A sign of the times: The increased use of Reclaimed Asphalt Pavement (RAP)

Australia’s largest producer is active in the area’s largest paving project

Side-by-side paving tests prove that consistent temps yield consistent density

The cost benefits of energy efficiency as related to the new Double RAP dryer
Astec is dedicated to helping producers reduce their operating costs.

During our conversations with hot-mix asphalt producers and paving contractors, there is one question that we hear more than any other:

“With energy costs the way they are, how can we reduce our operating costs—or even just hold them steady?”

Everyone in the industry knows that the high cost of oil and other energy sources is having a decided impact on almost everything involved in the production of hot-mix asphalt. Across the board—in the industry and in our private lives—we are paying more for the things we purchase and the utilities we consume.

Is there hope that prices will decline?

Well, there is an old saying that “what goes up must come down.” That is just what happened to oil prices during the oil-price spike of the 1980s. Unfortunately, many of the experts we have talked with do not believe prices will go down this time. They believe we may see some leveling off of prices, with slight decreases occasionally. But for the most part, they do not anticipate a major drop in energy-related prices in the foreseeable future.

Are there any proven ways to control your costs?

Astec is trying to help.

We are working non-stop to figure out ways to help you fight cost increases with the most efficient and technically sound equipment available on the market today. For example:

- Astec’s Double Barrel® dryer/mixer runs 50 percent reclaimed asphalt pavement (RAP) using 25 percent less fuel than any other type of drum-mixer on the market today. (Incidentally, that figure is just the thermodynamic math-equation number; producers who actually use the Double Barrel dryer/mixer tell us they think the fuel reduction is greater than 25 percent.)
- Astec’s plants use variable-frequency drives for the burner blower and baghouse fan, thereby lowering the average electrical bill by as much as $60,000 per year.
- We are very intent on helping you reduce unexpected downtime, thus keeping costs associated with downtime to a minimum. With our Service Department of 43 highly qualified technicians, there is always someone on duty in the office from 7 a.m. until midnight (Eastern Standard Time). And there is always someone on call with a cell phone from midnight until 7 a.m. If you ever need help, there is always someone to answer questions...just a phone call away.
- From time to time, Astec provides speakers to industry groups or agencies that are interested in learning more about how to obtain and effectively use RAP, and how to reduce plant operating costs. Considering today’s high price of liquid asphalt cement, the use of RAP in your mixes makes a great deal of economic sense.

In addition to all of the above, Astec continues to work actively on research-and-development projects that will inevitably result in the reduction of operating costs. At any point in time, we will have as many as ten different R&D projects underway. Our most recent one is the new Phoenix Coal Burner that was designed to eliminate the producer’s dependency on fuel oils.

Astec’s business is making hot-mix asphalt production equipment. But we understand that producers will be more likely to consider our equipment if it offers economic benefits for their companies. And that is precisely why one of our most important priorities is helping producers reduce their operating costs.

The very first production model of the Phoenix Coal Burner has been operating in Colorado since August. The producer who is using the new burner is very pleased with the burner’s early results, particularly its ability to generate savings in drying costs.

**Ben Brock**

Vice President of Sales

Astec, Inc.
To avoid any confusion, we should begin by agreeing on a universal meaning for the three-letter acronym RAP that was used in the headline of this article. If you look it up in some reference books, you will discover there are more than 300 meanings for RAP. Here are three of them:

- Recurrent Abdominal Pain
- Rhythm and Poetry
- Rocket-Assisted Projectile

But the acronym that almost everyone in the hot-mix asphalt (HMA) industry can relate to is this one: Reclaimed Asphalt Pavement

In its normal usage, RAP does not mean recycled asphalt pavement, although most reclaimed asphalt pavement (RAP) is indeed recycled into new mixes ranging from base material to Superpave mixes used in surface courses.

RAP is the most recycled material in the United States. According to figures compiled by the United States Environmental Protection Agency and the Federal Highway Administration, the HMA industry reclaims approximately 100.3 million tons (91 million tonnes) of old asphalt pavement every year. And 80 percent of that reclaimed material—80.5 million tons (73 million tonnes) is then recycled as an ingredient in HMA pavement for new overlays, roads, roadbeds, and shoulders.

The media makes a big deal about how the public recycles its glass, plastic, aluminum, and paper—but if you add up all of the consumer material that is recycled annually, it amounts to only about 22 million tons (20 million tonnes). That is 25 percent of the total amount of recycling that is done by the HMA industry with its RAP, the material it recycles almost daily.

What does RAP mean to today’s HMA producer? Until about 30 years ago, RAP was looked upon as a waste product. When roadways were ripped up, the material usually went into a government landfill where it could be out of sight and out of mind. For most people in the industry, it did not have any value at all.

But the thinking has changed with regard to RAP. Today, producers across the country have begun to realize that RAP has a monetary value: It is actually worth the virgin aggregate it replaces. Indeed, its value can even be increased if it is processed and treated like virgin aggregate. Here are the facts:

There are only two ingredients in RAP of any kind: aggregate and liquid asphalt cement (liquid AC). The size of the aggregate may vary from sample to sample, depending on whether it came from a base course or a surface course, for example. But the ingredients in your RAP stockpile are essentially the same as in your aggregate stockpile and liquid AC tanks.

Consider this paragraph taken from the Astec Technical Paper T-127, “Milling and Recycling”:

If we could take a pile of RAP and physically extract the liquid asphalt and then screen the aggregate into three piles of clean rock, a 30,000 ton (27,215 tonnes) pile of RAP with 6 percent liquid asphalt would produce approximately 20 million tonnes. That is 25 percent of the total amount of recycling that is done by the HMA industry with its RAP, the material it recycles almost daily.

(Continued to Page 8)
More and more producers are beginning to realize the economic advantages of properly processing reclaimed asphalt pavement (RAP) so it can be used as a replacement for some of the virgin aggregate in their mixes. There are a number of different ways that a RAP-processing facility can be outfitted. The one shown here is operated by P&S Paving, Inc. of Daytona Beach, Florida. It was described in some detail in an article in Hot-Mix Magazine (Volume 9, Number 2). It is a completely self-operating, closed-loop RAP-processing facility that P&S Paving uses to fractionate RAP. It automatically screens, crushes, sizes, and separates the various sizes into stockpiles that are uniform in size and composition. The system begins when milled material is deposited into the Telsmith vibrating grizzly feeder. It then passes to the Telsmith 5252 HSI horizontal-shaft impactor, where it is crushed to a predetermined size. The crushed material then moves to the PEP 2618M double-deck, high-frequency screen. Oversize is returned to the crusher, while the screened material moves to a system of radial-stacking conveyors. In a single day, P&S Paving processes about 1,000 tons (900 tonnes) of RAP.

**USED BY SOME PRODUCERS IN OBTAINING AND PROCESSING RAP**

The crushed RAP is moved from the crusher by a conveyor to a screening unit [4] like a PEP PSP 2618M screening plant from Astec Mobile Screens. This unit has a double-deck, high-frequency screen that separates the RAP into two sizes, with the oversize returning to the crusher. The screened RAP material then moves on belts [5] to a system of radial-stacking conveyors where it is stockpiled according to specific size and origin. When the producer is ready to use the processed RAP in a mix, the RAP material can be loaded into RAP bins [6] conveniently located adjacent to the HMA production facility.
The process of milling involves the controlled removal of pavement with a drum that has a series of cutting heads attached. The roads can be milled to depths as much as 2 in. (50 mm). Full-depth removal is the ripping up of the entire thickness of the pavement with bulldozers or front-end loaders.

Reclaiming the material from existing roadways
Some producers have been finding acres of ripped-up HMA pavement in landfills where it was dumped years ago. But most of the RAP used today comes from pavement that was removed from roads by either milling or full-depth removal.

The ingredients of a RAP stockpile are essentially the same as the ingredients any producer’s virgin-aggregate stockpile and liquid AC storage tank.

In order to get the most use from RAP—ripped-up or milled—it should be processed through a facility that is equipped with state-of-the-art crushers, screening units, conveyors, and stackers. Typically, jaw crushers and/or cone crushers are used to process the RAP. It is then graded with double-deck, high-frequency screens.

Stockpiling and protecting the RAP fractions
The various sizes of RAP material which result from the crushing and screening are then stockpiled appropriately according to their respective sizes—or fractions—so they can be fed into the HMA facility’s production cycle along with virgin aggregates that will make up the rest of the mix. Most industry experts recommend storing RAP in conical stockpiles to help shed rainwater.

One of the trends in recent years has been to grade and pave the stockpile yards so that any water...
drains away from the stockpiles, thereby reducing the moisture content of the RAP material even before it enters the batch plant or drum-mixer. Some producers have even opted to build roofs over their stockpiles to shed rainwater.

**Heating and processing RAP material**

Both batch plants and drum-mix plants can use properly-processed RAP material. The key words here are *properly-processed*. Quality control is essential if a producer is to meet the design parameters set by the local, state, or federal departments of transportation.

The allowable ratio of RAP to virgin aggregate in any particular mix will depend largely on the type of processing plant or drum-mixer involved: i.e., parallel flow, counter flow, or Double Barrel® dryer/mixer.

Astec's Technical Paper T-127 discusses in detail the percentages of RAP that can be effectively run through the different types of HMA production equipment that are available on the market today: batch plant; parallel-flow drum-mixer; parallel-flow drum-mixer with a coater; counter-flow drum-mixer; counter-flow drying-drum with a coater; Astec Double RAP™ dryer; and the Astec Double Barrel dryer/mixer. The paper emphasizes this point:

*Proper management of material gradation is the fundamental key to producing quality mixes with high RAP content.*

The biggest potential problems in using high percentages of RAP in HMA are related to the heating—or, perhaps more correctly, the superheating—of the material. If standard counter-flow or parallel-flow drum-mixers are used, the virgin aggregate must be heated to as much as 600°F (315°C) when a RAP content of 50 percent is the goal. The heat loss—and the energy consumption associated with that loss—can be enormous. But with an Astec Double Barrel dryer/mixer, the virgin aggregate needs to be heated to only about 300°F (149°C). The resulting mix integrity, air quality, and cost savings are much improved.

**The Age of RAP has already arrived**

In recent years, the costs of fuel, aggregates, and liquid AC have gone up significantly. Producers are realizing that using more RAP in their mixes can help reduce their costs in all three areas.

The handwriting is on the wall: Recycle percentages in HMA will continue to increase as both the producers and the departments of transportation take advantage of the inherent value of its use.

For that reason, HMA producers who are thinking about investing in a new production facility should look closely at all candidates. If the plant being considered cannot offer the ability to both efficiently and economically process high percentages of RAP—and that would be up to 50 percent—then you should probably move on to another candidate.
Very Specific Criteria

were laid out for the repair of a stretch of US Hwy 287 just south of Wichita Falls, Texas. The repaired roadway would need to be durable enough to handle heavy truck traffic. It needed to drain water efficiently and provide for improved skid-test numbers. And, finally, this was the key criteria in the project: The repair had to be fast and inexpensive.

