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NEWS

ACPA Names Recipients of Annual "Excellence in Concrete Pavements" Awards

Rosemont, Ill. (December 19, 2017) – The American Concrete Pavement Association (ACPA) has named recipients of its 27th Annual "Excellence in Concrete Pavements" awards, which recognize quality concrete pavements constructed in the United States and Canada.

The awards program encourages high-quality workmanship in concrete pavement projects, and serves as a way to share information about challenging and highly successful projects.

Judges representing various stakeholder groups throughout the transportation-construction community evaluate projects for the award consideration. The program recognizes contractors, engineers, and project owners who completed outstanding projects. The program requires projects to be completed in the calendar year prior to judging (2016). The recipients of the 2016 ACPA Excellence Awards are:

Reliever & General Aviation Airports

(Silver Award) Davenport Municipal Airport, City of Davenport
Contractor: McCarthy Improvement Company
Owner: Davenport Municipal Airport, City Of Davenport
Engineer: McClure Engineering Company

In 1947, The City of Davenport had the foresight to build the Davenport Municipal Airport's Runway 3/21 with concrete pavement, which virtually eliminated the need for major rehabilitation and reconstruction costs for more than 65 years.

During a regular pavement condition survey in 2011, the 1947 concrete had a pavement condition rating between 60 and 77. When it came time to replace the concrete on runway 3/21, the City selected concrete pavement again. McClure Engineering Company of Clive, Iowa, provided engineering service to the City by preparing the design and providing construction administration for the project.

The construction team faced schedule challenges, materials challenges, and unseasonable weather during the project. In addition, no more than 30 days were allowed for the closure of the intersection with runway 15/33.

(Gold Award) Waukesha County Airport Runway 10/28 Reconstruction, Waukesha County Airport
Contractor: Zignego Company, Inc.
Owner: Waukesha County Airport/Wisconsin DOT - Bureau of Aeronautics
Engineer: Mead & Hunt

In 2014 Waukesha County Airport was experiencing pavement failures that required the airport to make a series of closures and emergency repairs. The Federal Aviation Administration approved a $10 million federal discretionary grant to the County for reconstruction of the runway. Mead & Hunt completed the plans, specifications, and bid letting in a period of ten weeks and the project was broken into several phases and bid alternates to provide flexibility.

The project was advertised and bid in August of 2014 and awarded to the Zignego Company as the prime contractor for the runway reconstruction project. The project was phased to keep the cross-wind runway 18/36 open as much as possible. In addition to the compressed construction timeframe, the project encountered some additional challenges during construction. Among those challenges were a wet spring, during which it rained 18 of the first 40 days of construction; worse than expected soil conditions; and additional soil stabilization requirements, which created budget challenges.

This successful project could not have been achieved without the combined efforts of the entire design team and the truly exceptional construction provided by the Zignego Company and their sub-contractors.

Commercial Service & Military Airports

(Silver Award) Runway 1R-19L Rehabilitation - Phase 1 at Kansas City International Airport
Contractor: Ideker, Inc.
Owner: Kansas City Aviation Department
Engineer: Burns & McDonnell | RDM International, Inc.

Kansas City International Airport's original Runway 1R-19L and its taxiway connectors was experiencing severe durability cracking that was becoming progressively worse and creating a Foreign Object Debris hazard on the runway.

The rehabilitation of Runway 1R-19L required the removal and replacement of a 17-inch thick concrete pavement. This project also included replacing the runway centerline lighting, re-wiring touchdown zone lighting, and repositioning high-speed exit lighting for the new concrete joint layouts.

The project specification, which was written to reduce the probability of ASR, D-cracking, and other environmental distresses, was a collaborative effort between the Kansas City Aviation Department, FAA, ACPA, local municipalities, and the design engineer.

The challenge in this case was to remove all the existing 17 in. pavement while minimizing damage to the existing underlying base course, which was successfully achieved

(Gold Award) O'Hare Modernization Program - South Airfield Runway 10R-28L
Contractor: Acura, Inc.
Owner: O'Hare Modernization Program
Engineer: O'Hare Runway Designers, LLC

The Chicago Department of Aviation is managing one of the largest construction projects in the country at O'Hare International Airport, which is one of the world's busiest airports.

