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SUMMER 2002

Cold Milling Integral To Florida Demo Project

Wirtgen, Hamm, Vögele At Conexpo-Con/Agg '02

Light Work Of Night Work

Wirtgen VÖGELE HAMM

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On the Cover: *Shields Asphalt Paving's new Model 1110 WB from Vögele America places Superpave mix in suburban Pittsburgh; see story page 14.*

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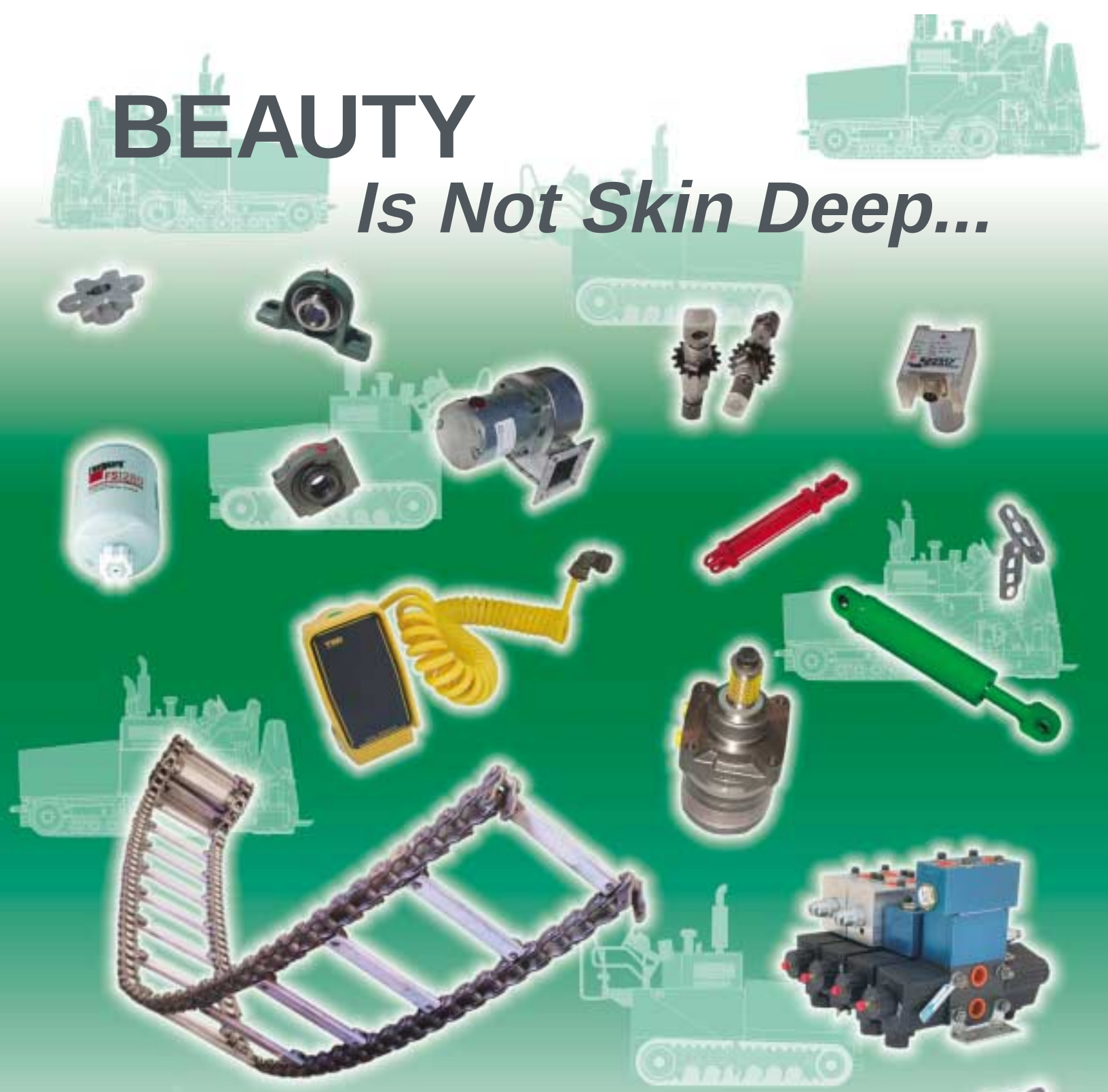

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Paving Your Future

As I see it...

