

# ***THE MARYLAND ASPHALT PAVER***

***Fall 2002***



*"America's most recycled product."*

## ABOUT OUR COVER

Corvette Gran Prix car enters hard right hand corner at the Robert F. Kennedy Stadium Raceway in Washington D.C.. Aggregate Industries Mid-Atlantic paved this unique facility utilizing PG 82-22 liquid asphalt. Thirty-eight hundred tons of daily HMA production was supplied from two HMA production facilities. The first plant is located in Waldorf Maryland south of Washington and the second plant is in Annapolis Junction north of Washington. Haul time from either plant is approximately forty five minutes.

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published for  
***Maryland Asphalt Association, Inc.***  
2408-G Pepper Mill Drive, Glen Burnie, MD 21061  
410-761-2160 Fax 410-761-0339  
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printed by  
***E. John Schmitz & Sons, Inc.***  
Sparks, MD 21152  
410-329-3000 Fax 410-771-4342

published by  
***P/T Enterprises, Inc.***  
Fallston, MD 21047  
410-879-7606 Fax 410-893-5721

**MARYLAND ROUTE 7  
ALLISON TRANSMISSION  
MELVIN BENHOFF SONS, INC.**

Baltimore County fosters a strong economic development effort which has led to the construction of the new Allison Transmission plant in White Marsh, Maryland. General Motors is winding down operations at their Broening Highway, light truck production facility in Dundalk, Maryland. Many of the displaced workers have been transferred to the new Allison Transmission plant. As a part of an economic stimulus package the widening and regrading of Maryland Route 7 was guaranteed by the State Highway Administration.

Joseph F. Bittner, Jr. President of Melvin Benhoff Sons, Inc. identified complex portions of this project including widening of existing structures, utility relocations, grade changes and involved maintenance of traffic shifts including temporary roadway construction.

Mike Moxley, Melvin Benhoff Sons Inc., Paving Superintendent is utilizing a Caterpillar Soft Track Paver with both Caterpillar and Ingersoll-Rand rollers to obtain density. John Johnson is the Paving Foreman. Average production will exceed 1,000 tons per day with a total of 25,000 tons placed on this project.



New retaining wall at Lowes helps accomplish significant grade change while staying within the existing right of way.

**MARYLAND ROUTE 7  
ALLISON TRANSMISSION  
MELVIN BENHOFF SONS, INC.**



**New Allison Transmission manufacturing facility is already open.**

Originally designed to receive three 2-1/2 inch courses of 19mm Superpave and one 1-1/2 inch course of 9.5mm Superpave for surface; the pavement section was changed to a heavier more constructable section through the partnering efforts of Melvin Benhoff Sons, Inc., State Highway Administration and Allison Transmission.

The new paving section consists of one 4 inch lift of 25mm Superpave, one 3 inch course of 19mm Superpave and one 2 inch course of 12.5mm Superpave surface. Average densities of 94% were achieved on the 25mm base course. These measurements were verified by the core method at the Aberdeen laboratory of Maryland Paving, Inc., the hot mix asphalt supplier.

The first major traffic shift should occur during June 2002. This shift will re-open major commercial entrances for Carmax and Koons Chevrolet. Grade changes of more than 8 feet were required during this construction phase.

Construction should be completed late this season and improved access will be complete for Allison Transmission, White Marsh Boulevard, White Marsh Mall, The Avenue at White Marsh and the many surrounding commercial ventures.

**MARYLAND ROUTE 7  
ALLISON TRANSMISSION  
MELVIN BENHOFF SONS, INC.**



Entrance reconstruction operation demonstrated paving within confined areas. Densities were verified by Troxler Nuclear Density Gauge.



Complete paving train works to relocate roadway over newly constructed fill.

## ROBERT F. KENNEDY GRAN PRIX RACEWAY



Echelon paving train includes two Blaw-Knox material transfer devices.

Aggregate Industries Mid-Atlantic recently won the right to construct a very challenging project. This raceway is 1.7 miles long and a minimum of 45 feet in width. The paving section consists of three lifts of Superpave. Four inches of 25mm Superpave utilizing PG 76-22 liquid asphalt, 3 inches of 19mm Superpave utilizing PG 76-22 liquid and a final 2 inch surface of 12.5mm Superpave utilizing PG 82-22 binder.