The O'Hare Modernization Program promises to upgrade the airport's outdated runway system into a more modern parallel runway system to reduce flight delays in all weather conditions. When the project is complete, O'Hare will have eight runways, including six east-west parallel runways and two crosswinds runways.

A tri-venture of Turner Construction Co., Acura, Inc., and Lindahl Brothers, Inc. completed runway and taxiway work; a south air traffic control tower; and several other projects including construction of runway 10R-28L and associated taxiways.

The bulk of the concrete paving was the responsibility of Acura, Inc., and this was contractor's first endeavor at airport paving. The specifications were tight and the concrete mixture was challenging, but with a dedicated crew and stringless paving equipment this project was a success.

Overlays (Airports)

(Gold Award) Runway 13/31 Rehabilitation - Virgil I. Grissom Municipal Airport
Contractor: E&B Paving, Inc.
Owner: Lawrence County Board of Aviation
Engineer: Woolpert, Inc.

Virgil I. Grissom Municipal Airport in Bedford, IN had a unique challenge in 2014-15 regarding improvement of their runway 13-31. The rehabilitation of runway 13-31 with an 8 in. concrete overlay had to be executed with minimal impact to the crosswind runway.

Construction began in late 2014 with the option to pave in November of that year. With exceptionally wet conditions that fall and the forecast of sustained cold temperatures, the decision to postpone paving until spring 2015 seemed logical to achieve a quality concrete overlay project. Despite starting late, the deadline remained the same.

Rehabilitation of runway 13-31 had to be open in time to accommodate the Senior PGA Championship golf event being held in the summer of 2015. E&B Paving executed the phased construction project flawlessly, and the project was completed in time for the golf event.

Industrial Paving

(Gold Award) East I-40 Point of Entry Weigh Station, Roland, Okla. (Sequoyah County)
Contractor: Duit Construction Company, Inc.
Owner: Oklahoma Department of Transportation
Engineer: Guernsey

Imagine having to move a mountain, and doing so quickly and within a percentage of an inch precision. That was the task that Duit Construction faced while constructing a new state-of-the-art weigh station in Sequoyah County, Okla.

The location was set to be built on a mountainside, 1.5 miles from the Oklahoma-Arkansas border. This section of I-40 traverses a rocky terrain that sits between the southernmost edge of the Ozark Mountains and Northernmost edge of the Ouachita Mountains.

Duit Construction was required to move more than 90,000 CY of rock material and more than 200,000 CY of other site material to create a spot in the mountainside for this weigh station. After the removal of all waste materials, Duit proceeded with stabilizing the site and placing more than 31,000 SY of dowel jointed concrete pavement and 4,400 SY of jointed plain concrete pavement.

Through cold winter months of clearing, rainy spring months of excavation, and summer months of concrete paving, Duit Construction completed this project on-time and under budget, not only delivering a high quality concrete pavement, but also helping to fuel the future economic growth of the State of Oklahoma.

RCC (Industrial)

(Gold Award) Conagra Foods Distribution Center, Frankfort, Ind.
Contractor: E & B Paving, Inc.
Owner: The Opus Group
Engineer: American Structurepoint

Work on the ConAgra Foods, Inc., distribution facility in Frankfort, Ind., began in 2014. A detailed paving plan was created and presented at a meeting with the general contractor, the Opus Group, as well as to ConAgra.

Once E & B Paving was awarded the job from Opus they developed a phased schedule to accommodate the 2014/2015 construction season. Equipment was mobilized and E&B set a portable plant up in the Frankfort, Indiana IMI yard, which was about 3 miles from the job site.

The project consisted of about 112,000 SY of 8 in. RCC and approximately 62,500 SY of 9.5 in. RCC. E&B developed a proprietary aggregate blend for use in the RCC, using the Shilstone method and the 0.45 power chart as references for the combined gradation.

One of the greatest challenges for this job was weather. The team constantly battled moisture in the subgrade in both the fall and spring because of wet weather. Because of heavy rains, crews had to monitor moisture in the subgrade to ensure that paving could proceed. Moisture and density testing was conducted immediately following placement behind the high density paver. In spite of the challenges, the project was completed successfully.