RAP, Superpave Make Fine Pairing

Summer and softball, lamb and mint, fast horses and bluegrass. They all make the best of pairings. But now — thanks to recent research conducted by the Federal Highway Administration, and publicized this spring in FHWA's *Focus* newsletter — we can add reclaimed asphalt pavement (RAP) and Superpave to that list.

Yes, we at Wirtgen America Inc. gamely concede that asphalt milling and Superpave asphalt mix designs don't have the same enticing aura that sports, food and racing do.

Yet few recent developments in civil engineering may have more impact than this on the future of asphalt cold milling and asphalt recycling — and the futures of our customers — because this new research further institutionalizes asphalt recycling, moving it even deeper into the mainstream of roadbuilding.

New Attention To Old Problem

The new attention to RAP's compatibility with Superpave comes at an opportune time, because questions lingered as to whether RAP could be used in the new high-performance Superpave mixes. That's why it was gratifying to see that in April, FHWA's *Focus* newsletter cover story proclaimed RAP and Superpave "an excellent blend". The article cited recent research conducted for National Cooperative Highway Research Program [NCHRP 9-12], *Incorporation of Reclaimed Asphalt Pavement in the Superpave System*.

Superpave — an acronym for SUperior PERforming Asphalt PAVEments — is a performance-based system of specifications for designing asphalt pavements to hold up to the demanding roadway needs of the new century.

In the meantime, asphalt recycling using RAP still is overcoming prejudices and reluctance among some state DOTs to spec RAP in all mixes. While the April Focus article sanguinely says that nearly 30 million tons of RAP are recycled in hot mix asphalt (HMA) pavements each year, and "routinely used in all 50 states" — it's our experience that much more RAP can be used both in terms of volume and in various specifications. Frankly, we'd like to see RAP used more frequently in riding or friction course mixes, not just leveling or base courses. But that's for each state to decide, based on their experience and comfort level, and we respect both their expertise and diligence in making sure their citizen customers get the best mileage for their tax dollars.

The NCHRP report itself says use of RAP in Superpave pavements is desired because

- RAP has performed well in the past and is expected to perform well in Superpave mixtures, if properly accounted for in the mix design
- Use of RAP is economical and can help to offset the increased initial costs sometimes associated with Superpave binders and mixtures, and
- Use of RAP conserves natural resources, and avoids disposal problems and associated costs.

While the original specs for Superpave did not include RAP, the industry has been vigorously working to see if RAP could fit into Superpave. That's why this new research demonstrating the applicability of RAP to the demanding requirements of Superpave is so intriguing.

RAP Just A 'Black Rock'?

RAP's presumed role in Superpave mixes hinged on whether it served as nothing more than an aggregate — the so-called "black rock" — or whether the aged, residual liquid asphalt on the surface and in the pores of RAP interacted in a physical manner with the Superpave binder and mix design.

"Significant findings include the conclusion that RAP is not [just] a black rock and significant blending does occur," reports NCHRP 9-12. "This means that the use of blending charts is appropriate." Other findings say there is a threshold level of RAP below which its effects are negligible, between 10 and 20 percent, depending on RAP binder stiffness.

Ultimately, a three-tiered approach for RAP usage was recommended by the Mixture Expert Task Group. This approach says up to 15 percent RAP could be used with no change in PG binder grade; between 15 and 25 percent RAP, the virgin binder grade should be decreased one grade (6 deg increment) on both the high and low temperature grades; and above 25 percent RAP, blending charts should be used to determine how much RAP could be used.

Also, the properties of the aggregate in the RAP may limit the amount of RAP that can be used. Aggregate properties should be considered as if the RAP is another aggregate stockpile, and if needed blended with virgin aggregates so that the final blend meets the consensus properties.

The report can be downloaded in its entirety at http://trb.org/trb/publications/nchrp/nchrp_w30-a.pdf. We hope you'll give it a closer look.

S W Murray

Stu Murray
President
Wirtgen America Inc.

Cold Milling Integral To Florida DOT Preservation Project

Milling at Gainesville exit takes place at night

Cold milling of asphalt is integral to a new Florida project to see if an interstate pavement's life can be prolonged well beyond its existing lifespan, while saving taxpayer dollars.

