The Colorado/Wyoming Chapter
ACPA Proudly Presents the 2016
“Excellence in Concrete Pavement Awards”

ACPA CONCRETE PAVEMENT
AWARDS
30-page special section as featured in
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US 36 is a corridor between Boulder and Denver, carrying 100,000 vehicles per day. The 16-mile long project had well over 2,800,000 CY of embankment, 17 bridges, 119,000 feet of underground utilities (mostly storm sewer), several detention ponds, 400,000 CY of class 6 road base, 115,000 tons of asphalt, 105,000 SY of concrete bike path, 150,000 LF of concrete barrier, and 450,000 SF of sound walls. The project had 1,300,000 SY (345,000 CY) of 10-inch dowelled concrete paving. Due to the length of the project two batch sites were set up on CDOT ROW. The corridor was originally built in the early 50's with concrete pavement and was 64-foot wide. Because of the dramatic increase in traffic, it had developed a severe capacity issue. The new corridor is 128-foot wide concrete pavement with HOV lanes in both directions, greatly improving the capacity of the corridor. The US 36 express lanes is an innovative project with several interesting design features including:

- Express Lanes (HOV/Toll Lanes)
- Bus Rapid Transit
- Bus On Shoulder
- Active Traffic Management
- Diverging Diamond Interchange
- Bikeway

Owner: CDOT Region 1
Paving Contractor: Castle Rock Construction Company
Design Engineer: HDR, Inc.
Materials Testing: Cesare, Inc.
Prime Contractor: Ames Granite Joint Venture
Supplier: Holcim (US) Inc.
Supplier: Euclid Chemical Company
Supplier: CMC Rebar
Trucking: US Transport & Logistics
The I-70 corridor stretches from Kansas to Utah through Colorado, and the road travels through the eastern plains, Denver and the Rocky Mountains. This project was the reconstruction and overlay of 7 miles of I-70 between Vona and Siebert, Colorado and the reconstruction of two interchanges. The existing road was a concrete road which was built in the early 60s and overlaid with 8-inch PCCP in 1989. The existing concrete road was exhibiting materials related distress, and CDOT had constructed an asphalt overlay 5 years ago which was failing badly. CDOT was planning to reconstruct this section, however the local ACPA Chapter, National ACPA and the Concrete Pavement Tech Center helped them see that an unbonded overlay would be a good solution for this road and the taxpayers of Colorado. The project entailed 75,000 CY of embankment, resurfacing two bridge decks with polyester concrete, nearly 68,000 SY of 12-inch dowelled PCCP, over 245,000 SY of dowelled 8-inch PCCP and many drainage improvements in the channels at the bridges. The end result was very consistent concrete being produced and good ride numbers. Most of the incentives were achieved on this project for strength, depth and ride. This may be the smoothest concrete road ever built in Colorado. An over the road trucker called the Castle Rock Construction Company office and thanked CRCC for the smoothest road he had ever driven over.

I-70 Vona - Overlay & Reconstruction

Owner: CDOT Region 4
Paving Contractor: Castle Rock Construction Company
Design Engineer: CDOT Region 4
Materials Testing: Cesare, Inc.
Supplier: Holcim (US) Inc.
Supplier: Euclid Chemical Company
Trucking: US Transport & Logistics
Weld County Road 49, called the Parkway, is a vital segment of Weld County’s present and future transportation needs. It provides a crucial north-south route in the region over the Cache La Poudre and South Platte Rivers and helps relieve congestion on nearby state and interstate highways.

This $21 million project is just one of several projects that will widen and make safety improvements to WCR 49 from I-76 to Colorado 392.

The project included five bridges, 14.5 lane miles of concrete roadway, three intersections, grading, drainage, and base work. The roadway provides two travel lanes in each direction divided by a gravel or paved median with left and right hand turn lanes and pavement safety edges. Twenty-one separate landowners were directly affected by the project, and twenty utility and irrigation companies were also involved in the project.