RCC (Special Application)

(Gold Award) Chapel Landing - Phase I in the City of Bel Aire

Contractor: Andale Construction, Inc.

Owner: City of Bel Aire, Kans.

Engineer: Baughman Company PA

For this street paving project in a new development located in Bel Aire, Kans., the contractor, Andale Construction, used roller compacted concrete (RCC) pavements for the streets.

The mainline paving featured several curves with radii ranging from 100 to 500 ft. In addition to the curves, there were seven valley gutters that were installed after the main-line paving using traditional cast-in-place concrete paving methods. The use of broom-finished RCC allowed for the subdivision streets to be opened within a week of installation, which allowed the developer the ability early access to the building sites.

Adding to the complexity of the project, the earthwork, including the subgrade and drainage structures, were installed by others, so coordinating the timing of the base and pavement installation was critical.

While performing the RCC phase of this project, a group of 50 people from Texas, California, Missouri, South Carolina, Colorado, Virginia, Oklahoma, and Georgia visited the site to watch the broom finish RCC paving process. This was a very effective learning experience for most of the group, which included engineers and governing officials from the counties and states.

Concrete Pavement Restoration (CPR)

(Gold Award) Annual Airfield Pavement Rehabilitation at Denver International Airport

Contractor: Interstate Highway Construction, Inc.

Owner/Engineer: City and County of Denver, Department of Aviation

This project consisted of over 20,000 SY of selective airfield concrete pavement removal and replacement on the cargo apron, commercial apron, and associated taxiways of one of the nation's busiest airports.

Demolition and installation of airfield lighting, selective spall repair, joint and crack sealant repair, and selective subbase repair was also performed. Through preconstruction meetings, the initial 19 phase plan was reduced to 15 phases, which helped meet FAA regulations and airline operational needs.

By completing 13 of the 15 phases early, airport operations officials had ample time to communicate and coordinate operational changes with airlines.

The project involved removal of 290 panels measuring 25 ft by 25 ft and weighing approximately 70 tons. The support layers were evaluated and out-of-tolerance areas were addressed before the placement of the new concrete pavement.

A rigorous QA/QC program resulted in the project being completed without a single corrective action or non-conformance report being issued to the contractor by the owner. The project was successfully completed in 119 days, 12 days ahead of the revised 15 phase schedule.

Municipal Streets & Intersections (>30,000 SY)

(Silver Award) Appleton Road (STH 47) Interchange, City of Appleton, City of Menasha, and Winnebago County, Wis.
Contractor: Vinton Construction Company
Owner/Engineer: Wisconsin DOT, NE Region
Engineer: Omni Associates

Appleton Road carries 19,000 vehicles per day through the cities of Appleton and Menasha. This 34,000 SY project included urban reconstruction through a major interchange with bridge widening and ramp reconstruction. The project had to be completed in a maximum of 75 calendar days.

Vinton Construction coordinated with their 12 sub-contractors to complete the 370 individual bid items that included 83,000 CY of excavation; 6,600 linear ft of storm sewer; 85,000 tons of aggregate; 17,000 linear feet of curb and gutter; and 47,000 SF of concrete sidewalk. The project also called for colored concrete crosswalks and intersection bump-out construction.

Throughout construction, full access across Appleton Road was required through two intersections along with significant pedestrian accommodations to the more than 30 businesses along the route.

Through excellent coordination, long hours, several around the clock operations, and limited space between multiple crews, this nearly $10 million project was completed in 74 days, one day ahead of schedule.

(Gold Award) Cedar Lane in Norman, Okla.
Contractor: Duit Construction Company, Inc.
Owner/Engineer: Oklahoma DOT
Engineer: Cardinal Engineering

The Cedar Lane project in Norman, Okla., featured a reconstruction and widening of an existing two-lane asphalt roadway along with significant improvements to safety and drainage for the home of the University of Oklahoma.

In total over 58,000 SY of 8 in. of concrete pavement was placed over a 3 in. asphalt base and 8 in. of cement stabilized-subgrade.

An innovative design feature used bright green, colorized concrete bike lanes were added to enhance safety and improve visibility and awareness of drivers. This project also featured new 6 ft concrete sidewalks on each side of the reconstructed roadway to further improve pedestrian safety.

To address significant drainage issues in this area, the existing drainage structures were removed and improved structures were added.