The segment of US Hwy 287 was not experiencing serious failure, but the roadway had certainly seen better days. The 10-in. (25-cm) concrete base had already been overlaid with a 4-in. (10-cm) lift of hot-mix asphalt (HMA). Over time, however, reflective cracking from the concrete base found its way to the surface. These cracks were sealed—but it was only a temporary fix and did not do much to improve the smoothness of the road. The Texas Department of Transportation (TxDOT) started looking for a better solution.

“We were looking for something economical, since our budget did not allow for a full-depth or 4-in. (10-cm) overlay,” said Monty Brown, transportation engineer with the Wichita Falls District of TxDOT. “First, we explored the thought of seal-coating the highway, but the area engineer did not see this as a viable alternative due to the heavy traffic that uses the road.”

Next, TxDOT engineers looked into microsurfacing, but this was also turned down as a viable option. At the end of their extensive research, TxDOT found that the bonded-asphalt paving process offered them all the benefits they sought.

The bonded-asphalt process and how it works:
The paving application involving a ultrathin bonded-asphalt wearing course is a proprietary process of a company known as SemMaterials, which is a subsidiary of SemGroup, L.P. The process involves placing a layer of coarse-aggregate HMA over a very thin membrane made up of a special polymer-modified liquid-asphalt.

The bonded-asphalt process is completed in a single pass using only one piece of equipment. That piece of equipment sprays the asphalt membrane onto the roadway just in front of the hot-mix material as it is being laid.

One of the benefits of this paving process is that it moves quickly—quickly enough that traffic can be moved back onto the rehabilitated roadway in just two hours.

Speed is key to the bonded-asphalt process

The US 287 rehabilitation project was awarded to the Texas division of Duininck Bros, Inc. Before paving could begin, the contractor identified areas where the roadway had seriously deteriorated. They then removed the sub-base in those specific areas before repairing them with concrete.

Application of the bonded-asphalt ultrathin wearing course was done by subcontractor Austin Bridge & Road. That company had recently acquired a new piece of equipment that was specifically designed to handle this kind of paving application, as well as conventional forms of HMA paving: a Roadtec SP-200 spray paver. In fact, this project was the first time the company had used the new spray paver.

The HMA used on the project was produced at a nearby Duininck Bros’ facility. It was a gap-graded mix designed to provide 10% air voids for good drainage and excellent skid numbers. Duininck Bros HMA-plant superintendent Rod Hendrickson said that it was critical to maintain the optimal temperature of the mix—which meant the crew could not afford to allow the mix to sit very long in the trucks at the paving site.

“We wanted this project’s mix to be delivered at a target temperature of 310°F (154°C), and the target temperature for mix behind the paver was 300°F (149°C),” said Hendrickson. “Whenever there was an interruption in the line of trucks coming into the plant, we would immediately stop making...
the mix until the paving crew caught up. This was because this particular mix tends to get cold very quickly due to its gap-graded nature. It will start to stick to everything when its temperature falls below 300°F (149°C)."

At the paving site, mix was fed into the paver using a Roadtec Shuttle Buggy® material-transfer vehicle. A polymer-modified liquid-asphalt membrane was then sprayed from the Roadtec SP-200 spray paver's 2,100-gal. (79,500-L) holding tank onto the roadway, just in front of the HMA material that was being placed at the same time. Because of the way it is applied, the membrane is not tracked by the trucks or disrupted by the paver itself.

The Roadtec SP-200 spray paver provides contractors the ability to spray liquid asphalt cement or emulsion in front of mix before it is laid. The unit is equipped with a heated asphalt cement/emulsion tank and three rows of spray nozzles. An onboard microprocessor controls the rate of flow.

During this project, the very thin 0.5-in. (1.3-cm) lift was placed over 12-ft. (3.65-m) wide lanes for a total of 92 lane miles (148 lane km) of coverage. Crews logged production rates ranging between 1,000 and 1,620 tons (907 and 1,470 tonnes) each day. On their best day, they laid 1,620 tons (1,470 tonnes) on 7.4 lane miles (12 lane km).

Those who witnessed the job in progress were convinced that rates approaching 2,400 tons (2,177 tonnes) per day could be possible for the paving crews with a little more practice.

FML

In order to execute a quick, affordable, and effective rehabilitation of US 287 south of Wichita Falls, Texas, the TxDOT opted to use the bonded-asphalt wearing course process. The 0.5-in. (1.3-cm) lift of gap-graded HMA was applied on top of a coat of sprayed-on polymer-modified liquid asphalt. All of this was accomplished in one pass using the Roadtec SB-200 spray paver. In addition to the expected benefits—fast application, better drainage, and resistance to heavy truck traffic—TxDOT also discovered the new road was 22.4% smoother compared to IRI tests that had been run prior to repaving the roadway. This improvement in smoothness was largely due to the nature of the gravity-feed hopper on the Roadtec SP-200 coupled with the flow of non-contacting material feeding from the Roadtec Shuttle Buggy material-transfer vehicle (MTV). The Roadtec SP-200 also does conventional paving.

FOR MORE INFORMATION
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Paving Train with Roadtec Shuttle Buggy® MTV and Roadtec Spray Paver
You see them more often these days: so-called combo plants that are essentially the teaming up of batch plants with continuous-flow drum-mix plants. Their basic purpose is to make the most of the hot-mix asphalt (HMA) production features of both types of facilities. When this happens, the producer usually ends up with one liquid asphalt-cement (AC) storage facility that serves both of the production facilities.

That is precisely the case with the Cumberland, Rhode Island facility of J.H. Lynch & Sons, Inc. From a distance, you can easily see the Astec storage silos and the batch tower of the old 6-ton (5.4 tonne) Barber-Greene batch plant. And between the two, you will be able to see the three Heatec vertical asphalt storage tanks. Perhaps it looks like a simple arrangement—but it always takes some clever engineering for one tank farm to serve two different plants. Woody Woodruff, plant manager at the Cumberland facility, explained: “That Barber-Greene batch plant has been there for 30 years or so,” said Woodruff. “We bought the Astec Double Barrel® facility in 1997 to help us with our growing production. Today, we can run it in the Double Barrel mode and turn out as much as 500 tph (454 tonnes per hour)—or we can dry the aggregate in the drum and run it over to the batch tower.

“The Heatec storage tanks are part of a new upgrade for the plant. We wanted to upgrade the old fuel tanks, along with the liquid-AC tanks that had been there for 30 years or so. Actually, we decided to upgrade the whole tank farm.”

A quick overview of J.H. Lynch & Sons, Inc. J.H. Lynch & Sons has been providing civil construction services to southern New England since 1957. Over the years, the company has grown its operations to include five HMA plants, two ready-mixed concrete plants, and a quarry that is conveniently located for its market in southeastern New England. In addition to the HMA facility in Cumberland, Rhode Island, the company also operates HMA plants in East Providence,
The electric-heat system in one of the AC-storage tanks:

Two of the three Heatec AC-storage tanks in the new tank farm at J.H. Lynch & Sons’ Cumberland facility are heated with conventional hot-oil heating coils. The third storage tank, however, was designed to be able to store special polymers that require special heating in order to remain in suspension. This particular tank (in the photo on the left) offers a unique economic benefit: It has electric heating elements that allow the tank to be heated to a proper temperature without having to boost the heat in the other two tanks. The control panel (middle photo) for the tank’s electric heating elements—as well as its hot-oil heating—is conveniently located at the base of the tank. The piping for the tank farm (shown in the photo on the right) is neatly configured to be accessible and yet unobtrusive. The tank farm itself takes up only a small amount of space between the two plants.
HOW MANY COMPONENTS are there in a hot-mix asphalt plant? Hundreds, easily. And there are probably even thousands when you consider all the nuts and bolts, cables and switches, computer parts and software. Putting all of those components together so they work smoothly and efficiently requires some real talent. It’s definitely not the sort of job you want to give to some- one who is not familiar with the basic equipment.

And that is exactly where Astec’s Construction Crew comes into the picture:

The technicians, mechanics, and electricians who will set up your new Astec hot-mix plant are some of the same men who build those plants in Chattanooga, week after week and month after month. They know your equipment because they probably helped build it.

According to George Francisco, Astec’s senior vice president of operations in manufacturing, there are usually three different construction crews available to go on the road and set up or install new Astec plants.

“Our main emphasis is on new plant installations,” Francisco said. “But we also help our customers take down existing plants and relocate them. We also retrofit new equipment components on existing plants.”

Francisco said there are usually from four to six men on each construction crew in the early stages of plant set-up. Later, when most of the equipment has been installed, they bring in another group to do the electrical work.

“From time to time,” Francisco said, “we might outsource some electrical work, but we prefer to handle all of the mechanical work ourselves. One thing we don’t do is foundations. That responsibility rests with the customer. Once the concrete work is done, we bring in our crew.”

On a typical plant installation, a construction crew will be onsite for between four and six weeks. Smaller plants may require only three weeks, while larger plants may require up to eight weeks.

“The crew usually stays onsite the entire time,” Francisco said. “They usually work seven days a week while they are out there because they want to get the new plant up and running as soon as possible for the customer.”

Francisco explained that the crew usually is there when the first loads of equipment reach the plant site. “We try to stage the arrival of the equipment so they can take it right off the trucks and set it in place.”

“We can handle almost anything—but we did have to dodge some hurricanes last year!”

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The Permanent Supervisory Staff

George Francisco
Senior VP of Operations

Murphy Rogers
Construction Estimate & Coordinator

David May
Mechanical Supervisor

Terry Goins
Electrical Supervisor

Scottie Johnson
Mechanical Supervisor

Earl Wood, Jr.
Mechanical Supervisor
Officially, the group that does the plant set-ups or installations for Astec is the Construction Department, part of Astec Manufacturing. But almost everyone simply refers to them as “The Construction Crew.” They typically arrive on the new plant site at the same time as the first truckloads of plant components—and they quickly off-load the equipment and set it into place so that things can move along smoothly and efficiently. The Construction Crew will usually take between four and six weeks to get a plant running—and the members of the crew stay in the field the whole time, working seven days a week.

For more information about construction services on Astec HMA equipment, contact Diane Hunt at Astec:

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To see his beaming smile, you would never know that Paul DeBritt just completely and utterly lost a bet. In fact, with that happy look on his face, you would probably think that he had just won. But when you consider his position as national asphalt manager of FRH Group in Australia and the nature of the bet, it starts to make sense.