This new section of roadway greatly enhances business development in the area. Colorado’s governor, John Hickenlooper, recognized the foresightedness of Weld County for constructing the Parkway at the ground breaking ceremony and was even quoted as saying “I love seeing things built out of concrete”. Congratulations to everyone involved in the successful completion of this noteworthy project.

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For more information please contact the Holcim Mountain Region Sales Group at 303-716-5285 or 800-331-4233.
The reconstruction of US 285 through Antonito included the paving of over 21,000 SY of concrete along a 1.2 mile stretch through town. It passed through 10 intersections and required that the new concrete pavement match existing curb and gutter, regardless of the condition or elevation. Additionally, the design of this project included a quarter crown break throughout its length, which required paving a single 12 foot lane at a time and the use of a smaller paver. This project was located in a remote area in southern Colorado with only one ready-mix concrete supplier.

The project was a great partnership between CDOT, the Town and the contractor. The team took a proactive approach to resolve problems and make the project the best possible. From the Town’s seemingly constant presence and support on the project to the focused attention of the utility engineer coordinating and facilitating utility relocation efforts and having utilities on site ahead of operations, the owners were available to resolve conflicts and avoid impacts to the project schedule. Further, the project team, consisting of both Consulting and CDOT staff worked closely and with Concrete Works of Colorado to get ahead of issues and to proactively support the Contractor efforts through active partnership. The Contractor made quality improvement and phasing proposals to minimize impact to the traveling public while adding to the overall enhancement of the project. The work resulted in a great improvement to the highway and the Town while being completed on time and under budget.
The project included the removal and replacement of almost 52,000 SY of concrete pavement on a busy 1.3 mile business section of SH 86 in the Town of Castle Rock. It also included installation of a new storm drainage system, sidewalks, curb ramps, widening the NB I-25 off ramp as well as the Eastbound Lanes at the west end of the project, installing raised medians, and the installation of new signal lights. To change the profile of the roadway, approximately 16,000 cubic yards of excavation and embankment material were moved. The project was completed in five phases in order to limit the effect on businesses. The concrete pavement prior to construction was severely deteriorated, requiring potholing operations to take place up to twice monthly for the safety of motorists.

The concrete produced by the CWC plant is about 50% greater in strength than what was required and about a half inch thicker across the entire roadway.

Concrete Works of Colorado completed the project ten days early and earned the maximum $50,000 incentive provided. Additionally, intersections needed to be completed within a 72-hour window between Sunday night and Thursday night for incentives/disincentives of $5,000 per day. The contractor completed a day early on two of the intersections and earned a $10,000 incentive on the intersection work.
This is the first project in a multi-year Construction Manager/General Contractor (CM/GC) Contract. The process of CM/GC is a new process for Denver International Airport (DEN) and other stakeholders/project partners. The project was presented with some early challenges, including a late season start. Flatiron Constructors, in addition to 16 subcontractors, successfully partnered with a multitude of airport departments for successful completion of this phase; amongst challenges such as weather, unforeseen obstructions, and very aggressive material specifications and tolerances.

Construction took place from August 17th 2015 - December 19th, 2015 and the contract value of this phase was nearly $9 million.

With 17 different companies working on the project, safety was key, and the project had zero recordable injuries. Work items consisted of more than 60 payment items with multiple, often stringent specifications. The project was successfully completed without any Non-Compliant Reports or deficiencies.
As one of the busiest airports in the nation, Denver International Airport must constantly pursue maintenance to ensure the quality of the airfield, and safety of the travelling public. This Concrete Pavement Restoration (CPR) project provided over 20,000 SY of selective airfield concrete pavement removal and replacement on the cargo apron, commercial apron, and associated taxiways. These annual airfield pavement rehabilitation projects are aimed at extending the service life of the apron and taxiway areas, while maximizing the life of the overall pavement at a much lower cost than total replacement of the apron or taxiway.