In April, the Florida Department of Transportation — and its prime contractor Anderson Columbia Co., Inc. and cold milling subcontractor Delta Milling Company — began cold-milling an inch of asphalt in advance of placement of a fresh driving course on I-75 near Gainesville, Fla.

Following contemporary Pavement Preservation principles articulated by the Foundation for Pavement Preservation (FP^2), the project involves removal of an asphalt driving surface before it begins to fail. That's followed by sweeping, exposure of the existing milled surface to traffic and the elements for three days to remove the finest dust particles, final sweeping, and replacement with a fresh friction course.

A unique element of this $6.5 million project design demanded a cold milling machine that would deliver a 12-foot-wide milling pattern with consistent, longitudinal, parallel grooves, so a Wirtgen W 2200 was used.

That's because Florida DOT researchers needed to expose the milled surface to traffic for at least three days, so wind and tire energy has a chance to remove extremely fine particles from the milled area that may inhibit complete bonding of tack coat and friction overlay.

Because that requires the milled surface remain open to traffic in the interim, a fine, very evenly milled surface was specified for motorists' convenience. A Wirtgen W 2200 with 12-foot drum owned by Delta Milling was providing the smoothly profiled surface prior to overlay.

The 12-foot machine was specified instead of a half-lane machine to eliminate any possibility of a height differential in the milled pavement in a single lane between the two passes.

Much of the milling and paving was being done at night to accommodate the extremely high load of traffic coming into central and south Florida from the north. Traffic is 68,000 vpd with 18 percent trucks.

Best Bang For Buck

"We're milling one inch, taking the friction course off and putting a new friction course back on," said Harry L. Wood, Construction Project Manager, District Two, Florida Department of Transportation, Lake City. "We're hoping this will give us another 8- to 10-year life span on the surface and underlying layers."

Typically, the state will require milling of 2.5 to 3 inches. "Here we decided to take just 1 inch, put a new surface on the top, give us added years and save the taxpayers money," Wood said.

"The existing surface still is in good shape, but not far from needing a resurfacing," Wood added. Thus Florida is acting on a pavement at just the right time to move its point of failure from the near future much farther into the future. Here, the driving surface is replaced before surface distress can impact supporting layers of pavement below.

This echoes the motto of FP^2 — articulated by the American Association of State Highway & Transportation Officials (AASHTO) and the Federal Highway Administration (FHWA) — of pavement preservation as being application of the "right treatment, to the right road, at the right time", to get the best "bang for the buck" in taxpayer funds.

Cost effectiveness of the project is a big issue for the Florida DOT, and the state will be meticulously tracking expenditure vs. performance in coming years.

"We're resurfacing 216 lane miles, at $30,000 per lane mile, versus the conventional way of $170,000 per lane mile for complete reconstruction," Wood said. "Typically, for the money we've got in this 216-mile project, we'd only be able to reconstruct 30 to 40 lane miles using conventional full depth milling and overlay." A total of 1.5 million square yards were being milled and paved.

High-Performance Overlay

To make sure the project has the highest chance of success, a Superpave performance-graded binder is being used in an open-graded friction course (OGFC) design.

Superpave — an acronym for SUperior PERforming Asphalt PAVEments — is a performance-based system of specifications for designing asphalt pavements to meet the demanding roadway needs of the next century.

This performance-based approach offers more durable pavements that are specifically designed with local temperature extremes and traffic loads in the equation. Superpave designs are thought to provide longer-lived asphalt pavements that will stand up to local climate and traffic volumes at lower costs.

Final Superpave mix design system specs, including performance based quality control, could be fully developed by 2005, according to a long range plan released by the Transportation Research Board (TRB) Superpave Committee.

In the meantime, open graded friction courses (OGFCs) have been used since 1950 in the United States to improve the frictional resistance of asphalt pavements, promote drainage of water from pavement and thus reducing tire spray, and to reduce noise from the tire/pavement interface.

Spaces within the "gap-graded" mix — amounting to as much as 20 percent of the mix, or more in some newer European mixes — help drain water and attenuate (absorb) tire noise. While they underwent failures in the 1970s, OGFCs are attaining a new popularity as states take a look at refined mix designs incorporating additives like polymer modifiers and hydrated lime.