“I had a bet with one of the guys from Astec that our new Astec Double Barrel® dryer/mixer plant would not be making asphalt on spec in its first 25 tons of asphalt—and I lost,” said DeBritt. “That plant was producing on-spec mix in the first 25 tons! And it hasn’t produced a bad batch of asphalt since then, either.”

The new hot-mix asphalt (HMA) production facility that DeBritt referred to was only one part of $16.5 million worth of new equipment that FRH Group recently acquired for a new project. As one of the primary asphalt contractors working on the largest paving project that was ever undertaken in Australia—the Eastlink Project—FRH Group sought to bring their production and paving equipment to the cutting edge of technology. That meant breaking some new ground for Astec Industries, the state-of-the-art in civil contracting, infrastructure maintenance, quarrying, asphalt production, and paving.

FRH Group is a major Australian company specializing in civil contracting, infrastructure maintenance, quarrying, asphalt production, and paving. Their new Astec Double Barrel® HMA plant (below) is located in Dandenong, Victoria.
manufacturer of much of their new equipment, as well as for the HMA community in Australia.

Major paving project in Melbourne
The “Eastlink Project” refers to the construction of a new toll road that will tie together Melbourne and its eastern and southeastern suburbs, while freeing up traffic flow on other area highways and secondary routes. The 22-mile (35-km) route will be built using a full-depth asphalt pavement in five courses, ranging from a dense-graded base to an open-graded mix 1.2 in. (30mm) thick.

In its own portion of the Eastlink Project, FRH Group anticipates producing approximately 848,780 tons (770,000 tonnes) of different mixes before they finish up some time in December 2007. When the paving is in full-swing, DeBritt said their crews will be producing and laying down about 3,858 tons (3,500 tonnes) each day.

Numbers like that made it clear to FRH Group that they would need state-of-the-art equipment in order to meet the project’s demands. One of their main areas of focus was the new production facility.

Some of the newest equipment in Australia
When FRH Group ordered a new production facility to handle their work on the Eastlink Project, the company brought to Australia something that the country had never seen before: a totally new Astec HMA production facility.

“Weour new plant is the first one that Astec has set up in Australia that didn’t involve any second-hand components,” said DeBritt. “Other people have set up asphalt plants with new Astec Double Barrel dryer/mixers, but then they kept their old cold-feed bins or an old bitumen kettle. Our plant is brand new, from top to bottom.”

Since the entire HMA production facility was new, it gave FRH Group the opportunity to fit in some new, state-of-the-art features:

- **Paved stockpiles:** When the aggregate arrives from the quarry, it is placed in aggregate sheds that are enclosed on three sides to protect it from the rain. The stockpiles are on a concrete pad that was specially designed to adequately drain the material.

- **Enclosed cold-feed bins:** In a further effort to maintain clean and dry production, FRH Group covered all of the plant’s eight cold-feed bins.

- **Waste bin:** Another outstanding feature of the facility was specially requested by DeBritt: a waste bin is located on the bottom of the slat conveyor. This bin is an up-side-down pyramid-shaped chute that collects discharged material that usually is wasted each day during

Australia’s largest HMA producer is in the process of building the area’s largest paving project ...and they opted for dependable state-of-the-art technology from Chattanooga, Tennessee.
startup and shutdown. The material drops down the chute into an enclosed bin, where it can be collected at the end of the day and returned to the stockpiles.

- **Convenient weigh scales:** After receiving material at one of the facility’s two weigh scales, truck drivers simply pull forward to a pneumatic tube (similar to that found at a bank’s drive-thru). The tube is connected to the control house and all tickets or paperwork are conveniently delivered. There is no need for a driver to get out of the truck.

When you add those features to the high production rate that is provided by the Astec Double Barrel® dryer/mixer, you can easily understand why DeBritt says his company is now equipped with the most cutting-edge HMA technology in the country.

“The plant is excellent,” DeBritt said. “It is by far the most modern, most efficient, and most sophisticated plant operating in Australia at the moment.”

**Making preparations for a big paving season**

FRH Group’s new plant went online in early July 2006, a mid-winter month in Australia. Despite chilly temperatures—with daytime highs somewhere around 57°F (14°C)—DeBritt said their new HMA plant has consistently met the production rating stipulated by Astec.

One of the things that impresses DeBritt the most is the fact that the mix is so easily produced at precise specification. “In my 30-years in the asphalt industry, I have never seen a plant produce asphalt on specification as easily as these Astec plants.”

Meanwhile, the company is also getting its crews accustomed to new paving equipment. In addition to the Astec Double Barrel facility, FRH Group also bought a pair of Roadtec RP-190 pavers, two Shuttle Buggy® material transfer vehicles, six compactors, and seven trucks and trailers.

“Our best production figures to date (August), using one crew that started at 7:30 a.m. and finishing at 4:30 p.m., is 2,755 tons (2,500 tonnes) through one paver,” said DeBritt. “And that was a day in the middle of the winter when the sun doesn’t shine that long.”

When warmer months arrive and the paving speeds up, DeBritt said he wants his crews to expect big tonnage. That’s why he went to extra lengths to build crews who would provide excellent results.

“Over here in Australia, those who have worked in paving for years tend to have a lower expectation about what can be done in a day. Many think that putting down 1,000 tonnes of asphalt in a day is wonderful. But today’s new technology allows more than that. So we hired people who are new to the industry—people we could teach about how to achieve higher production.

“We taught most of our crew about paving from scratch—and they are producing an excellent product every single day!”

One factor that has helped with training new crew members has been the support that FRH Group has received from Astec Industries and its representative in Australia, QPave Pavement Equipment of Sumner Park, Queensland.

“Normally, you buy a paver or a bit of equipment and the salesman comes out to show you how to start it up—and that’s the last you see of him. Astec and QPave continually send their people back to the site to keep the training going and to rectify any bad habits that people might pick up when operating this gear,” said DeBritt.

“The support we’ve been getting is second to none.”

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**FOR MORE INFORMATION**

about Astec equipment that will be used outside North America, contact Dave Hampton, Astec’s International Projects Manager:

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SIDE-BY-SIDE TESTING PROVED IT

A consistent mix temperature going into the paver equals consistent density after compaction

If you really want to see the paving process from a new point of view, you should try looking at it with the precision of an infrared camera: hot spots may be white or bright yellow...and cold spots may come up as purple or blue. It is very revealing. With infrared images, you can get an accurate assessment of the temperature of the hot-mix asphalt (HMA) as it leaves the truck, flows through the paver, and smooths out under the screed.

Through years of testing, experts have come to agree that a consistent temperature in the mat will translate into more consistent densities and better service life. In other words, under the critical eye of the infrared camera, an excellent mat will glow in a steady, even color. An inferior mat, however, may show large patches of contrasting color—isolated spots where part of the mix is cooler than the surrounding material. It is called temperature segregation.

Departments of transportation across the United States have learned over the years that one of the easiest and surest ways to reduce temperature segregation is to utilize the Roadtec Shuttle Buggy® material-transfer vehicle (MTV). Understandably, that technology has begun to spread to other parts of the world.

Recently, CEDEX—a civil-engineering research-and-development organization that is part of Spain’s Ministerio de Fomento (the office in the Spanish government that oversees public transportation)—decided to compare the densities of HMA mats placed using two paving methods: (1) the traditional truck-to-paver delivery and (2) the newer procedure that uses the Shuttle Buggy MTV to deliver the mix to the paver. The study that CEDEX designed called for two pavers that would place mix from the same HMA production facility on the same roadway, side-by-side. In the first test section, two trucks delivered mix to the paving site at the same time: One truck delivered to a Shuttle Buggy MTV that subsequently fed the mix into the hopper of an ABG Titan 525 with a 30-ft. (9-m) screed; and the other truck delivered the mix directly into the hopper of a Demag paver with a 13-ft. (4-m) screed.

Using infrared imagery, the testing crew found that the mat behind the ABG Titan paver that was being fed by the Shuttle Buggy MTV showed little or no temperature segregation. But the mat behind the Demag paver that was utilizing the traditional truck-to-paver delivery method showed significant end-of-load temperature segregation. This temperature segregation was caused by the colder material that was being fed through the paver and set by the screed. In some spots, the screeded material was as much as 93°F (34°C) cooler than material in the surrounding mat.

Next, CEDEX requested that two loaded 30-ton (27-tonne) trucks be delayed at the site for two hours, with the goal of evaluating the effect of cooler mix in the trucks at the time of delivery.

After one of the trucks had waited for the prescribed period of time, the material in the bed of the truck was photographed using the infrared camera. The top of the asphalt gave a reading of 198°F (92°C) at the edges of the load and 182°F (82°C) in the middle of the load. Next, the material was fed into the Demag paver. As the material went through the paver, the infrared camera revealed long, cold stripes appearing on the surface of the mat behind the paver’s screed. One area was a full 36°F (20°C) cooler than the remainder of the mat.

Through the lens of an infrared camera, a member of the Spanish research team (photo below) could actually see and record temperature segregation in the mix as it was passing from the truck to the paver. Side-by-side testing proved the mix-quality preservation qualities of the Roadtec Shuttle Buggy® material-transfer vehicle.
Compaction of the mix did not help the situation: the infrared cameras subsequently showed that a roller only made the cooler spots cooler, resulting in significantly different densities throughout the mat.

CEDEX then asked the question: Is the temperature segregation the paver’s fault? To answer that question, the Demag paver was fed using the Shuttle Buggy MTV. The results were the same as those produced behind the ABG Titan: an even temperature distribution across the screeded mat.

Then, mix from a truck delayed for two hours was fed into the Shuttle Buggy MTV, which transferred the material to the ABG Titan paver. The temperature was surprisingly consistent throughout the mix as it was screeded. An area that was only a few degrees cooler appeared in one spot behind the 30-ft. (10-m) screed—compared to multiple cool spots behind the 13-ft. (4-m) screed on the Degmag paver that was fed with the conventional dump truck.

After the test sections had been placed, CEDEX took Marshall samples from the hot and cool spots and transported those to their laboratory. The location of these spots were also noted for future evaluation.

Results of the CEDEX tests are not available at this time. But with the images from their infrared camera, a relationship can be made to areas of potentially failing pavements. This relationship is discussed in a report by Washington State DOT: www.wsdot.wa.gov/research/reports/400/476.1.htm.

The telltale pattern of end-of-load segregation stays behind long after the paving crews have left.
Sloan Construction Co., a member of the Colas group, spent almost four years planning what their new plant upgrade should—and could—do to optimize the facility’s energy efficiency while improving overall productivity. Their solution: The Astec Double RAP dryer and mixer system shown in this photo (right). The system takes full advantage of their RAP fractionating ability, RAP feed operations (above), and 400 tph (360 tonnes per hour) production capability.
FORWARD-THINKING PEOPLE are usually the first ones to find new ways of doing things. After all, if you focus on the past, you are probably going to continue doing things the old way. On the other hand, if you focus on the future, the old way of doing things is going to appear... old.

