



**SOUTHEAST CEMENT
PROMOTION ASSOCIATION**



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Roller-Compacted Concrete Provides Long-Lasting Durability on Crossgate Road in Port Wentworth, Georgia



1 ABG paver making a single pass on the entire width of road.



2 Crossgate Road under construction.



3 Cutting joints in RCC with a soft-cut saw.

The Georgia Department of Transportation (GDOT) has placed thousands of square yards of roller-compacted concrete (RCC) over the past several years, primarily on shoulders of Georgia interstates. In fact a recent nationwide survey by the Portland Cement Association (PCA) showed that Georgia has placed more RCC than any other state transportation department in the country. Last fall, GDOT had the opportunity to bid a local project that was a good candidate for RCC pavement. The use of RCC will increase the structural capacity of the road in order to handle heavy trucks and spur new industrial and commercial development.

In July-August of 2016, A.G. Peltz Group, LLC placed RCC for GDOT on a section of Crossgate Road in Port Wentworth, GA. The roadway was GDOT's inaugural project to utilize RCC as a final riding surface on a state travel lane.

A.G. Peltz has previously paved RCC for GDOT on interstate shoulders and turns lanes, dating back to 2006.

- I-285 Shoulder Replacement
- State Route 6 RCC Shoulders and Median Construction

This section of Crossgate Road was a two-lane HMA roadway with weight limit restrictions. According to GDOT personnel, replacing the existing HMA with 10 inches of RCC will increase the structural capacity of the roadway, improving its use for heavy truck traffic. According to Georgia Ports

Authority (GPA) personnel, there are roughly 325 acres of undeveloped property on the existing roadway. The improved structural capacity of this roadway will spur industrial and commercial development along this corridor, thereby increasing the local tax base.

The project consisted of approximately 16,000 square yards of 10" RCC pavement. The RCC was placed in a single 10-inch lift utilizing a Vogele "Super" 2100 high-density paver and a Blaw Knox MC-30 material transfer device. The material was mixed using an ARAN 280C Mobile Mixing Plant. Coarse aggregate was supplied by Vulcan Materials Macon quarry via its Savannah distribution yard. The majority of the main roadway is 24 feet wide. The RCC was placed in a single pass, requiring the roadway to be shut down and detouring traffic. Since there are active businesses on the roadway, to ensure uninterrupted access, the RCC placement began in the middle of the project limits, which greatly helped with the traffic maintenance. In addition, the rapid strength gain of the RCC (4000 PSI within 2 days) allowed local traffic to get on the pavement within 48 hours. To meet the ride-ability requirement for this state project, the RCC was diamond ground for smoothness.

Utilizing RCC provides both GPA and GDOT a durable concrete pavement with the ability to carry heavy traffic with minimal long-term maintenance expectations. Roller-Compacted Concrete – Durable, Fast, Economical.

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