Duit Construction met two major project milestones to complete the project on schedule, including improving the existing railroad crossing, as well as a 75 day closure to coordinate with a construction project by Wal-Mart.

This $7.9 Million project improved the safety and capacity issues of the existing roadway while also addressing the drainage problems of the area.

Municipal Streets & Intersections (<30,000 SY)

(Silver Award) US 285 – Antonito Reconstruction, Antonito, Colo.
Contractor: Concrete Works of Colorado
Owner: Colorado DOT, Region 5
Engineer: Muller Engineering Company, Inc.

The existing section of US 285 featured severely deteriorated asphalt pavement with an extremely high centerline crown and very poor drainage which lead to this concrete reconstruction project.
To address the problems on US 285, 10 blocks were reconstructed in downtown Antonito.
21,000 SY of 9 in. concrete pavement were placed on 8,000 tons of aggregate base.

Drainage concerns were addressed with 65 new inlets and manhole structures over 6,000 lf of new sewer lines ranging from 12 in. to 60 in. To maintain the heavy truck traffic throughout the project, detailed phasing plans were used, along with the creative use of both temporary widening and a one-way traffic signal in some areas of the project.

To minimize interruption to the 36 businesses along this route, two construction phases were used and the access through the 10 intersections was maintained throughout paving.

A significant public outreach program helped ensure that this $7.1 million project had minimal impact to the businesses and residences along this project.

(Gold Award) Roundabout Projects on County Highway CE and Eisenhower Drive, and Eisenhower Drive & Van Roy Rd., Buchanan (Outagamie County), Wis.
Contractor: Vinton Construction Company
Owner: Outagamie County, Town of Buchanan
Engineers: OMNNI Associates |Gremmer & Associates

The intersections of County Highway CE and Eisenhower Drive, and Eisenhower Drive and Van Roy Rd were considered a significant safety concern because of high crash rates and a history of severe injuries. Together Outagamie County and the Town of Buchanan worked to replace these problem intersections with two roundabouts.

Vinton Construction worked with their 11 subcontractors to meet the aggressive 80-day schedule. Four distinct stages and weekly project meetings helped minimize the impact and maximize access to the over 50 area businesses.

The 4 phased construction also assisted in making safe transitions for the daily traffic of over 40,000 vehicles. In addition to 24,000 SY of concrete paving, 26,000 SF of concrete sidewalk was installed along with significant excavation work and drainage updates.

The quality of the design, accuracy of the plans, carefully designed staging, and the extraordinary effort put forth by Vinton and their subcontractors without compromising construction quality were all instrumental in the successful project construction.

County Roads

(Silver Award) 7th Road (Veterans Pkwy)/US 31 Interchange, Marshall County, Ind.
Contractor: Primco, Inc.
Owner: Indiana DOT, LaPorte District
Engineer: CHA Consulting, Inc.

This project featured 1.74 miles of newly constructed alignment and a new interchange in Marshall County, Ind.

The interchange was built to provide access to US 31 from a new industrial corridor to Plymouth, Indiana. The project also featured a new four lane bridge over US 31.

Over 37,000 SY of 8 in. and 9 in. concrete pavement were called for in this alternate bid contract. Difficult soil conditions and a wet earthwork season presented challenges for the project to remain on schedule.

To maintain the scheduled completion date, backfilled solid and wet soils were lime dried for timely paving operations.

This $9 million project was constructed in four phases to keep the roadway open to over 28,000 vehicles that rely on this area daily. This was achieved with temporary cross overs and a very good public outreach plan.

(Gold Award) Weld County (Colo.) Parkway – US 34 to WCR 60 ½
Contractor: Interstate Highway Construction, Inc.
Owner: Weld County, Department of Public Works
Engineer: Atkins North America

This $21 million project is one of several project that will widen and make safety improvements to Weld County Road 49, as well as to relieve congestion on nearby state and Interstate highways.

The 137,000 SY project featured five bridges, 14.5 lane miles of 11 in. concrete roadway, three intersections, grading, drainage, and base work.

Two of these major bridge structures help provide access to Weld County through the South Platte and Cache la Poudre Rivers.

A rigorous QA/QC plan, which featured the use of real-time smoothness and MIT Scan dowel verification helped ensure quality on the project.