Here is a good example of how some forward-thinking individuals helped their company and the industry move ahead by developing new and innovative ideas:

Colas, the world leader in road construction, asked Astec to optimize its recycling capabilities through a twin-shaft mixer back in 2000. Through some creative brainstorming and cooperative efforts, the Double RAP concept was developed.

The concept allowed for RAP to be pre-conditioned through the external part of the Double RAP dryer, flashing off moisture in the drum and thus eliminating the problems associated with scavenger systems. With such a system, the drying process is separated from the mixing process, thereby providing a very reliable plant to be used for the purpose of recycling reclaimed asphalt pavement or RAP.

Sloan Construction Co., Inc. a subsidiary of Colas, purchased the third version of this design for its Columbia, South Carolina operation. Sloan Construction produces asphalt-paving materials in South Carolina, North Carolina, and Georgia. The company has five divisions and they operate a total of 14 asphalt plants.

In February of this year, Sloan Construction had Astec put in a new HMA plant at its Columbia, South Carolina location. The new plant is structured around an Astec Double RAP dryer with a double-shaft pugmill mixer. It is all part of a major plant upgrade that Sloan Construction had been planning for several years.

“This is a state-of-the-art plant,” said Doug Truluck, the regional manager for Sloan Construction’s Midstate Region. “We spent four years talking about this upgrade, so we had plenty of time to figure out exactly what to do.”

Truluck said the new Astec plant replaces a 1962 Cedarapids three-ton batch plant that they had upgraded several times over the years. “But we needed more production capacity and we needed more energy efficiency. Those are two of the main reasons that we decided to go with Astec.”

In order to get the production they needed, the company opted to go with an Astec Double RAP dryer with a drum that measures 8 ft. 6 in. (2.6 m) in diameter and 40 ft. (12 m) long. The dryer has an insulated outer chamber for heating and premixing reclaimed asphalt pavement (RAP) with the virgin aggregate. The RAP and aggregate mix is then discharged into a twin-shaft asphalt mixer that measures 6 ft. x 10.8 ft. (1.8 x 3.3 m) where it is mixed with liquid asphalt cement (AC). The plant is rated at 400 tph (360 tonnes per hour) when it is using aggregate with 5 percent moisture and running a 30 percent RAP mix.

The plant upgrade also included an Astec Pulse-Jet Baghouse; an Astec New Generation HMA storage system consisting of two new 200-ton (180-tonne) storage silos that were erected beside the two existing Astec 200-ton (180-tonne) storage silos; and two RAP feed bins. Sloan Construction’s new facility had an Astec Command III control center that was equipped...
DOUBLE RAP
(Continued from Page 23)
with a state-of-the-art Astec TC II.0 PLC control system.

Liquid AC in Sloan Construction’s upgraded plant is managed by two
30,000-gal. (113,600-L) Heatec vertical asphalt-storage tanks. Fuel
needs are met with a 20,000-gal. (75,700-L) Heatec vertical fuel-oil
storage tank and a Heatec heavy-fuel preheater.

The installation of the new plant
upgrade was planned and directed by Bradley Smith, assistant project
manager for Sloan Construction. It was obviously a complicated
job, as Smith explained during a recent discussion.

“The entire site measures about
16 acres (6.5 hectares),” Smith
said. “That’s all the room we had to work with—and part of that was
taken up by some of the RAP-
processing equipment and the
existing RAP stockpiles. When you
take all of that into consideration,
we only had about 12 acres (4.8
hectares) of usable space.

“There was an existing batch plant
across the street that we kept
running until the new plant was
operational so we wouldn’t lose
any production. We had to bring
two of the old Astec storage silos
from across the street to sit next
to the two new ones. Each set of
silos has its own weigh scale. We
also brought a lime silo and a
lime pugmill from the old plant.”

According to Truluck, all of the
time they spent planning for the
upgrade paid off. “This is really
an efficient plant,” said Truluck.
“We laid it out with energy costs
in mind because we knew what
direction the cost of fuel would be
heading. For example: We sloped
the stockpile areas at 6 percent
in order to minimize the amount of
moisture that might be held in the
aggregates. And we paved the
entire plant yard.”

Another one of the reasons the
company purchased the Double
RAP system was their emphasis
on using high percentages of RAP
in their mixes whenever possible.
“We run a lot of RAP,” Truluck said.

“The Double RAP™ dryer
and twin-shaft mixer system
is working well for us.”
—Doug Truluck, Regional Manager
Midstate Region of Sloan Construction Co., Inc.

Sloan Construction’s HMA facility in Columbia, South Carolina has an Astec
Command III control center that is equipped with Astec’s TC II.0 PLC control
system. According to Doug Truluck, regional manager of the Midstate
Region, the TC II.0 control system was another reason for buying the new
facility. “This system provides so much information,” Truluck said. “It gives
us everything from from plant output to efficiency to energy consumption. It
can all be relayed and reported quickly and easily. And if there is ever a com-
puter problem, the Astec technicians can fix it over the phone.”

As far as production is concerned,
Smith said the Double RAP dryer-
pugmill system is working well and is measuring up to the
ratings quoted by Astec.

“We’ve had the Astec Double RAP
system working at up to 400 tph
(360 tonnes per hour),” he said.
“We consistently run it at 325 to
350 tph (295 to 315 tonnes per
hour). We recently completed our
stack tests—which is a require-
ment here—and everything went
fine. Our hot-mix production varies
with the job, of course. Right now,
for example, we are running some
mixes that have as much as 35
percent RAP content.”

Productivity is obviously a key part
of any equipment, but Truluck
said that one of the main reasons
the company decided to go with
this specific equipment was the
positive nature of the people and
service at Astec.

“Astec’s service is unmatched in
the industry,” said Truluck. “They
will stand behind you no matter
what comes up. They have very
qualified people in their service
department who understand the
conditions in the field. They know
how to deal with—and you can get
somebody who can assess the
situation and provide you with
some immediate assistance.

“Even if you make a call to Astec
at 3 in the morning, you will get
somebody who can assess the
situation and provide you with
some immediate assistance.

“Believe me,” said Truluck with a
tone of finality in his voice. “If
you want a throw-away plant,
then don’t spend the extra money
on an Astec plant.

“But if you want equipment that
will be there for the long haul—
and people who will be there to
support you—then Astec is one
of the first companies you should
consider.”

FOR MORE INFORMATION
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MLM
BEFORE THE CUSTOMER made the decision to purchase, their engineers conducted an extensive investigation, comparing the performance of conventional batch plants to a state-of-the-art Astec Double Barrel® plant. They quickly realized that Astec had the best tool for their job.

The customer was Guangdong Guanyue Road & Bridge Engineering Co., Ltd., one of the largest highway and bridge contractors in Guangdong Province, China. The first job that the hot-mix asphalt (HMA) facility would be working on was the reconstruction of Guangzhou-Foshan Expressway. It is a dual, three-lane toll road, one of the busiest expressways in China.

Guangdong is the southernmost mainland province in China. It has a population of about 86,500,000 and is located on the coast of the South China Sea.

The major, multi-lane expressway that the company was working on with its Astec equipment connects the two cities of Guangzhou and Foshan. Together, these modern municipalities form the economic, administrative, and cultural center of South China.

The HMA equipment that Astec shipped to Guangzhou for the new plant included a relocatable 8 x 40-ft. (2.4 x 12.2-m) Astec Double Barrel dryer/mixer with a No. 2 oil burner. The shipment also included conveyors; a two-bin RAP feed system; a Heatco helical-coil hot-oil heater; and an Astec Pilot III control center with Process Mate 96A plant controls and Weigh Mate WM-2000 load-out controls.

Guangdong was very cautious and allowed the use of only 20 percent RAP for base and middle layers. The surface layer was made with all-virgin aggregate. The contractor conducted widespread testing of the mix and also paid for testing to be done by Xi’an Road Building Equipment Testing Center, China’s official testing organization. Test results proved that the Double Barrel dryer/mixer met all of the specifications for virgin aggregate and RAP mixes.

FOR MORE INFORMATION about Astec equipment that will be used outside North America, contact Dave Hampton, Astec’s International Projects Manager: 423-827-1217
Fax: 423-827-1550 • E-mail: dhampton@astecinc.com
QUICK FIRE RECOVERY!

A fire destroyed this company’s control house...but the plant was back in business in less than three months.

Imagine how it would be to get a phone call in the middle of the night informing you that a fire had just destroyed your control house. Now, take it another step: Imagine how you would feel if that fire occurred just three weeks prior to your seasonal start-up date.

That is exactly what happened this year to Posillico Bros. Asphalt Co. of Farmingdale, New York when an electrical fire broke out in the control house of the company’s Astec facility. In the words of Thomas Posillico, assistant plant manager, it was a major disaster:

“At 2:30 AM on February 22 of this year, we had a big fire in our control building. Our start-up date was March 15. But everything in the building was destroyed: the control room, the switchgear, the testing lab, the break room, the office… Everything was torched.”

But Posillico said that it could have been worse. “The fire wasn’t a good thing, obviously. But with Astec’s help, we were able to get back up and running very quickly. The fire was on February 22—and in less than three months the plant was operational again! I don’t think anybody could have done it quicker than that.”

Posillico Bros. Asphalt was formed in 1971 as a branch of J.D. Posillico, Inc., a construction company that was incorporated in New York in 1946. “It is still a family-owned company and we are into the third generation,” said Posillico.

The company produced hot-mix asphalt (HMA) for the Farmingdale market with a batch plant until 1994 when they bought an Astec Double Barrel® plant. It was the control house for this plant that caught fire on February 22.

Implementing the plan for a quick recovery
The company immediately began drawing plans for a cinder-block, two-story building that would house their controls, switchgear, and testing lab.

“There was a short delay in getting started with the construction of a new control house because of the investigations and reports by the fire marshall and the insurance company. But we eventually started working on the building March 18. We built the walls and floors of the two-story building, but we left the roof off. After Astec delivered the switchgear, we used a crane to lower it into the building and then we put on the roof.”

In addition to destroying the control house, the fire had melted much of the electrical wiring. “The original plant had all the cables and wiring in cable trays. We decided to put everything in metal conduit and run it underground so nothing would be exposed.”

Posillico said that Astec provided an unlimited amount of help and support. “They were able to rush everything for us,” he said. “They sent three of their electricians up here and they worked side by side with our electricians—seven days a week—to get all the new wiring done. They laid all the conduit underground and pulled the wire. It was a major job.”

According to Posillico’s estimate, the electrical crews rewired 70 different motors, laid about 1 mile (1.5 km) of conduit, and pulled about 13 miles (21 km) of cable, most of it underground.

