

## *Focus of This Issue:* Miscellaneous Products and Projects

### **Precast Concrete Pavement Slabs replace CIP for Minimum Traffic Interruption and Increased Safety on Long Island's Sunshine Parkway**



**Saw Cut and Remove Slabs To Be Replaced**

Last October, Roman Stone Construction Company successfully completed their first installation of 'Roman Road Systems'. The 35 panels were placed in lieu of 3,400 sf of cast-in-place concrete on Long Island's Sunrise Highway. The new product was developed to make repairs to concrete roads where the volume of traffic is such that it is difficult to shut down the road for more than a few hours disruption to the traveling public. It increases safety to the public by reducing disruption to traffic lanes as well as minimizes hazards to construction workers by getting them off the job quickly. It prolongs the life of existing roadways for cash strapped State governments and it also mitigates congestion and air quality problems due to stalled traffic.

The concrete road was installed originally in the 1960's and was supposed to have a useful life of 40 years. Today, at the end of its service life the highway is still in pretty good shape (a tribute to the

longevity of concrete pavement) and the NYSDOT was looking for a way to extend the service life of the road and make repairs to some of the deteriorated joints. Over the 40 years since the road was first designed and placed in service, increased development and population growth has made this roadway the only major route for truck traffic to the entire south fork, and shutting down the entire road for an extended period of time was not a viable option.

The use of Roman Road Systems precast concrete pavement slabs was decided on in order to effect a long lasting repair, reduce downtime on the road and increase safety by making the repairs quickly. During one 7-hour work window a minimum of 7 deteriorated sections of the existing roadway was successfully removed and replaced with high quality precast



**Set New Precast Road Slabs**

*(continued on page 2)*

### Precast Concrete Pavement Slabs *(continued)*

slabs. After the traffic cones have been removed the precast slabs are immediately available for traffic loads and another 40 years of service. The project lasted about 2 weeks and 55 PCP slabs were installed.

As a follow up, after 6 months (and one winter) the slabs were checked for load transfer efficiency utilizing a falling weight deflectometer test. All the slabs tested were holding up well with no settlement issues or cracking.

Credits: Contractor – Ahern Contracting, Woodside, NY; Precaster – Roman Stone Construction Company, Bay Shore, NY. And our thanks to Tom Montalbino, Roman Stone, for this article.



Finished Roman Road System replacement segment

Photos by Roman Stone Construction Company

### Pipe Triple Port Headwall – Union Square 3B, Chili, NY

Contractor J. Hales Co. elected to use precast components for both speed and economy. Kistner Concrete Products supplied these precast concrete headwall end sections, another example of the tremendous variety of shapes, sizes, types, styles, etc. of high quality structures and components available in precast concrete.