Weld County did an excellent job coordinating public outreach throughout the design and construction activities and held 3 public open house meetings and significant other communications with the twenty-one separate landowners and 20 separate utility and irrigation companies that were affected by the project.

Colorado Governor John Hickenlooper (D) recognized the foresightedness of Weld County for constructing the Parkway and was quoted saying, “I love seeing things built out of concrete!”

State Roads

(Silver Award) US 36 Reconstruction, Republic County, Kans.
Contractor: Smoky Hill, LLC
Owner/Engineer: Kansas DOT

This 1.2 mile-long reconstruction project on US 36 entering Belleville, Kans., involved two major parts—a bridge reconstruction and pavement reconstruction.

To limit traffic interruption, bridge and pavement demolition were scheduled to coincide as was the reconstruction. The project was constructed in five phases which were divided into 19 sub-phases to enhance safety and traffic flow all to build the 8 in., jointed reinforced concrete project. In all, the contractor, Smoky Hill, LLC, placed more than 33,000 SY of pavement for this project.

The contractor faced significant environmental issues with four rain events of over 4 in. or more and a total of over 55 actual rain days, all of which caused several delays. Communication was a key factor in the success of this project as 15 businesses and seven intersections were impacted by the project. Smoky Hill's superintendents worked closely with area businesses to keep them informed of progress.

In spite of significant rain delays, the project was completed two days ahead of the revised schedule.

(Gold Award) State Highway 3, Asher, Okla.
Contractor: Duit Construction Company, Inc.
Owner/Engineer: Oklahoma DOT

This 1.8-mile project on State Highway 3 in Asher, Okla., serves as a major arterial that handles significant truck traffic from a nearby LafargeHolcim cement plant in Ada, as well as agricultural traffic from Texas and Kansas.

One of the most challenging features of this project was reconstructing a two-lane roadway under traffic. Due to the number of driveways and businesses along the project, alternating the traffic on one lane was not a possibility, so Duit Construction adopted a three-phase construction plan.

One challenge posed by the three-phase plan was the need for the paving crew to make sure that even the shoulders, not normally under a ride specification, had a ride quality similar to the mainline pavement.
The plan also required great attention to detail and effective communications with ODOT and with area businesses to ensure that access was maintained to the local businesses.

Duit crews worked during the winter months and used a new, white filter-fabric to help control temperature on the subbase and migrate water out from under the new concrete. Even with delays due to rain and snow events, Duit constructed over 47,000 SY of 9 in. concrete pavement under budget … and completed the project a month early.

Overlays, Streets and Roads

(Silver Award) St. Charles Convention Center Parking Lot, St. Charles, Mo.
Contractor: Veejay Cement
Owner: City of St. Charles, Mo. | St. Charles Convention Center
Engineer: Bax Engineering Company

This project consisted of over 56,000 SY of a 4 in. concrete overlay on the existing deteriorated asphalt parking lots (including some full depth replacement) for the convention center and attached hotel.

A concrete overlay was selected for this project versus an asphalt overlay based on a cost-benefit analysis. Prior to overlay placement, all areas of damaged asphalt pavement were removed for full depth replacement. The concrete overlay was placed with a laser screed using GPS to guarantee the matching of proposed grades.

The convention center and hotel required that a minimum number of spaces be open for various events during the project duration. Another requirement was that one direction of traffic was required to remain open for the loading docks at all times. As a result, the paving project was split into 14

construction areas to provide parking and access, as needed. This required very tight scheduling and exceptional coordination among the owner, client, contractor, and suppliers.

Overlays, Streets and Roads

(Gold Award) Iowa D59 Wall Lake, Sac County, Iowa
Contractor: Cedar Valley Corporation, LLC
Owner/Engineer: Sac County, Iowa

The Sac County D 59 Wall Lake project was a 12.5 mile long, 4 in. thick unbonded concrete overlay project that included nine full depth sections.

Despite significant delays in start of paving related to required coordination with a separate bridge rehabilitation project that was several months behind schedule, Cedar Valley Corp. was able to finish the project ahead of schedule. Paving was completed 15 days less than the 60 working days assigned by Sac County.