Astec also helped the company upgrade its plant controls to reflect the latest state of the art. They installed the Astec TC II.0 control system that allows all plant functions to be run and monitored from a standard PC (personal computer), instead of conventional manual buttons and switches. They also installed the Astec Weigh Mate 2000 silo-loadout and truck-management system that provides the producer with a range of data files and printouts by customer, truck, and/or job.
Back up and running in less than three months

“The fire was on February 22,” said Posillico. “We started putting up the building on March 18 after getting an okay from our insurance company. By about April 15, we had the roof on the building and began the wiring. On May 16, we began testing the plant. And on May 25, we were able to sell our first tons of asphalt.”

For a few weeks, the company had to buy asphalt elsewhere in order to fulfill existing contracts. “We lost some time,” Posillico said. “But it could have been much worse without Astec’s help. They helped us work out all the kinks so we could produce mix all summer.

“What would I tell a producer who might be worried about a similar problem? That’s easy: Deal with Astec. They are top of the line and they can get you whatever you need …and get it fast.

“We know that to be a fact, because Astec was able to get us everything we needed so we could get back up and running in as short a time as possible.”

Posillico Bros. Asphalt’s new control house (above right) is a two-story cinder-block building that replaced the original burned-out structure (above left).

[1] All electrical circuits are enclosed in metal conduits that run underground—except where they enter the control building.

[2] The control room is equipped with the latest state-of-the-art systems, including the Astec TC II.0 plant-management system and the Astec Weigh Mate 2000 silo-loadout and truck-management system. One interesting feature of the control house is the closed-circuit TV system that allows the plant operator to watch activity in the yard on screens above his position.

FOR MORE INFORMATION

about Astec stationary, relocatable, or portable HMA equipment, contact Diane Hunt at Astec:

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IT IS THE LITTLE DETAILS that always seem to make the big difference. Despite that tried and true fact, almost any hot-mix asphalt (HMA) producer can be tempted to focus on the big picture: selling tons of material.

But at the heart of any successful operation lies the understanding that there are hundreds of small steps that must be taken in order to achieve that big goal. Making those small steps easier creates a smoother pathway for reaching the larger objective.

“Pay attention to all of the little details.” That is the advice offered by Ronald A. Sines, operations manager for HMA and aggregate producer P.J. Keating Company. The company, which maintains its headquarters in Lunenburg, Massachusetts, recently made a major upgrade on their existing combination drum/batch plant in Acushnet, Massachusetts. The upgrade was based primarily on a need to produce a lot of HMA—one that would also offer significant ease of operation.

“Producers who are planning to upgrade their equipment really need to think about the production process from beginning to end,” said Sines. “Pay attention to all of the little details. Not just details of the plant’s layout, but also those factors that might impact your ability to do proper housekeeping on the plant, as well as the ability to get in and do the maintenance that will be necessary in order to minimize your downtime.”

A n operation that has evolved over time The first HMA plant installed on the property that is currently owned by P.J. Keating Company in Acushnet was erected in the late 1940s. That one was replaced by another batch plant—and it was this latter plant that was converted to a combination drum/batch plant in 1996. Then, in 2005, management decided it was time for another upgrade. The facility in Acushnet produces HMA for use on paving projects in southeastern Massachusetts, plus the Cape Cod area and portions of eastern Rhode Island. In 2006, the plant at Acushnet is expected to produce about 620,000 tons (562,455 tonnes) of HMA.

One of the interesting features of the company’s upgraded facility is its impressive array of nine Astec storage silos. Five 200-ton (181-tonne) Astec silos were already present prior to the upgrade, and the company moved four more 250-ton (227-tonne) Astec storage silos from another location. This brought the plant’s total storage capability to 2,000 tons (1,814 tonnes). There are two truck scales side by side. Each of the truck scales is serviced by 1,000 tons (907 tonnes) of storage.

“Yes, that’s a lot of storage,” said Sines during an interview that was conducted in August. “But that’s what we try to do: sell a lot of hot-mix. In the four months since we opened our upgraded facility the second week of April, we have produced more than of 300,000 tons (272,155 tonnes) of hot-mix asphalt.”

Being friendly to the neighbors and the environment In addition to rearranging their existing silos to create more storage, P.J. Keating Company added some features to their plant to get better production, as well as better RAP handling.

A 9 x 47-ft. (2.7 x 13.3-m) Astec Double Barrel® dryer/mixer rated at 500 tph (454 tonnes per hour) replaced the old drum/batch plant combination. The Phoenix® burner in the Double Barrel dryer/mixer is capable of burning natural gas or No. 2 oil—and a heavy-oil conversion kit for the burner enables the company to use even more cost-effective waste oils.

“We have the Phoenix burner set up so it can run on specification or waste oil. We have had no significant problems at all with the Phoenix burner. It’s been doing a very good job for us,” said Sines. “Plus, it’s very quiet. The entire plant is very quiet, in fact.”

That quiet operation is important to the residential neighborhoods that surround the quarry and production facility in Acushnet. Being...
a good neighbor was one of those details that was considered during the upgrade process, said Sines. “We tried to go the extra step in many respects,” said Sines. “For example: We had Astec install a fiberbed filter blue-smoke recovery system. It’s a system that actually captures blue-smoke emissions at the top and bottom of the silos. It transports the blue smoke to something akin to a baghouse where it collects the oils, rather than having them exhausted into the atmosphere.

“That feature wasn’t required. But it was something that we felt was the prudent thing to do, given the investment we were making on the plant, and the proximity to the neighbors,” he added. “We are trying to do everything we can to get along well with our neighbors.”

Another major factor in the plant’s upgrade was the decision to work toward using more reclaimed asphalt pavement (RAP) in their mixes. The company had already made a decision to move toward fractionating RAP, so they had Astec install an additional RAP bin to their system. They now have a total of three RAP bins.

But asphalt pavement is not the only recycled material that the company uses in its mixes. They also use recycled asphalt shingles.

“Shredding and recycling shingles has been working out very well for us,” said Sines. “The binder content of the shingles is significantly higher than what you have in RAP. You can put in lower quantities of recycled material and get the same savings that we are trying to get by using RAP. The general composition of the asphalt shingles is very similar to that of asphalt pavement—in terms of aggregate, granules, and asphalt.”

Sines added that the company has been using recycled asphalt shingles for HMA production for four years. They are currently using shingles in four of their five HMA production facilities.

“Like to believe that we are environmentally responsible,” said Sines. “Clearly, there is an upside in using these recycled materials because we can derive a benefit for ourselves by doing it. Yes, there is some additional effort in it. Yes, it helps the environment. And Yes, it helps our bottom line. So it’s a win-win for us all the way around.”

Making a smooth transition to new technology

In addition to the new Astec Double Barrel® dryer/mixer (photo at right), P.J. Keating Company added a number of other Astec components during the major upgrade of its old drum/batch plant, including a new Astec control house and a new TC II.0 PLC control system (photo below).

To help achieve its goal of increased production, the company added four storage silos from another site to the five silos that were already on this site. That brought the potential storage capacity to 2,000 tons (1,814 tonnes). Five of the silos serve one truck scale and four serve another.

Advice for planning an upgrade:
Pay attention to all of the details
...especially those factors that might impact your ability to do proper housekeeping on the plant and the day-to-day maintenance that will minimize your downtime.

In addition to the new Double Barrel® dryer/mixer (photo at right), P.J. Keating Company added a number of other Astec components during the major upgrade of its old drum/batch plant, including a new Astec control house and a new TC II.0 PLC control system (photo below).
ANYONE WHO IS CONSIDERING the potential value of using reclaimed asphalt pavement (RAP) in their hot-mix asphalt (HMA) mixes should factor in this common-sense point:

It’s not a matter of if—or even when—RAP will become a key part of everyday hot-mix production. The move toward using RAP is underway right now.

It was that common-sense point that prompted C.R. Jackson, Inc., an HMA producer headquartered in Columbia, South Carolina, to add a new piece of equipment to their growing array of production tools. Clarke DeHart, vice president at C.R. Jackson, recently voiced his opinion about RAP. He said that although the use of RAP in HMA mixes was considered to be an added benefit by some producers in the past, it will soon become an economic necessity for almost all producers.

“As prices increase in the asphalt industry, the use of RAP is going to move from the back burner to the front burner,” said DeHart with emphasis.

Accordingly, in early 2006, the company purchased an Astec Mobile Screens Fold ‘n Go® 2612V mobile screening plant for the purpose of fractionating RAP.

“The percentages of RAP allowed on state jobs are different for every mix,” said DeHart, “but we are usually able to run as high as 15 or 20 percent. That’s the main reason we bought the Fold ‘n Go screening plant: So we would be able to put that higher percentage of RAP in there.”

The Fold ‘n Go 2612V mobile screening plant features a PEP Vari-Vibe® 2612V double-deck high-frequency screen. The unit’s 6 x 12-ft. (1.8 x 3.7-m) top and bottom decks are driven by five variable-speed hydraulic vibrators (0 to 4,200 RPM) that are mounted below the screen for directly-induced vibrating action. All of the vibrators have five force-amplitude settings on adjustable slip counterweights and hydraulic controls for variable angle operation. The plant can produce up to 300 tph (454 tonnes per hour) or more.

At the C.R. Jackson facility, the Fold ‘n Go plant is placed behind a Telsmith crusher. DeHart explained that this is because the company's

The C.R. Jackson company has been in business since 1972 when its founder, Richard Jackson, began offering grading, clearing, and utility work to homebuilders in the Columbia, South Carolina area. In 1989, the company purchased its first HMA plant, thereby establishing itself as a full-service site contractor.

Today, the company operates two HMA facilities: an Astec Double Barrel® dryer/mixer plant located in Columbia, and a Cedarapids plant in Richburg, South Carolina. A major part of the firm’s business involves highway paving projects, so when its state department of transportation started allowing higher percentages of RAP in the mixes, the management of C.R. Jackson immediately welcomed the opportunity to expand their RAP-handling capabilities.

When the DOT started allowing higher percentages of RAP, this company immediately expanded its RAP-handling capabilities with a mobile screening plant from Astec Mobile Screens.
RAP comes from various sources: some of it is milled material, some of it is in chunks, and some of it is plant waste. As a result, the size of the RAP can be unpredictable.

“We originally tried running only straight millings through the Fold ‘n Go unit without any prep. But if anything was in there other than straight millings, we ended up with a good bit of oversized material,” said DeHart. “We found that it was better to prep the material by running it through the Telsmith crusher. Our overs have gone to virtually nothing at all.”

Two sizes of RAP are produced using the screening plant: minus 4 and plus 4/minus 0.5. These two sizes can then be fed into the Astec HMA plant’s multiple RAP bins, allowing the company to achieve higher-quality mixes with larger RAP percentages.

