

Precast Concrete Boxes Ideal for Just-In-Time Delivery

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[Concrete pipe and precast concrete boxes](#)¹ are ideal drainage products for projects designed for environmentally sensitive areas, especially where residents and businesses are significantly affected by any prolonged construction associated with culverts and storm sewers. History has proved that precast structures tend to be constructed within short periods, and perform as designed for generations. A culvert replacement in Stockbridge, Georgia for the Henry County Department of Transportation demonstrates the ease of use of precast boxes in an environmentally sensitive area with limited road access, and the ability of concrete pipe producers to deliver product, just-in-time.

In May 2011, [Rinker Materials Concrete Pipe Division – CEMEX](#)² was selected by [Henry County DOT](#)³ to provide precast boxes for the construction of triple-cell 48 foot culvert that would replace four, 48-inch diameter failed [metal pipe culverts](#)⁴. The project was within a residential neighborhood adjacent to a 5-acre pond. The only access in or out for about half of the residents was over the culverts that had failed.

Limits placed on access, due to the failed culvert and impassable road, coupled with the fact that there was very limited storage space for the 144 feet of 9-foot x 5-foot boxes, created several challenges for the DOT and Rinker Materials. The biggest challenge was working with the County and the local residents to stage the delivery of the boxes for installation while mitigating frustration and potential inconvenience for the residents, who would have to pass through the narrow project area during construction.

The Rinker team worked closely with the design engineer at Henry County DOT to deliver a design that would address the circumstances of the project. Production of the boxes began and ended in July. After they were produced, discussions between Henry County and Rinker took place to resolve the logistics for safety, minimal disruptions to traffic, and specific delivery times for installation. The County provided ongoing communication with the residents to set clear expectations. The County and Rinker provided the residents with unencumbered access in and out of the neighborhood during construction.

Once the logistics were finalized, Henry County DOT prepared the bedding for the box [installation](#)⁵. Then, on cue, Rinker delivered the first load at 9:30 AM on July 28. All the boxes were in place by 4 PM that afternoon. The Henry County DOT will use precast boxes for future projects due to quick installation and minimal disruption to local traffic.

LINKS

Info Links

1. <http://www.concrete-pipe.org/pages/why.html>
2. <http://www.rinkerpipe.com/default.shtml>
3. <http://www.co.henry.ga.us/HCDOT/>
4. <http://www.concrete-pipe.org/pdf/economiccosts.pdf>
5. http://www.concrete-pipe.org/pdf/installation_guide.pdf

Learn More About Buried Infrastructure

- **See Box Design Tab on Home Page**
www.concrete-pipe.org
- **Concrete Pipe Design Manual**
www.concrete-pipe.org/pages/design-manual.html
- **Concrete Pipe News**
www.concrete-pipe.org/pages/cpnews.html

Photos: Ted P. Price, Rinker Materials Concrete Pipe Division – CEMEX



Culvert structure comprised of 9-foot x 5-foot precast concrete boxes.



Product arrives on site for immediate assembly to form culvert structure.



Completed triple cell 48-foot long precast concrete box culvert.