Substantial local traffic access was required to be maintained. Since the project was almost 12 miles long, the entire project was basically available to local traffic except during the concrete curing process. The unique saw pattern (5.5 ft x 5.5 ft) required 2.87 lineal feet of sawing per square yard. Consequently, daily production was limited by the terrific amount of sawing.

Despite these challenges, including having 248 vertical curves along the project with cross slopes varying from 1.5 percent to 4 percent, the contractor was able to attain over 65 percent of the available smoothness incentive.

Also noteworthy is Cedar Valley's commitment to sustainability, which was very evident on this project. In addition to removing 14,000 SY of paving materials (that will be used for future road projects in Sac County), the contractor addressed erosion issues and employed a number of other sustainability measures.

Overlays, Highways

(Silver Award) Interstate 72 Overlay, Sangamon County, Ill.
Contractor: Illinois Valley Paving Company, a Div. of UCM
Owner/Engineer: Illinois DOT
Engineer: Illinois DOT, District 6

This 3.2-mile section on Interstate 72 just east of Springfield, Ill., represents the first structural fiber reinforced unbonded concrete overlay in Illinois.

The incorporation of 6 ft x 6 ft x 6 ft "big-block" design serves to control development of curling and warping stresses, as well as load induced stresses. In addition, the use of structural macro-fiber represents the first known use of this technology on any Interstate in the country.

The eastbound roadway and shoulders used a hot mix asphalt separation layer on the existing 30 to 40 year old continuously reinforced concrete pavement (CRCP), whereas the westbound section incorporated a geotextile separation layer.

Despite significant weather events that prevented paving on multiple scheduled paving days, Illinois Valley Paving easily met the 90 day requirement.

Ultimately this project will help guide the Illinois DOT in selecting the best future technologies for using concrete to repair and rehabilitate its existing Interstate and primary highway system.

(Gold Award) PennDOT SR 50 Millers Run, South Fayette Township, Pa.
Contractor: Golden Triangle Construction
Owner: Pennsylvania DOT (PennDOT)
Engineer: Mackin Engineering Company

This 4.2 mile long, 6 in. thick unbonded concrete overlay project on SR 50 in South Fayette Township was bid as an alternative pavement with the option of crack and seat with a bituminous overlay or a 6 in. unbonded concrete overlay.

The $19 million unbonded concrete overlay prevailed over the two bituminous bids by well over $2 million.

Golden Triangle, working closely with their designer, Mackin Engineering, incorporated useful designs such as integrating the cross slope correction and smoothing of the vertical profile into the overlay itself.

Sustainable construction practices were also a hallmark of this project, which involved recycling 23,000 tons of concrete. The contractor also used stringless paving to increase quality and productivity. In all, approximately 95 percent of the concrete for this project was slip formed. About 210,000 SY of concrete was placed in just over six months.

The amount of concrete placed in six months was a challenging feat in its own right, but there were also several other challenges that could have compromised the schedule. These included changes to the grades and curb placement, which forced re-design of a large portion of the project, as well as an unusually rainy spring and summer which had negative effects on the concrete paving. In fact, for about two months, there was significant rain at least every other day. These challenges proved to be no match for the Golden Triangle crews, who were forced to work most weekends (including Sundays) to stay on schedule and finish the project within the schedule.

As a result of this effort, the owner and the traveling public now have a beautiful concrete roadway which will far surpass the lifespan of any bituminous alternative.

Divided Highways (Rural)

(Silver Award) Interstate-69, Section 4, Greene and Monroe Counties, Ind.
Contractor: E&B Paving
Owner/Engineer: Indiana DOT
Engineers: Beam, Longest & Neff | AECOM

This project was comprised of four alternate bid segments of a 27 mile stretch of new-terrain Interstate 69 in Indiana. The project scope included placement of 564,644 SY of mostly 10.5 in. thick mainline concrete pavement.

Paving operations for these four segments comprised 17 paving days in the first year and 79 paving days in the second. Paving operations included two batch plant locations (one plant), three mainline pavers, and enough related equipment for two complete paving trains.

Through all of these segments, E&B's paving operations were executed within 14 internal "mini" phases, where paving spreads were relocated to different segments as they became available throughout the corridor. During the final push, E&B's team executed 10 moves while paving on 18 out of 23 consecutive days, including two rain days.