“When we made the move from running virgin mixes to mixes with RAP in them, our quality did not suffer at all! It just was not an issue,” said DeHart. “There are a lot of people who think that when you start putting unprocessed material in there, you will see a value decline. But we treat it just like virgin aggregate and put the same amount of value on it. In doing that, we have been allowed to increase our percentages and run RAP in mixes that we hadn’t been able to before. We are very happy with it.”

In addition to fractionating RAP at the company’s Columbia location, C.R. Jackson utilizes the Fold ‘n Go plant’s mobility to provide its screening features to its Richburg facility, as well as to Satterfield Construction, in Greenwood, South Carolina.

“We’ve moved it four times in the six months that we’ve had the unit,” said DeHart. “It’s very easy to move. It only takes the operator one hour to fold it up and get it ready to go. Of course, then he has to clean it before we can take it out on the road. And then, once it’s at the new site, it only takes about one other hour to set it up and get it running.”

DeHart said the same operator is in charge of the Fold ‘n Go mobile screening plant, no matter where it is doing the work. “He does it all—everything that has to do with the screening plant—including running the loader,” said DeHart. “He is assigned to that one machine. Wherever it goes, he goes. He stays with it, he operates it, and he maintains it.”

The ease of use was a key point in the company’s decision to buy this particular unit, added DeHart.

“The operator, Gary Gergen, thinks it’s a neat machine. We used to have an old, off-brand screener that just would not do what he wanted it to do,” he said. “I kept telling him that we had a Fold ‘n Go on order and that it was going to work much better. And within two days of delivery, he was very happy. He is very satisfied with his new equipment.”

Providing their employees with the right equipment for the job is a central philosophy maintained by Richard Jackson, said DeHart.

“Richard Jackson’s main business philosophy is sharply focused on the people—not the people who are in management, but everyone out there who works and carries the load for these companies. We try to buy new equipment that our people will have confidence in, and that is easy to use. And this equipment certainly meets that criteria.

“The Fold ‘n Go screening plant is a good piece of equipment. It is easy to set up. It is easy to use. And it is certainly easy to produce a quality product.”

FOR MORE INFORMATION
about the wide range of products offered by Astec Mobile Screens, contact Ron Earl at Astec Mobile Screens:

**800-545-2145**

Fax: 815-626-6430 • E-mail: sales@AstecMobileScreens.com
PAVING NAMIBIA
New portable plants are key factors for this southern African republic in the Kalahari Desert

ONLY ABOUT 13 PERCENT of the roads in Namibia are paved at this time. But some paving work was recently being done in Namibia by equipment that came from New Mexico by way of South Africa. Here is the inside story:

Namibia is a small republic of about 2 million people near the southern tip of the African continent. It is about three times the size of New Mexico. The topography of Namibia consists mostly of flat desert country where the temperature in the summertime frequently reaches 104°F (40°C). Namibia’s economy is based mainly on the mining and processing of minerals for export, so paved roads would be helpful.

At the present time, only about 3,400 miles of the country’s total 26,000 miles (42,000 km) of roadway are paved. They need paved roadways, but there are very few hot-mix asphalt (HMA) producers and paving contractors with headquarters inside Namibia. There are, however, successful suppliers in neighboring South Africa.

How a plant from New Mexico ended up in Namibia
Much Asphalt (Pty) Limited, a Murray & Roberts company with headquarters in South Africa, is an industry leader that is generally recognized to be the largest supplier of HMA or premix asphalt in sub-Saharan Africa. The company was begun 40 years ago and has undergone a number of expansions and mission changes since that time. Today, the company operates a number of HMA plants in or near major cities in southern Africa. One of those plants is a stationary
Astec Double Barrel® facility in Benoni, near Johannesburg, South Africa. The company also has two Nomad™ portable HMA plants that they purchased from CEI Enterprises, Inc., a member of the Astec family of companies.

One of those CEI Nomad portable plants worked for about a year in Namibia, helping in the building of some key roadways.

When you stop to think about it, you begin to realize that getting the major components of a modern, portable HMA facility—including the drum mixer/dryer assembly, cold-feed bin assembly, and control house—from Albuquerque, New Mexico all the way to Cape Town, South Africa could not be an easy chore. After all, there are 9,300 miles (15,000 km) separating the two cities. But in this case, it turned out that getting it there was only the beginning.

Solving problems requires the ability to change

The CEI Nomad portable plant is essentially a compact, unitized assembly that consists of the drum mixer/dryer and two cold-feed bins—all on a single chassis for ease of movement. But when the unit arrived at the dock in Cape Town, South Africa, the government refused to issue a permit to move it on their roads. They said its length exceeded their limits.

The customer—Much Asphalt—immediately called CEI and asked for a solution. CEI engineers said it was no problem; they would send instructions on how to cut the unit into two sections and install a new axle. This would make the plant two portable loads, instead of one.

Then, the Much Asphalt engineers said they would really like to have four cold-feed bins instead of two. As long as they were cutting the original unit in half, they decided to add two more cold-feed bins. So CEI engineers provided them with drawings and specifications to let them make the modifications there in South Africa.

One year of work in Namibia and back to South Africa

After the modifications were made to the CEI Nomad portable plant, the two units were transported to Namibia where they worked for nine months on a paving project that involved about 60,600 tons (55,000 tonnes) of HMA for a 1.5-in. (40-mm) wearing course on a recycled base layer.

According to John Onraet, Much Asphalt’s marketing director, the CEI Nomad plant returned to South Africa upon completion of that project. The company then used the equipment on another paving project that called for 36,400 tons (33,000 tonnes) of mix. “At the present time,” said Onraet, “we are about to commence with a contract that involves 53,000 tons (53,000 tonnes) of bitumen-rubber.

“The equipment worked mostly to our satisfaction,” Onraet said. “There were some startup problems with burning the fuel and some electronic problems with the computer software. But Chris Ashiotis, the worldwide technical specialist for Astec, has been extremely helpful in identifying some of the mechanical problems. We have requested that he come here to commission the second Nomad that we just purchased.”

Today, the company’s first Nomad is back in South Africa, stationed in Eerste River Village, a few miles east of Cape Town, awaiting the start of the next job.

“The only disadvantage was the distance between the two countries (South Africa and United States) and the concomitant expense. We had excellent cooperation from CEI in our efforts to obtain the equipment. They were very helpful in keeping it serviceable.”

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FOR MORE INFORMATION
about CEI’s hot-mix plants and equipment, call Tom Lewis at CEI Enterprises, Inc.: 505-842-5556
Fax: 505-243-1422 • E-mail: TomLewisCEI@aol.com
**PARTS ON CALL**

Replacement parts or spare parts can be easily ordered from the Astec Parts Representative who travels in your territory.

*If you don’t see him soon,* just call him on his cell phone or shoot him a quick e-mail. The Astec parts representative who is the Regional Sales Manager for Competitive Parts Sales in your area is always ready to respond immediately to your needs for replacement parts or spare parts.

Their assigned territories in the United States are shown in this map. Just match the color bar above their photos with the color of their territories. And here are the backgrounds of those six on-call representatives:

**Tony Martin** has 40 years of experience with hot-mix asphalt (HMA) facilities, primarily with burners and controls.

**Frank Fuentes** is a retired military man with more than 17 years of experience in the mining and construction industries.

**Rick Merritt** came to Astec by way of Cedarapids. He has 25 years of experience with asphalt and crushing equipment.

**Ron Flanagan** has been helping producers in the HMA industry with their equipment needs for the past 20 years.

**Greg Painter** has been at Astec in several key capacities for about 20 years and is familiar with the entire line of replacement parts.

**Travis Sneed** has been with Astec for 15 years and has in-depth knowledge of the manufacture and design of the equipment.

The Astec Parts Department has twelve other parts experts who are on duty in Chattanooga to help you get what you need! ✅

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**Now you can order your parts online:**

Here is another convenient service that Astec has just started to offer:

Online Parts Purchasing. Just go to the parts website—www.AstecParts.com—and click on the “Log-In” button. Then, follow the simple instructions to obtain a PIN (personal identification number). If you have trouble, just call the toll-free number for help: 800-251-6042.

At the present time, website ordering is for companies that have open accounts or who establish open accounts. Soon, however, we will be able to accept major credit cards for your online purchases.

For more information about parts, you can contact Landon Hartman, parts director. His e-mail address is .
AFTER 20 YEARS OF CHANGE, it is sometimes difficult to recall the original purpose of an innovative product. The Double Barrel® dryer/mixer, however, had a strong direction and purpose on the very day it was conceived—and 20 years later, the Double Barrel dryer/mixer still serves the hot-mix asphalt (HMA) industry with the same sense of purpose: to be an energy-efficient machine.

And because of that long tradition of energy-efficiency, this innovative product is capable of meeting the energy challenges of today. In some respects, the Astec Double Barrel dryer/mixer has just come of age.

It has “just come of age”?
That may seem to be an unusual statement to make regarding a tried-and-proven technology that has been available to the industry for two full decades. After all, the Double Barrel dryer/mixer has been the most popular HMA production equipment. Approximately 800 Astec Double Barrel dryer/mixers have been sold, twice as many as parallel-flow and counter-flow drum-mixer products combined.

But in order to understand why some people believe the Double Barrel dryer/mixer is just now beginning to serve its intended purpose, you simply need to look back at the industry climate in the late 1980s—and understand how that climate has changed over time.

Specific needs sparked changes in HMA technology
The equipment and technology used by HMA producers over the years has repeatedly changed in response to the shifting needs of the times. According to the U.S. patent-office records, a patent on a drum-mixer device was awarded to the Warren Brothers in the early part of the 20th Century. But because its benefits did not outweigh the needs of the industry’s climate, the drum mixer did not begin to appear at many HMA facilities until the 1970s.

By the mid-1980s, research and development had led to the introduction of new variants on the drum-mixer theme. Astec came heavy, bulky equipment that made it almost impossible to move the plant. The obvious alternative was a drum-mix plant because it was better able to handle air-quality restrictions and was more portable. But then the Clean Air Act of 1973 added more restrictions, which meant that most drum-mix plants could not be compliant without the addition of special collection equipment, such as wet washers and baghouses. This reduced the portability of the drum-mix plant. To compound the problems, producers faced with high liquid-AC prices were trying to incorporate more RAP into their mixes. The higher the RAP percentage, the more likely the producer would want to use softer asphalts as a way of offsetting the hard asphalts in the RAP. Unfortunately, this often led to even more stack emissions.

In the midst of these demanding times, a fledgling company named Astec stepped onto the scene. It was 1972. Astec immediately set out to evaluate the problems that challenged HMA producers and to devise a new technology to help them overcome those challenges.