"It's an all-granite friction course mix," Wood said. "Top size aggregate from 3/8- to 1/2-inch is used. It's a very porous mix which will permit fast rainwater drainage, which will enhance driving visibility during Florida's frequent rain showers."

A Florida DOT representative at the hot mix asphalt plant checks mix suitability prior to placement. No reclaimed asphalt pavement (RAP) is going into the virgin mix.

W 2200's 12-foot drum mills in one pass

Delta Milling's W 2200 got call

Group Effort Boosts Pavement Life

Development of this unique project was a collaboration between Florida DOT headquarters personnel, Lake City District staff, and the contractors. "It was

a group effort," Wood said. "It's the first time we've done a project of this type in District Two. We asked, what can we do to get more life span out of our asphalt at a lower cost?"

DOT personnel examined the I-75 pavement and evaluated alternate solutions. "There was nothing wrong with our structural course," Wood said. "Typically our friction course will go bad first. So we came up with the idea that we would just put another friction course on just before the existing course began to fail and get another 8 to 10 years of life out of it."

The inspiration was the experience the state had after a rare snowfall in 1989. The snowfall led to unaccustomed freeze-thaw damage in the north-central part of the state. "We did a lot of fast-response thin overlays," Wood said. "We'd put 85 lb. per square yard of surface over the damaged pavements and got an additional 13 years life out of some of them."

Enhancing Bond, Smoothness

But in planning this evaluation, the state wanted all surface variabilities eliminated from the job site. That's why it insisted on having the milled surface open to traffic, and why it decided to mill the lane in one pass.

"You can sweep and vacuum a milled surface all you want, but there will still be a certain amount of dust," Wood said. "We wanted traffic to have a minimum of three days to blow the fine dust out, so we could get a better bond between our friction course and our milled surface."

To accommodate traffic over three days, the milling pattern was crucial. "The pattern and texture of the surface is very important," Wood said. "With this particular machine we do not get an uneven surface."

Also, the fine tooth pattern of the W 2200's 12-foot drum will help attain smoothness of the friction course. "With a normal milling machine, the striations will be very far apart, and we would not get the ride from the friction course that we wanted," Wood said.

But the 12-foot width on Wirtgen's largest machine also means high productivity. "One night they milled six miles," Wood said. "It's a production-oriented job from the contractors' viewpoint." Productivity was such that in June the project was 30 percent ahead of schedule, he said.

"They are trying to eliminate anything that might come between the tacked milled surface and the friction course," said Dan Whaley, General Superintendent, Delta Milling Company, Leesburg, Fla. "They were taking all necessary precautions; I've seen some states wash the cut with water and let dry before putting the tack down."

Fine, evenly milled surface means safer work zone and smoother final project

Nothing Conventional Here

"This is an exciting project for us, because it's a test for us as well as the Florida DOT," said Karen Hollins, Division Manager, Delta Milling. Delta works in three states, Georgia, Alabama and Florida. The W 2200 — acquired by Delta in July 2000 — is the largest of the firm's milling machines.

"There is nothing conventional about this project," Wood said. "As a result we may have gone to the extreme on some issues, but we wanted to cover all variables to make sure we had what we wanted when we finished."

"Delta, and our sister firm, Midwest Asphalt Corporation, purchased the first two W 2200s in the country," she said. An article on Midwest's machine appears on pp 6-7 as the cover story of the Winter 2000 issue of *Wirtgen Technology*.

Now, the W 2200 purchase is paying off for Delta. "We have 100 percent satisfaction with the unit," Whaley said. "We have one operator for the machine, Joe Labruyere. That maintains consistency of operation and continuity of maintenance. The machine does what it's supposed to do; our primes like the machine and they want it back on future jobs."

Superintendent for Anderson Columbia is Ramsey French. For Delta Milling, Lora Fanning and Mary Leonard are grade checkers or groundmen. More information on the Foundation for Pavement Preservation is available at http://fp2.org.

About the Model Wirtgen W 2200

The W 2200 is designed for big, continuous cold milling projects in which a pavement must be removed mile after mile.