The project was designed in 1 milestone and 19 phases, each with a duration between 7 to 30 calendar days, and an overall project duration of 131 calendar days. The project required closure of 18 gates and 5 intersections while restricting aircraft size on 3 taxiways. The project team held several pre-construction meetings with all stakeholders to discuss how the phasing and sequence of work would impact airline traffic and airport operations. During these meetings, it was discovered the original sequencing and phasing design conflicted with the operational needs of several airlines, and the contractor was able to present a revised schedule which changed the sequence of work and reduced the number of phases to 15, while minimizing the effect on airline operations.

The project was completed in 119 days of the 131 day schedule without the contractor being issued any non-conformance or corrective action reports.
This project provided 242,300 square yards of concrete overlay along State Highway 14 from I-25 East to Weld County Road 23. In addition to the new concrete roadway, this project improved storm and irrigation drainage, as well as updated signage and pavement marking. The project was bid as either a concrete or asphalt alternate. Additionally, the project was bid as an A + B bid, in which award of the project was based on the bid cost plus the number of days bid. The concrete option began at an apparent disadvantage, as the daily cost for concrete was $31,538/day vs. the asphalt at $17,462/day. The concrete option was bid at 138 calendar days.

The contractor was able to develop a phasing sequence to allow grading and trackline work ahead of paving, and finish up work behind paving. The project was constructed linearly down the highway in just the eastbound lanes, then the construction turned around and proceeded down the westbound lanes. This innovative phasing approach allowed the contractor to complete the project 13 days early, earn a large amount of early completion incentive, and return full use of the highway to the traveling public.

This project occurred on a heavily traveled state highway, which is the main (or only) access to a large number of homes and businesses. This project had the potential to greatly disrupt the public’s lives and businesses, however, through extensive planning and coordination that disruption was diminished immensely.
Quality of our workplace for safety of our employees and the travelling public
Quality of our work to our customers and the taxpayers
Quality of the employee assets employed on our projects
Quality of the equipment assets we employ
Quality of our relationships to all entities involved
ACPA Excellence in Concrete Pavement Awards

Doubletree Hotel - Stapleton. March 17th, 2016

Scott McDaniel of CDOT

Larry Scofield of ACPA & IGGA

Angela Folkestad of ACPA

SH 14: Gale Siedenburg (RockSol), Dean Semus (RockSol), Cory Allington (IHC), Jody Funk (Cemen), David Neal (Boral Material Technologies), Phil Dyer (Euclid Chemical), Justin Pipe (CDOT Region 4), Steve Hochmiller (US Transport & Logistics), Ron Schenkky (IHC), Mark Dukas (IHC), Kevin Behrens (IHC), Don Young (IHC)

I-70 Project Award - Left to Right: Brooke Smartz, Holcim; Sarah Sanders, CRCC; Mike Walker, CRCC; Phil Dyer, Euclid Chemical Company; Rich Tinsen, CRCC; Chris Shoemaker, CRCC

DEN Gate Apron - Left to right: Scott Stetson (Flatiron Construction), Glenn Frieler (Denver International Airport), Stephen Cedro (Flatiron Construction), Hunter Warden (Flatiron Construction), Consento Luzano (Villaabos), John Cossaro (Lazdina), Kimberly Watanabe (Denver International Airport), Luis Morales (Villaabos)

Front row: Mike Walker, CRCC; Chris Shoemaker, CRCC; Sarah Sanders, CRCC; Back row: Scott Rees, CDOT Region 1; Jennifer Nelson, CDOT Region 1; Phil Dyer, Euclid Chemical Company; Rich Tinsen, CRCC

DEN Airfield Rehab (left to right) Glenn Frieler (Denver International Airport), Brent Nichols (Denver International Airport), Kimberly Watanabe (Denver International Airport), Ray Dew (Interstate Highway Construction), John Jones (Interstate Highway Construction)

US 285 Antonito (left to right) Tim Webb CDOT R5, Nate Shawcroft CDOT R5, and Gary Coffee of Concrete Works of Colorado

Weld County Parkway: Michael Cates (Adkins), John Foster (Transpro Burgerman), Michael Bedell (Weld County), Don Dunker (Weld County), Pablo Enrazo (IHC), Roger Ivenson (Holcim) and Scott Stetson from Flatiron Construction