand operated cranks. Any movement other than that generated by turning hand cranks is not allowed.

Q – Can we affix any object to the pick-up or set-down platform (for example glue down the crane to the platform)?

A – No, you may not affix the crane to anything (platform or table). The crane must be stable throughout the transfer process. You may not hold the crane steady with a free hand however the inclusion of a counterweight is allowed. Counterweight may be made of any material of your choice.

Q – May more than one person on a team operate the crane?

A – One operator at a time, although you may switch operators as you see fit. The operator may control as many cranks simultaneously as body parts and design allow. During the playoff round teams may have one person operate the crane while another moves the container from the set down platform to the pick-up platform. No additional handling of the container is allowed once the attachment mechanism crosses the wall from the set-down platform towards the pick-up platform.

Q – What is the definition of a “hand operated crank”? Does it have to be using leverage to wind a string or can it also provide leverage to turn an axle, gear, or wheel directly?

A – For purposes of this contest we want to allow a wide interpretation here but also want to eliminate the use of a knob that someone might want to argue - functions as crank. By definition a crank is a device consisting of an arm or handle that is connected to a shaft at right angles, enabling the transmission of motion to the shaft. The crank must be turned to create rotary motion that will be used to create other motion (turning a gear/wheel attached to the shaft, winding/unwinding a piece of string (fishing line), or opening or closing a clamp). Example - you may not have a crank on the top of your crane that twists the crane directly (this is a knob), you may have a crank that turns a shaft with a gear, cog or string that turns the crane about a separate axle/shaft.

Q – Has McDonalds agreed to letting us have unlimited drinking straws to build our crane?

A – No, McDonalds has no idea that you’re coming for straws. You will have to make your own deal for whatever quantity of straws you need from McDonalds.

Q – Can we have crane legs touch down on both sides of the wall (say two on the pick-up platform side and two on the set down platform side)?

A – No, the intent was to build cranes that function similar to those at the port of Baltimore used to unload ships (MDOT connection intended). Since those cranes touch the ground entirely on the set down platform side of the wall, yours must too.

Q – The cartoon drawing for the contest shows the operator holding a hand operated crank detached from the crane. Is this allowed or does the crank need to be attached to the crane?

A – The cartoon in the advertisement was not intended to be used as a guide for developing your crane. There is no requirement to have cranks attached, so do as you see fit to increase your efficiency.

Q - Can we paint the crane or decorate it with our company logo?

A – The crane should not be painted. This will allow the judges to more easily inspect to see that only legal material was used. You may include whatever on your container as there are no material restrictions on that. We will allow contestants to place company placards (20" h x 9" v) on both sides of the wall during their testing. You may also bring a 2 foot x 3 foot company ad to place around the base of the stage throughout the contest.

Q - On the crane side of the wall, how far is the edge of the table from the wall?

A – Unknown at this time. Do not let this be a control for your design, we will allow you to position an additional table(s) as necessary to support your crane.