The high-horsepower, high-production W 2200 lets contractors or government agencies mill large projects in surprisingly short periods of time. Its maximum milling depth of 13.7 inches (350 mm) means that entire pavements can be removed at a single pass.

Wirtgen's design engineers have produced a machine with a standard cutting width of 86.6 inches (2200 mm), four large D-5 crawler tracks, a milling drum with a high-efficiency mechanical belt drive, and a highly efficient front-loading system on a unit that is both compact and easy to operate.

The W 2200's Caterpillar Model 3412E, 12 cylinder, 875 hp diesel engine is specified for the machine's maximum cutting depth, with an immense feed rate and high level of performance that keep operators and owners happy.

Family Affair:

California's Trump Family Merges Small-Scale Customer Service With Large Wirtgen Machines

'Betty Beast' is Trump's W 2100

Cold milling of asphalt is their game, and Betty is their name.

Throughout Southern California you'll find Betty Grable, Betty Rebel, Bette Davis — and now big Betty Beast — grinding up aged asphalt pavements and securing a place for a family business among West Coast cold planing subcontractors.

"All of our machines have a name, and they're all Bettys," said Cindy Trump, president, Lindy's Cold Planing, La Habra, Calif. "Our 79-in. machine is Betty Grable; our 48-inch machine is Betty Rebel; our 20-inch machine is Betty Davis; and our new 79-inch, 640 hp machine is Betty Beast."

Lindy's customers have come to know the machines by name, Trump said. "They'll call and say 'I want to book Betty Grable today', or 'Betty Rebel today'," she said. And with customers on a first-name basis with their machines, little wonder that Lindy's is making a name for itself for quality cold milling in the Golden Bear State.

Lindy's Cold Planing is a female-owned business, and that helps get public contracts. But it's also a family business, and that helps get repeat business and commercial customers. Lindy's is a family affair which brings family members and "outside" employees into a critical mass that keeps the cutter drums turning and the customers happy.

Known formally as CTI (Cindy Trump Inc.), but more popularly as Lindy's Cold Planing, the firm employs seven in the field and three in the office. It's not to be confused with Lindy's Cold Planing II, Whittier, Calif., owned by Cindy Trump's brother, Lindy Jr.

"We all work together as a family, and do things together as a family after hours," Trump said. "We recently completed a job which we did well in a good time frame, and to celebrate took all the employees on a weekend cruise to Catalina Island." But can all this family feeling be too much of a good thing?

"A family affair is good for business because we all work hard and share the same goals," said operator and husband Rick Trump. "But it can be rough because you're together all the time, both on the job, and at home. But we're all good, hard workers, and that includes our outside employees."

Owner And Operator

President and owner Cindy Trump holds the contractor's license, estimates and oversees all jobs, and occasionally operates equipment. "I do it to keep my skills up," she said. Other family members at Lindy's include daughter Brianna, who schedules, and son Christopher, an operator. Other critical players include Jo-Ann Lyons, controller, and operators Bobby Moody and Brent Fabian.

Typical of a smaller business,

"The Wirtgen line is worth its weight in gold to us...It does what it's supposed to do. We've had minimal downtimes with Wirtgen, they make clean cuts, and our customers love us for the type of work we put out."

Cindy Trump

employees play multiple roles. All operators are cross-trained to operate all machines. Cindy Trump also ensures employees go to school for construction management degrees.

"We know our market segment lies in doing a quality job on our own scale, and making it look really good, rather than a high-production quantity job," Rick Trump said.

"We still want to give our customer the extra touch, such as cleaning up so a job is spotless and no one can trip and fall," he said. "We trim all the edges so the customer can pave right up to it and not have to bust material off with a pick," he said. "We're a full service operation; all the customer has to do is tack it and they're ready to go."

Settling On Wirtgen Platform

Lindy's has settled on an equipment platform based on cold milling equipment from Wirtgen America, Inc. "The Wirtgen line is worth its weight in gold to us," Cindy Trump said. "It does what it's supposed to do. We've had minimal downtimes with Wirtgen, they make clean cuts, and our customers love us for the type of work we put out."

In April the firm owned a new 6-foot, 7-inch, 640 hp Wirtgen W 2100; a 6-foot, 7-inch, 400 hp Wirtgen 1900 DC with 3,000 hours; a 48-inch wide Wirtgen W 1200; and a 20-inch wide Wirtgen W 500 machine.