A major step forward in the HMA industry
By the mid-1980s, research and development had led to the introduction of new variants on the drum-mixer theme. Astec came
out with its Drum Mix Coater-I plant, which was a parallel-flow drum mixer that featured a coater at the discharge end of the drum. Later, Astec introduced the next phase in its evolution of HMA technology, the Drum Mix Coater-II, which was a counterflow drum mixer that was able to control exit-gas temperatures to as low as 180°F (82°C) using wet washers. Again, the coater was located at the discharge end of the drum, which is where the virgin liquid-AC and cold RAP were injected into the coater. The main disadvantage of this design, however, was the short mixing time in the coater. In addition, the drum shell would become very hot when aggregate was superheated to 600-650°F (315-345°C) in order to allow the virgin aggregate to melt the cold RAP in the coater.

These two HMA production facility designs by Astec were major steps toward making plants cleaner and more efficient. But those at Astec recognized that the development of an entirely new technology was going to be necessary.

“We realized in the mid-1980s that we had to get both the virgin asphalt and the recycled asphalt out of the gas stream,” said J. Don Brock, president and CEO for Astec Industries, Inc. “As we looked at various designs for doing that, we came to a conclusion. We needed to build a plant that would do just that: get both the virgin asphalt and RAP out of the gas stream—plus handle 50% RAP—without burning any more fuel.”

The solution to the problem, Brock realized, was to utilize the energy that normally is wasted during the production process.

“As you increase the amount of recycled material or RAP,” Brock said recently, “you have to superheat the virgin aggregate. When you do that, the drum shell just naturally takes on the temperature of the aggregate. And when that happens, the heat is eventually lost into the surrounding air. So I thought: What if we could use the heat that is normally lost through the shell of the drum?”

Brock’s answer to that question was the Double Barrel dryer/mixer. It was an entirely new design. It was very energy efficient. And it allowed up to 50% RAP with zero opacity at the stack and no odor.

Technology that was 20 years ahead of its time

The cutting-edge technology that came with the invention of the Astec Double Barrel dryer/mixer design was intended to meet the needs of HMA producers in the late 1980s: rising liquid-AC prices, higher cost of fuel, and a demand to run up to 50% RAP. Ironically, after the Double Barrel was introduced in 1986, the climate of the industry changed again: oil prices went down, and the introduction of Superpave by many DOTs meant that producers were limited to less than 20% RAP in their mixes in order to maintain adequate control over gradation.

Here is how the Astec Double Barrel® dryer/mixer works:

[1] As virgin aggregate moves through the drying chamber from the high end of the drum, it is stirred by three types of flights that are attached to the inner wall of the drum.

[2] When the hot, dry virgin aggregate leaves the inside of the outer drum, it is held within the confines of the outer drum for the mixing process with the desired ingredients. They are added to the aggregate in an order that allows better temperature equalization and more even distribution.

[3] The Astec Double Barrel dryer/mixer was designed to have a long mixing chamber that would provide an extraordinarily long mixing time. When that long mixing time is combined with the sequential mixing process, the result is uniform and consistent incorporation of all aggregates, RAP materials, liquid AC, and additives. An added bonus is true energy efficiency and economy.

As any producer today knows, conditions have shifted yet again. Oil prices are higher than ever, and many progressive state DOTs are working to design mixes that allow higher percentages of RAP. In many respects, therefore, the Astec Double Barrel dryer/mixer—the same technology that has served the industry for the last two decades—is needed more today than ever before.

“The Double Barrel product has come of age,” said Brock. “It has reached a point in its life where the economics of Double Barrel dryer/mixer production are very compelling. It is really a simple fact: the Double Barrel dryer/mixer is the most thermally efficient plant ever built.”

Brock also pointed to the gradual increase in the usage of RAP over the last two decades. That trend is something every producer should keep in mind when considering the purchase of new equipment for his business.

“When the Double Barrel was first introduced, HMA producers were running an average of 10% recycled material. Because the Double Barrel can handle up to 50% RAP, it was well ahead of its time 20 years ago. Today, we need to run a lot more than 10% RAP.

“When a producer buys an HMA production facility, they’re not buying it for the next two years,” Brock said. “They’re buying it for the next 20 to 25 years of service life. Within that timeframe, you are going to be running 50% RAP—or you won’t be in business.

“That’s why it is so important to always look ahead.” ▲▼
THE BENEFITS OF MEMBERSHIP

Every day, things happen at the national level that can affect the well-being of local HMA producers and contractors.

No business can exist in total isolation. It doesn’t matter how independent or self-sufficient a company might try to become, total isolation just does not work. This is particularly true for those working in the hot-mix asphalt (HMA) industry where the ebb and flow of budgets and technology are constant. Going it alone can be a risky proposition.

But that is where the National Asphalt Pavement Association (NAPA) comes in, according to Roger Sandberg, vice president of membership with the organization. “The challenges that are faced by businesses in the HMA industry today are much more serious than ever before—particularly in the areas of environmental control and legislation,” said Sandberg.

Sandberg pointed out that NAPA offers two major benefits to all of its members:

- **A unified front:** “There are a lot of construction groups out there, but there is only one national organization that is looking out for HMA contractors and producers,” said Sandberg. “NAPA makes sure that someone in a pivotal position is working for those who make a living in the HMA industry. We are always seeking to recruit more members so we can represent the industry in an even stronger way.”

- **Return on investment:** “NAPA has a full-time staff of 24 professionals who are only one phone call away,” added Sandberg. “So joining NAPA is like adding 24 people to your own company at a very low price. For example: You can pick up the phone and get answers to technical or engineering questions almost immediately—at no charge.”

Sandberg added that the value of that investment grows when you consider the tools that NAPA puts at its members’ fingertips. There is an electronic newsletter called Action News that is e-mailed to members twice a month with detailed information about recent developments in the industry. In addition, every member receives a copy of HMAT Magazine, which is published six times each year. This publication includes detailed feature articles on industry trends, new technology, recent events, and achievements among those in the HMA industry.

Written communication is not the only way NAPA keeps its members at the cutting edge of industry developments. Members are also welcome to attend the organization’s two major annual meetings, where they have an opportunity to meet face-to-face with key industry players: producers, contractors, manufacturers, engineers, scientists, lawmakers, and lobbyists. Membership in NAPA also helps to support an organization that works steadily to represent the industry in interaction with local, state, and federal government. “We are continually working on legislative and regulatory issues in Washington, D.C.,” Sandberg said. “There is a new issue that comes up almost every week. But the primary thing we are working on, of course, is funding.”

Sandberg pointed out that NAPA has also been the driving force behind the development of two landmark industry institutions:

- The National Center for Asphalt Technology (NCAT), which was established at Auburn University in 1986 with an endowment set up by the NAPA Research and Education Foundation.

- The World of Asphalt® show and conference, held annually (except for ConExpo-Con/Agg years) with the goal of providing a major exhibition and training venue for those whose business is involved with the HMA industry.

The representation, education, research, and communications offered by NAPA do more than support the industry as a whole, said Sandberg. They come together to support the individual contractor and producer, as well.

“In some respects, the little guy benefits more from membership in NAPA,” said Sandberg. “And those benefits are unique to the industry.” He said those benefits cannot necessarily be replicated by a local trade group—even though local organizations definitely play a strong role in the industry.

“Lon Albert of Reece-Albert, Inc. in Midland, Texas recently joined NAPA,” said Sandberg. “He told me, ‘I always thought that if we belonged to the Texas Asphalt Pavement Association (TxAPA) and Associated General Contractors of America (AGC) that we would get what we needed. But since joining NAPA, I have found that we can get all of the information we need to help run our business from NAPA.’

“He compared it to a three-legged stool,” Sandberg said, recalling Albert’s comments. “TxAPA and AGC are two legs of the stool—but NAPA is that all-important third leg that keeps you stable.”

“But until you look at the industry from a national perspective, you just do not get the whole picture.”

For more information about membership in NAPA, contact Roger Sandberg at NAPA: 888-468-6499
Or check NAPA’s website: www.hotmix.org/joinnapa.php
Astec Six Pack® series won the Gold Medal in the Roads & Bridges Contractors’ Choice Awards

Roads & Bridges magazine recently announced that the Astec Six Pack series won the Gold Medal in the Asphalt Plants category of the first annual Roads & Bridges Contractors’ Choice Awards. The magazine invited contractors from across the country to cast their votes for the strongest job-site performers for the 2005 season. Norm Smith, the president of Astec, accepted the award during a ceremony at the annual convention of the American Road & Transportation Builders Association (ARTBA) in San Diego. As a Gold Medal winner, Astec and the Six Pack series is also featured in a special section of the July issue of Roads & Bridges. The Astec Six Pack was the first truly portable plant for hot-mix asphalt (HMA) producers. It has become the world’s best-selling portable asphalt production facility.

Roadtec adds increased power to Shuttle Buggy® and MTV-1000™ material-transfer vehicles

Since spring of 2006, only CAT® Tier III engines have been installed in the Roadtec Shuttle Buggy and Roadtec MTV-1000 material-transfer vehicles. Roadtec’s switch to CAT-brand engines commenced with the introduction of the D-series Shuttle Buggy and the MTV-1000 material-transfer vehicle. Both the Shuttle Buggy 2500 D and the MTV-1000 D got a boost in engine power from 275 hp to 300 hp. The new engine also complies with the Tier III emission codes for these products. The photo below shows the Roadtec Shuttle Buggy 2500 D material-transfer vehicle with its 25-ton (22.7-tonne) hot-mix surge bin.

AEMA brochure explains asphalt-emulsion

A new 40-page brochure explaining asphalt-emulsion technology and related applications is now available from members of the Asphalt Emulsion Manufacturers Association (AEMA). To request a free copy, just contact an AEMA member near you—or you can visit the association’s website: www.aema.org.

New NAPA tech booklet addresses rubblization

The National Asphalt Pavement Association (NAPA) has a new 32-page technical document that provides comprehensive guidance on all aspects of the technology of rubblization. The book is priced at $16 per copy. To order a copy, call 888-468-6499. Or place your order at NAPA’s online store at www.hotmix.org.

Roadtec increases efficiency with expansions in two key areas of its manufacturing facility

Roadtec’s Shuttle Buggy® MTVs and pavers are being made in a new manufacturing bay (top photo), while the company’s paint department has been upgraded with additional space and state-of-the-art controls (bottom photo). Overall, 56,000 sq. ft. (5,200 m²) have been added to the company’s existing 128,000-sq. ft. (11,700-m²) facility.
Roadtec announces key-personnel changes in the company’s parts-and-rebuild activities

Roadtec has seen strong growth in the parts-and-rebuild side of the business in recent years. In order to continue the trend of expansion and growth, the company has made some key changes in staffing assignments:

Joel Rylander has been chosen as the production manager for Roadtec's Riverside parts-and-rebuild facility located at the company's headquarters in Chattanooga, Tennessee. Rylander assumes the full responsibility for the manufacture of Roadtec replacement parts, A/S Brand wear parts, and all of the various parts and components used in Roadtec factory rebuilds.