The high speed racing facility will feature championship race cars and will be used for the first time in the summer of 2002. Strategic planning was an integral part of the successful construction of this facility. In order to have hot longitudinal construction joints, two Blaw-Knox pavers were used in conjunction with two Blaw-Knox material transfer devices and eight rollers.

## ROBERT F. KENNEDY GRAN PRIX RACEWAY



Over fifty trucks supplied the 3,800 ton per day paving operation.

Herb Haller of Aggregate Industries Mid-Atlantic was the on sight construction coordinator. Herb always had an additional paver and material transfer device on site in case of equipment failure. Fifty-three trucks were needed for timely delivery of the Superpave.

## ROBERT F. KENNEDY GRAN PRIX RACEWAY

Both Aggregate Industries plants were utilized to supply materials. The final surface course of 3,800 tons was placed in a single day. Annapolis Junction and Waldorf production facilities are both approximately a forty-five minute haul from the race track.

Density was constantly monitored with a Troxler Nuclear Density Gauge. The eight rollers easily achieved compaction of 97%. Ingersoll-Rand rollers included a single DD130, several DD110's, DD90's and smaller 5 ton rollers.



Staggered paver operation allowed construction of a hot longitudinal joint.

## ROBERT F. KENNEDY GRAN PRIX RACEWAY



Fully extended screeds were fed by material transfer devices and a steady stream of trucks.



The second paver exits a tight corner while the intermediate roller compacts mix in next lane.

# 2001 County Paving Awards

There "Excellence In Paving" awards were presented at the Mid-Year Meeting.



## RESURFACING

Anne Arundel County • Saint George Barber Road  
Reliable Contracting Co., Inc. Millersville, Maryland



## RESURFACING

Queen Annes County • John Powell Road  
David A. Bramble, Inc. Chestertown, Maryland



## RESURFACING

Anne Arundel County • Log Inn Road  
Reliable Contracting Co., Inc. Millersville, Maryland

## US ROUTE 113 RELOCATED

Kary Asphalt, Inc. and American Paving, Inc. joint ventured as the HMA sub-contractor on this high profile dualization project in Worcester County. Route 113 runs North and South from Pocomoke City through Snow Hill and Berlin and into Delaware. Traffic volumes average about 8,000 vehicles per day with almost 14,000 ADT at the Delaware Maryland state line. The existing two lane roadway is adequate to carry the existing traffic volumes; however, desirable geometric modifications and the dualization of the current facility should eliminate head on collisions and minimize the number of serious accidents.

David A. Bramble, Inc. is the prime contractor for phase II and III of this design build contract. The total contract value is in excess of \$29,300,000.00. David A. Bramble, Inc. selected a full depth asphalt section consisting of 14" of Superpave. Two 4" lifts of 25mm base are capped with two 2" lifts of a 19mm intermediate course and is finished with a 2" lift of 12.5 mm surface.



Blaw-Knox paver was used to place Superpave mixture.

## US ROUTE 113 RELOCATED



New surface pavement prior to opening to traffic.

Kary Asphalt, Inc. did extensive density testing of the HMA placed to date. Hundreds of 6" cores have been taken with almost 50% being taken directly over the longitudinal construction joints. Rob Malone, Field Technician for American Paving, Inc. said that new construction with short pulls allowed many of the longitudinal joints to be constructed with hot material on both sides of the joint.

## US ROUTE 113 RELOCATED

Mark Coleman is the SHA Project Engineer and David Webster is the Paving Superintendent for American Paving, Inc. High frequency 12 ton vibratory Hypac rollers and Ingersoll DD90 rollers have been used to achieve an average mat density of 94%. Average longitudinal joint densities have been 89.8% with over 65% of the joint cores having densities between 88% and 91.9%. Of the 148 longitudinal joint cores only six were visibly damaged and only one core would qualify as an obvious outlier.