"We're one of the few contractors who can get into small parking lot areas with the big machines," she said. "The 1900 is ideal for getting into parking lots and doing large municipal street work. Also, we've stuck with the Wirtgens because they're a four-track machine, which distributes the weight more evenly. When we get into a cut we have fewer chances of sinking and not getting out of the cut. And they leave a very clean cut, with minimal debris to pick up afterward."

The milling machines themselves determine how much sweeping has to be done, Lindy's has found. "Our machines always are clean to work with, and leave very little material on the ground," she said. "It makes a big difference when you're in a hurry to get a job done, because it leaves minimal clean up for the sweepers which come behind. And you can see your actual cut in a lot better aspect. It makes the job go a lot smoother."

Promotion Through Service

Lindy's knows that one element of successful subcontracting is to never disappoint your prime, especially through equipment failure. Lindy's has taken substantial steps to make sure that doesn't happen.

For one, the firm keeps a milling machine in reserve in the event of a field failure. "We have a machine in our yard at all times for backup," Cindy Trump said. "In the event we would go down, we can pull another machine out of the yard to keep going."

Lindy's has gone a step further by acquiring two enclosed repair/parts trailers to provide instant in-field service. "For all intents and purposes [they're] the same as an in-house shop. We maintain nearly all parts in our trailers and those go on-site to the jobs. We have welders, teeth, hoses and fittings. And that's backed up by our distributor, Nixon-Egli, which has been very good to us."

Also, Wirtgen's cut pattern makes for happier primes, Cindy Trump said. "The pattern of the cut is very important when you're paving over it, because without a consistent pattern, you won't get a consistent laydown," she said. "You're going to get bumps in the road and inconsistencies."

Innovation And Bigger Markets

Even as Lindy's original traffic markings market is taken over by pavement marking and traffic control specialists, Lindy's is applying its attention to detail in smaller scale jobs to larger projects, and its new 640 hp, 79-inch W 2100 cold milling machine from Wirtgen is permitting it to take those projects on.

"The W 2100, Betty Beast, represents a whole new market for us," Cindy Trump said. "It's already gotten us larger jobs. Our customers are very impressed with what they've seen with the machine and we're up and ready to run. We've got the horsepower behind us and we've got the machine that will do the job."

With the larger machines, Lindy's is stepping up into larger markets, with deeper cuts, and larger removals. "The units are awesome for deep removals," Cindy Trump said. "They're clean-cutting, meaning they leave very little material in a deep cut.

Operator Bobby Moody uses 1900 DC to mill in Ontario, Calif

In Mission Viejo, Chris Trump mills uphill in Betty Beast, the W 2100

The newer machines will leave hardly any material in the ground. They're long-lasting machines with very little down-time. They're very well put together."

W 1200 New 'Hot Ticket'

But Lindy's smaller W 1200 is building business as well. "Our other little hot ticket this year is our new Wirtgen 1200," Cindy Trump said. "It's been a nice little machine with 4-foot cutter drum and wheel drive."

Like all of the Trump machines, the W 1200 runs with sonic controls. "It's a computerized program that makes our cut very accurate," Trump said. "The 1200 is one of the few midsized machines on the market that has a right-rear wheel that swings in, so we can cut flush to a curb with no gutter and continue to hold grade."

Trump said Wirtgen features are critical in job success. "The sonic controls are a real plus for us," she said. "The Wirtgen programmable sensors that control depth are precise to within an eighth of an inch, and hold grade really well. We use it in all of our work. If we have an inch and a half cut to zero, we will program it and the machine will stay within an eighth of an inch for the duration."

W 2100 mills laterally up local street

About The W 2100 And 1900 DC

The Model W 2100 from Wirtgen America Inc. has a powerful 6-cylinder straight-type diesel engine, with an output of 640 hp which allows the operator to easily steer and mill effortlessly. The W 2100 uses joysticks which are identical in design to the W 2000 and W 2200 machine models. The maximum milling depth of up to 12.6 inches and a milling width of 79 inches makes high production milling possible in only one pass.