Robert Cates has been appointed to fill the position of Roadtec's worldwide rebuild manager. In this capacity, Cates will direct all of his efforts to the growth of Roadtec factory rebuilds through the company's Riverside facility and its other U.S.-based facilities. Cates will work closely with international dealers to promote Roadtec rebuilds on a worldwide basis. The replacement-parts activity at Roadtec has expanded a great deal since the company began manufacturing and inventorying a complete supply of replacement parts for both Roadtec and competitive-branded equipment. Roadtec offers a parts catalog in both printed and online versions for competitive-branded parts. For more information, simply go to www.roadtec.com and click on the button that says “Parts”.

Notes from the Hot-Mix Magazine news wire:

Astec announces dates for the Executive Seminar—Every year, Astec invites the owners and presidents of companies with hot-mix asphalt facilities to visit Chattanooga, Tennessee for the company's popular Executive Seminar. This year, the seminar will be held February 5-8. In addition to workshops on the latest technology trends, participants will be taken on guided tours of Astec, Heatec, and Roadtec manufacturing facilities. For information, contact Diane Hunt at 423-867-4210. Or you can reach her by e-mail: dhunt@astecinc.com.

Astec has a new Controls Specialist—An engineer in Astec’s Control Department is moving to a new position. Al Williams is taking on the title of controls specialist. In his new role, Williams will help the Sales Department in the marketing of Astec controls and controls service. He will also continue to assist the Controls Department as necessary in the areas of programming and service.

Astec Industries attendance at major trade shows—There are a number of large trade shows and exhibitions coming up in the near future. As usual, the Astec family of companies plans to be there with impressive displays of equipment and technology. Here are three of the events where Astec Industries will have a presence:

World of Asphalt 2007 will be held next year from March 19-22 in Atlanta, Georgia. For information: www.worldofasphalt.com.

Bauma 2007 will be held next year from April 23-29 in Munich, Germany. For information: www.bauma.de.


Trencor announces the immediate availability of the new T1060 mechanical-drive chain trencher

The new Trencor T1060 chain trencher offers powerful trenching ability in a very compact package. According to a company spokesman, the T1060 features a newly styled sloped hood, extraordinary performance, and the latest technology throughout its innovative design. This is the first of two new Trencor models to be introduced this year. For more information about the equipment, Trencor, and Astec Underground, go to the website at www.astecunderground.com. While you are there, you can view full specifications for the Trencor T1060 by clicking on the words “T1060 Specifications” located at the right-hand side of your screen.

Reservations for the 2007 Astec Customer Schools are being taken...so act now before they fill up!

Check the ad on the outside back cover of this magazine and you will see two words: MORE CONTROL. That is this year’s theme for the very informative and very popular Astec Customer Schools. Those who have attended the schools in the past will tell you how much can be learned in the four days that you will spend in Chattanooga. The schedule will include in-depth lectures in Astec’s training facility (above), as well as plant tours at Astec and Heatec. Breakout classes will provide you the opportunity for hands-on experience with the equipment and control systems. The dates scheduled for the four Customer Schools are as follows: January 8-11; January 15-18; January 22-25; and January 29-February 1. For information, contact Rick Worth at 423-867-4210. Or you can reach him by e-mail: rworth@astecinc.com.
Roadtec introduces the new SX-7 Soil Stabilizer as a way to stabilize the roadbed before paving

The Roadtec SX-7 Soil Stabilizer is now in production and available for delivery. It features a 21-in. (53-cm) cut depth, which is the deepest in the industry. With its right-hand flush cut, the machine pulverizes or stabilizes all the way to the curb line. The cut is 8.5 ft. (2.6 m) wide, perfect for three passes on a 24-ft. (7.3-m) wide road. The turning radius of the SX-7 Soil Stabilizer is only 12.9 ft. (3.9 m) in the cut and zero in. (0 m) out of the cut, making it the most maneuverable soil stabilizer available on the market. The machine is powered with a CAT® 700 hp engine. An optional emulsion- and water-distribution system is offered as optional equipment.

Heatec technical paper: polymer-modified asphalt

Heatec’s T-133: Heating, Mixing and Storing Modified Asphalt is being offered as a free download from the company’s website. Just go to www.heatec.com and click on “Tec-Notes” and then click on “Technical Papers.” Select the title of the paper to automatically download the free PDF file.

Go to the WOA website for info about the show

The World of Asphalt 2007 trade show will feature exhibits of the latest technologies and products, as well as educational opportunities for HMA production, paving, maintenance, and traffic-safety professionals. The Astec family of companies will be there as one of the largest exhibitors, with equipment from Astec, Heatec, and Roadtec. WOA 2007 will be held March 19-22 at the Georgia International Convention Center in Atlanta, Georgia. To learn almost everything there is to know about the show, go to their website: www.worldofasphalt.com.

Now you can shop for used equipment online

In case you missed the article in the last issue of Hot-Mix Magazine, there is something new in the world of used equipment. To find out if there is something available that might fit your needs, all you have to do is get on the Internet and go to www.AstecUsed.com. You can type in what you’re looking for... and in just seconds, you will see what is available from Astec Used Equipment. If you don’t have access to the Internet, call Larry Wagner at 423-867-4210 and see if he has what you want.

Roadtec announces a parts/service alliance in California and Nevada

Roadtec recently announced that Terry Equipment, Inc. has been appointed Roadtec’s parts-and-service agent for all of California and northern Nevada. Terry Equipment will maintain an extensive inventory of genuine Roadtec repair parts—as well as a complete inventory of Roadtec A/S Brand wear parts for competitive pavers—at the company’s two branch locations in Fontana, California and Sacramento, California. In addition, Terry Equipment will have Roadtec-trained service techs who can be dispatched by Roadtec service on short notice. Customers in Terry Equipment’s territory can continue to contact Roadtec parts and service at the factory-direct number, but they will have the added convenience of being able to pick up parts at Terry Equipment’s California locations.

NCAT Test Track rebuild is currently underway

Every three years, the National Center for Asphalt Technology (NCAT) rebuilds its test track in Auburn, Alabama. Reconstruction is currently underway for the 2006 experiment program. East Alabama Paving recently began laying down new sections of asphalt for testing using an Astec Double Barrel® hot-mix asphalt (HMA) facility. The reconstruction is expected to be completed by mid-October. One of the experiments this year will involve testing mixes with various percentages of reclaimed asphalt pavement (RAP). Astec Industries companies have helped with the rebuilding process by providing various pieces of equipment: a RAP bin; a RAP screening plant; a milling machine; a paver; and a material-transfer vehicle. To learn more about NCAT and its activities, just go to their website: www.ncat.us.

Staff changes at Heatec in Northeast Region

Vance Fuller has joined Heatec as the new Northeast regional manager. From his office in Richmond, Virginia, he covers the region from Virginia to Maine and from New Brunswick to Ontario. He has more than 18 years of experience selling electric equipment to contractors. Fuller assumes the territory from David Jones, who will now be focusing his attention on promoting Heatec products in the marine-heater market. Jones has worked with Heatec since 1997. He will continue to work from his home office in southern Alabama.
Astec developed a special coal burner to help hot-mix asphalt (HMA) facilities take advantage of the lower cost of coal, compared with other fuels. The new unit is called the “Phoenix Coal burner.” It is a very efficient, low-maintenance burner that was designed to use pulverized coal as a primary source for heat, with oil or gas as a support fuel. It performs at the same production rates as gas or oil units and is highly responsive to load changes. Astec recently completed the installation of a Phoenix Coal burner at an HMA facility in Grand Junction, Colorado. According to Michael Swanson, manager of Astec Burner Systems, the startup went extraordinarily well. “It burns coal much cleaner than we expected and operation is much easier than we expected. On its second day of full operation, the burner made 2,800 tons (2,540 tonnes) of hot-mix out of a 300 tph (272 tonnes per hour) plant.”

Those who register for NAPA’s Annual Meeting will get this book courtesy of Astec and Roadtec

NAPA’s 52nd Annual Meeting will be in San Francisco, California from February 17-21. The keynote speaker—Jim Collins—is known as the leader of a research team that studies successful companies and their management. Collins is also the author of the bestseller Good to Great, which explores why some companies make the leap to success and others do not. The book has sold 2.5 million hardcover copies since publication—and has been translated into 32 languages. This popular book will be mailed to all who register for NAPA’s Annual Meeting so that everyone will have a good idea of Collins’ approach to life before they attend the Keynote Session and the Industry Panel that Collins will moderate after his address. Astec and Roadtec have made a generous donation to NAPA so that this book can be made available to those attending the meeting. For more information about the speaker, the book, and the meeting’s agenda, just go to NAPA’s website (www.hotmix.org) and look for the artwork with the headline, “The Streets of San Francisco.” Then simply follow the instructions and click to learn more and to register.

Remote Ticket Printer for truck drive-through

Astec’s Remote Ticket Printer is an optional add-on for the Weigh Mate 2000 loadout system. It frees plant operators from the chore of printing tickets and passing them to drivers. It has a signature pad for verification. And it can print multiple copies of the ticket. To learn more, contact Floyd Cheek, controls sales manager, by phone at 423-867-4210 or by e-mail at FCheek@astecinc.com.

Astec’s new Phoenix Coal Burner is performing “extraordinarily well” according to those who watch the first one in Grand Junction, Colorado

During preliminary testing, Astec’s new burner effectively met the lowest emission requirements

The Astec Phoenix® Phantom™ burner has managed to meet its targeted emission performance during tests: the nitrogen oxides (NOx) reading is at 18 ppm (at 3 percent oxygen) and the carbon monoxide (CO) reading is at 20 ppm (at 3 percent oxygen). The innovative design of this burner makes the low-emission performance possible. It was designed to meet the more stringent requirements of those parts of the country designated as “nonattainment” areas.
Two-day Paving Professionals Workshop hosted by Capital Paving in conjunction with Roadtec took place at the University of Guelph in Ontario

Capital Paving, Inc. is a leading hot-mix asphalt (HMA) producer in Canada. The company recently hosted a Paving Professionals Workshop that was attended by 100 professionals in the industry, including employees, inspectors and engineers from nearby cities, and consultants who work with Capital Paving. Presenters and speakers at the workshop included a unique blend of industry people, from equipment manufacturers to top officials of the Ministry of Transportation and the Ontario Hot Mix Producers’ Association. The top management of Capital Paving took the initiative to hold the workshop as a way to inform their employees about the latest HMA tools and techniques. The workshop was held last April on the campus of the University of Guelph in Guelph, Ontario. In the opinion of those who attended, the workshop was an exemplary model of one way a producer can make a positive impact.