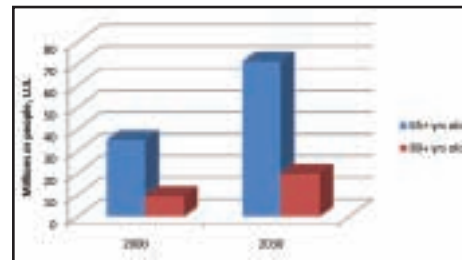


## Another CarbonCast Insulated Wall Panel Project Goes Up Quickly

<p style="text-align: center;"><b>Project Team</b></p> <p style="text-align: center;"><b>Architect</b> Liscum McCormack VanVoorhis LLP Poughkeepsie, NY</p> <p style="text-align: center;"><b>General Contractor</b> Kirchhoff Consigli Construction Management Pleasant Valley, NY</p> <p style="text-align: center;"><b>Owner</b> Monticello Motor Club Monticello, NY</p> <p style="text-align: center;">© 2010 Oldcastle Precast, Inc.</p>	<p><b>Project Story</b></p> <p>Built on 650 acres, Monticello Motor Club offers a new road course facility over 4 miles in length that forms a dozen course configurations. A combination of country club and racing track it was designed to accommodate drivers of all abilities. The private club for car enthusiasts opened in 2008 offering facilities and services common at upscale golf clubs but atypical of racetracks.</p> <p>The new South Pavilion offers a full-service kitchen, bar, classrooms, member's lounge, pro-shop, private locker rooms and temperature controlled attached garages.</p> <p>Oldcastle Building Systems manufactured 50 pieces -- 7,684 square feet of precast concrete wall panels as high as 24'-6". All the panels were 8" thick, but the width varied up to 12-feet. The 45 pieces were erected in just 3 days. The CarbonCast® insulated wall panels were cast with a smooth form finish to be painted on site to match the club's colors.</p>	 <p>Oldcastle Precast Building Systems manufactured and installed CarbonCast® wall panels for the Monticello Motor Club.</p> <p style="text-align: right;">oldcastlesystems.com</p>
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## Concrete Construction Comes of Age

Originally built and opened in the 1960s, the Bethany Terrace is a health and rehabilitation center that is now adding 45 new assisted living apartments to hold up to 50% more residents than the 120 currently living there. The project architect suggested using precast concrete for the addition, called Terrace Gardens Assisted Living, because it is able to give the right look, does not require any variances, and can be placed quickly and cost effectively.



Located in Morton Grove, just north of Chicago, the Bethany Terrace is an Illinois State-licensed facility that provides skilled and intermediate long-term care for residents needs – which are forecast to increase throughout the country. According to the U.S. Census Bureau, the number of persons aged 65 and older is expected to double between 2000 and 2030, from approximately 35 million to an estimated 71 million. Those aged 80 years and older is expected to grow from 9.3 million to 19.5 million during the same period.

Older residents often have additional or specialized needs that affect design and choice of building materials:

- > **fire safety**—limited mobility can result in unsafe conditions if fire strikes, so fire-resistant construction is mandatory
- > **accessibility**—limited mobility can also hamper daily circulation, but open floor plans allow for easy access to help maintain personal independence
- > **increased privacy**—close/small living quarters call for better soundproofing
- > **comfort**—well insulated walls for appropriate interior temperatures, whether hotter or cooler than neighbors

Walls and floors of the 44,000 sq ft addition are being built with precast concrete; it is noncombustible for fire resistance, has structural capacity for open floor plans and wide hallways, mass for sound dampening, and thermal mass for comfortable interiors—a good fit for the residents' needs. In spite of a continuing tough economy, there is a growing need for assisted living facilities and concrete's inherent benefits.

**WELCOME:** to BERNIER, CARR & ASSOCIATES, Watertown, NY – our newest Professional Member. Mathew J. Cooper, P.E., Principal, writes that they provide water, wastewater, and structural engineering to municipalities, producers, and commercial clients.

**CORRECTIONS** and apologies for leaving out some of our members from last months' *CONGRATULATIONS TO* item: Thomas J. Cascino, PE, writes that AECOM was ranked number 1 in design and also ranked highly in many other sub-categories. Mary Barker Steblein, EIT, wrote that LaBella Associates was on the 2010 ENR Top 500 list, but was not mentioned. And Sandra Shusda wrote that *again you failed to mention Collins Engineers as being in the ENR Top 500.*

## Precast Concrete Curved Walls with Acid Wash Finish

During the design stages of the Syracuse University Football Weight Room Addition, Lakelands Concrete Products worked with the project team of Ashley McGraw Architects, engineer Klepper Hahn & Hyatt, and contractor Hayner Hoyt Corp. to define the maximum curve of the wall panels, as they had to be cast face down. Further, the mix design and slump needed to be controlled as the backside of the panel had to follow the curve of the face. The connections were another issue, as the new panels had to be attached to existing block walls. And as the panels would be stacked for storage and shipping, a system of hidden connections were developed for the erector to use when unloading and setting each panel. Thanks to Chad Bond of Lakelands Concrete Products for this article.



Syracuse University Weight Room Addition  
Photo by Lakelands Concrete Products

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