Much of the mainline was efficiently placed at 30 ft wide, and in the end, E&B delivered outstanding ride quality on all four sections, achieving more than 50 percent of the ride incentive, including one entire section with zero corrective grinding.

Divided Highways (Rural)

(Gold Award) Iowa I-280, Scott County, Iowa
Contractor: Cedar Valley Corp., LLC
Owner: Iowa DOT
Engineer: Mark F. Brandl, P.E., Iowa DOT

This project involved the reconstruction of almost seven miles of the westbound lanes of Interstate 280 adjacent to Davenport, Iowa.

The contract had a very tight schedule, requiring Cedar Valley Corp. to work six days per week and complete all critical work by Thanksgiving in one construction season.

In addition to the tight schedule, the paving portion of this contract was tied to a bridge replacement project that created a unique challenge with the logistics of the contract. Repairing bridge notches and pouring new bridge approaches at three locations proved was time- consuming and also resulted in delays as additional work had to be completed to successfully rehabilitate the bridge notches, which

impacted Cedar Valley's schedule significantly. Additionally, the project site included working through three interchanges that remained open for nearly the whole project.

In addition to project coordination challenges, there were also significant weather challenges. Early in the project, there was a 45 day period during which it rained on 29 different days. The 13 inches of rain that fell stopped the excavation operation and threatened the November 25th completion date. On a very positive note, Cedar Valley successfully combined stages 2 through 4 so the paving crew did not have to leave the project to complete the majority of the mainline paving on the project.

The contractor broke the project into distinct areas and closely followed the critical completion path in each area. This allowed subcontractors to perform other operations such as subdrain installation, earth shouldering, sign placement, and seeding.

In all, Cedar Valley placed 111,000 SY of 11 in. thick jointed concrete pavement with tied concrete shoulders, while earning the maximum thickness and mix bonus and 46 percent of the smoothness bonus.

In addition, the contractor worked 33,590 man-hours without a loss time injury or vehicular accident. Also, demonstrating its commitment to sustainable construction practices, the contractor recycled in place the existing concrete paving and reused it as base rock. Besides eliminating the need for over 135,000 tons of virgin material, this process also eliminated the additional equipment usage and fuel required to haul the concrete to a crushing site.

Urban Arterials and Collectors

(Silver Award) Midland Drive (SR-108), Roy and West Haven, Utah
Contractor: Ralph L. Wadsworth Construction, LLC
Owner: Utah DOT, Region One
Engineer: Horrocks Engineers

This project consisted of 1.3 miles of urban reconstruction and widening of Midland Drive in Roy and West Haven, Utah.

The existing corridor was widened from a three lane facility with inconsistent shoulders to a five lane facility with bike lanes and shoulders. The pavement consists of 9 in. of jointed plain concrete with tied concrete shoulders. All machine paving employed a stringless paving system, which provided greater control and productivity.

All traffic lanes and movements had to be maintained with no traffic held for more than five minutes. Night paving was used to minimize impacts to traffic, improve concrete availability and delivery, and provide added safety to workers due to lower traffic volumes.

Despite significant challenges associated with third party utility relocations; new storm drains; 18,500 lf of new waterline; and other project complexities the contractor successfully placed almost five lane miles of high quality concrete pavement for the public to enjoy for many years to come.

(Gold Award) Ryan Road (State Trunk Highway 100), Oak Creek, Wisc.
Contractor: Zignego Company, Inc.
Owner: Wisconsin DOT
Engineer: CH2M Hill

This project involved the reconstruction and expansion of 1.6 miles of a six lane concrete roadway with six signalized intersections in a heavily traveled corridor in Oak Creek, Wisc.

The project included removals, grading, base aggregate, select crushed material subbase; concrete pavement; concrete barrier wall; curb and gutter; and a temporary asphaltic surface. The project also included storm sewer; a storm sewer detention pond; erosion control; traffic control; and restoration and preloading of the future Interstate Highway northbound exit ramp.

Despite numerous challenges throughout construction including the requirement to maintain business, residential, and intersection access at all times; coordinating and working through unanticipated utility

conflicts and delays; overcoming material shortage issues; and late season adverse weather, the Zignego Company and project staff persevered to construct an outstanding project.