Ed Hunt, QC Manager for Kary Asphalt is proud of the material being produced at the Kary Asphalt HMA plants in Bishop and Eden. The extra effort needed to process these cores is validated by the consistent results achieved and the knowledge gained from this process.



Divided roadway section uses paved drainage flumes and weathered steel median barriers.

## US ROUTE 113 RELOCATED



Newly paved roadway prior to traffic switch uses 12.5 Superpave surface.



Extensive cores were taken in order to verify longitudinal joint densities.

## RAPID REPAVING OF I-495



The Capital Beltway carries 187,000 VPD at this location making maintenance of traffic extremely difficult

Francis O. Day Co., Inc. placed Stone Matrix Asphalt on a 2.2 mile stretch of the inner and outer loops of the beltway, utilizing more than 20,000 tons of SMA. The job entailed placing a surface course on four lanes in each direction, plus acceleration and deceleration lanes and shoulders. The SMA quantity totaled some 20,000 tons - 10,000 tons per four-lane side.

The contractor proposed paving the project in just two weekends. It came down to a choice between doing the project in small amounts with periodic lane closures over an extended period of time or, the contractor could get all of the work done if they took lanes out of service for three nights on each of two weekends. Maryland accepted the contractor's idea of extended lane closures on two weekends - and it worked perfectly. "We did it through partnering with the State, which seemed to be very successful for us and for them," said Steve Sutter, General Manager for the company's southern Maryland region.

The project manager estimated it would have taken 20 to 24 night shifts, working from 10 p.m. to 5 a.m. to accomplish the project. This was due to the time taken to set out lane closures, compact the asphalt, stripe the pavement and pick up the lane closures. Highway officials said the two weekend system had three advantages: less traffic disruption, lower costs since less traffic control was

## RAPID REPAVING OF I-495



Weekday traffic volumes made night and weekend work a necessity to place 20,000 tons of SMA quickly.

## RAPID REPAVING OF I-495

needed, and higher quality. Completing the project in two weekends minimizes the exposure of partially finished pavements for traffic. When new pavement edges don't take a prolonged beating from traffic, the quality of the longitudinal joints is also improved.

All pavement milling was completed ahead of the paving operation. Dixie Construction removed 2 inches of existing asphalt from the beltway.

Each side of the beltway was paved in the same sequence. One weekend's work preceded the Fourth of July and the other followed it. The first shifts work began on Friday at 8 p.m. and finished at 11:00 Saturday morning. "On Friday night we paved the 6 foot inside shoulder and lanes 1 and 2, which make up a 30 foot mat," say Sutter. "We did that with two pavers, one running 18 feet wide, the second one 12 feet wide. We did 4,500 tons on Friday night on both sides of the project."

On Saturday night, Francis O. Day Co., Inc. paved the two outside lanes with two pavers, each running 12 feet wide. Working from 8 p.m. Saturday till 11 a.m. Sunday, production reached 3,500 tons. "Then on Sunday night we did the outside shoulder and ramps" said Sutter. "We used two pavers, and paving widths varied from very narrow widths to 20 feet" On the Sunday night shift, which ended at 1 a.m. Monday, the crews placed some 2,000 tons. The total for three shifts: 10,000 tons. In a more conventional paving operation, placing 2,000 tons of SMA per shift would be considered an excellent production rate.

Just getting hot mix to the job was a challenge, the trucks had to haul asphalt through all of the traffic approaching the work zone. "We over-trucked it by four to five trucks for a comfort factor, to make sure that the pavers never stopped" said Sutter. On Friday nights, the contractor started with 46 trucks, on Saturday nights, 40 trucks and on Sunday nights, 28 trucks.

Francis O. Day Co., Inc. used two material transfer vehicles (MTVs). Each vehicle could hold 20 to 30 tons. They improved production, and they gave F.O. Day Co., Inc. a non-stop paving operation which enhanced smoothness of the pavement. If trucks were slowed by traffic, the MTVs would keep the pavers moving with the material they had in storage. Six rollers compacted the two inches of SMA behind the two pavers. Back-up pavers and rollers were kept onsite and a significant pavement project was completed with minimal traffic disruption.



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