Project staff partnered with local businesses and residents to minimize pavement gaps, which in turn, improved ride quality and accelerated completion. They also worked together to revise the construction staging at a critical intersection to accommodate traffic for two truck stops.

The contractor met many challenges and paved just under 100,000 SY of 8.5 in. thick jointed plain concrete pavement on schedule, under budget, and with minimal public disruption. As a result, the community and local stakeholders now have an aesthetically pleasing, smooth, safe, and high-quality roadway that will last years to come.

Divided Highways (Urban)

(Silver Award) Iowa Highway 30, Linn County, Iowa
Contractor: Cedar Valley Corp
Owner: Iowa DOT
Engineer: John Vu, P.E. - Iowa DOT

This two mile long project on US 30 near Cedar Rapids, Iowa, involved reconstructing both directions of a divided four lane highway.

Cedar Valley Corp was the paving subcontractor, and was assigned a very tight working day period – 40 working days each for eastbound and westbound lanes- to reconstruct over 102,000 SY of jointed plain concrete pavement.

In a proactive effort to help the prime contractor meet the tight job schedule, the contractor proposed paving the inside shoulder integrally with the mainline, which meant the inside shoulder would be 10.5 in. thick rather than 7 in. thick. This not only improved pavement performance, it also saved at least 10 working days.

Cedar Valley Corporation also worked with the Iowa DOT to modify joint details to improve performance of concrete pavement at ramp locations by introducing a centerline joint in the 16 ft wide ramp stubs.

Despite the challenges associated with being the subcontractor on this project, the contractor attained a good ride on this project, while earning 54% of the smoothness bonus and the maximum thickness and mix bonus.

(Gold Award) US 36 Express Lanes from Federal Boulevard to Table Mesa Drive in Boulder, Adams, Weld, and Broomfield Counties, Colo.
Contractor: Castle Rock Construction Company
Owner: Colorado DOT, Region 1
Engineers: HDR, Inc. | Cesare, Inc.

This project involved the reconstruction and expansion of a 16 mile long section of US 36 between Boulder and Denver, while maintaining traffic in excess of 100,000 vehicles per day.

The complex project included 1,300,000 SY of mostly 10 in. dowelled concrete pavement, as well as more than 2,800,000 CY of embankment, 17 bridges, underground utilities, and sound walls. The project also included a number of innovative features, including express lanes (HOV/toll lanes); a diverging diamond interchange, a bikeway, and other features.

The 64 foot wide, 60 year old concrete corridor was widened to 128 feet to accommodate the HOV lanes as well as increase capacity. Due to the length of the project, two batch sites had to be erected, and because of changes in aggregate sources, Castle Rock Construction designed two optimized mixes for this project to ensure consistent and uniform concrete.

The end result was a very consistent concrete pavement that featured good ride numbers, while also meeting or exceeding specifications for both strength and thickness. In spite of many challenges--including traffic management requirements; bad weather; and the need to minimize impact to those who live and work in the area, the construction team finished the project on time and within budget.

About the Excellence Awards

The ACPA Excellence in Concrete Pavements awards are made possible, in large measure, because of the generous time commitment of independent judges from across the country. The judges each spend

many hours reviewing executive summaries, project details, photographs, and other details and aspects of project submittals.

ACPA presents awards in both gold and silver levels. Judging is based on a point system, with independent judges awarding points for quality construction, addressing unique and unusual challenges, innovation, traffic management, and other criteria. In the case of ties, award judges present awards to co-winners.

About the American Concrete Pavement Association

The American Concrete Pavement Association is the national trade association for the concrete pavement industry. The primary mission of the ACPA is to lead the promotion of concrete paving, and align its members, chapters/state paving association affiliates and partners for effective and valued concrete pavement promotion, advocacy and technical support on behalf of the concrete pavement industry.

Founded in 1963, the American Concrete Pavement Association is headquartered in Chicago at 9450 West Bryn Mawr Ave., Suite 150, Rosemont, Ill. 60018. Telephone: 847.966.2272. The Association's metropolitan Washington, DC-office is located at 3925 Chain Bridge Road, Suite 300, Fairfax, Va. 22030. Phone: 202.638.2272. Visit us on the web at www.acpa.org.

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