The 1900 DC is characterized by broad cutting width, and is a productive, powerful, compact large-volume milling machine for removing deteriorated asphalt pavements, or complete roadway structures down to 12 inches in a single pass. The 1900 DC boasts a 400 hp engine and front loading of RAP for ease of operation. This model has a 79-inch cutting width, with 86-inch cutter width available as an option.

Hamm Compactors At Center Stage In Superpave Meet

An assortment of Hamm compactors took center stage at a field demonstration associated with a Superpave Showcase in south Texas earlier this year.

Only Hamm compactors were used on the Superpave placement on FM 2061 in Hidalgo County in the Rio Grande Valley. Placement was executed by Wright Way Construction, Inc., using its Hamm HW 90 and GRW 18 rollers, and with HD 130 and HD 110 rollers provided by B-C Equipment Sales, Inc. (see related sidebar).

The Superpave Showcase was co-sponsored by the Pharr District Office, Texas Department of Transportation, the Federal Highway Administration (FHWA) Texas Division Office, and the Texas Hot Mix Asphalt Pavement Association, both of Austin.

Also participating was Gary Fitts, P.E., Senior District Engineer, The Asphalt Institute, San Antonio, and Jose Gaytan Jr., P.E., Texas DOT Pharr District. Mix was provided by Frontera Materials, Westlaco, Tex.

Showcase Overflow Crowd

The Superpave Showcase drew an overflow crowd of over 100 registrants from Texas and Mexico and provided an overview of the Superpave mix design philosophy now in various stages of adoption across the United States. As the showcase demonstrated, there is high interest in Superpave in Mexico as well as in the United States.

"FHWA's interest is in promoting the new Superpave technology and finding districts and contractors who are willing to try the new technology," said Jim Travis, P.E., Pavement/Materials Engineer, FHWA Texas Division. "Once they do, we showcase those projects to share what they've learned with other people in other districts."

While it's elementary for most policy makers to agree on Superpave and other technologies at national convocations, it's quite different to get agencies and engineers "outside the [D.C.] Beltway" to buy into the new technology. "In Texas, each of the 25 districts have to buy into Superpave," Travis said. "Texas DOT is decentralized so each individual district makes that decision for itself."

Frontera Materials technician checks Superpave sample

Also, in government agencies there can be a certain amount of built-in reluctance to try new technologies, for fear of spending tax dollars on something that doesn't work. "It's always safer to stay with something that you're comfortable and have experience with," Travis said. "Sometimes it's hard to get people in the highway industry to try new and different things for fear it may backfire and reflect on them."

"The Showcase is an educational process, part of assisting the federal and state level in implementing Superpave," said Jim Hedderich, Director of Technical Support and Training, Texas Hot Mix Asphalt Pavement Association. "We're dedicated to education and promoting good quality hot mix asphalt roads in the state."

Conversely, Hedderich said it's failure of other designs that can trigger interest in new processes like Superpave. "Past mix designs that didn't work up to expectations can lead people to look to new technology and find the solution in Superpave mix designs."

Get Compaction Quickly

Fortunately, this project went well for demonstration purposes. "The Superpave mix lays really well," said Daniel Wright, vice president, Wright Way Construction, Inc., Harlingen, Tex. "You have to make sure to keep your rollers

HW 90, HD 130 get quick compaction of mat

close to the paver, especially in cool weather. They have to be there right behind the machine; they need to be on the mat early."

"The challenge is to get the mix to the site at the right temperature, and that can incorporate insulated trucks and tarping loads, depending on the haul distance and ambient temperature," Hedderich said.

"Frankly, my experience so far is that we haven't had too many mixes that have shown up with a tender zone in them," he said. "When it has happened we've kept the rollers off between 200 and 250 deg F and got our densities in passes at temperatures below that. It's changed rolling procedures from looking at distances and focusing on actual mix temperature."

On this project the PG 70-22 binder Superpave mix was being placed 3.5 inches deep and compacted to 3 inches. A total of 14,000 tons were being produced for this project.

The secret to successful Superpave compaction is frequency of vibration within the temperature range, Hedderich said.

"The vibratory compactor has been the machine of choice, and these have been set up with low amplitude and higher frequency range," he said. "Many manufacturers are responding with higher frequencies, so in fact we can pick up the travel and compaction speeds so they can stay on the mat while it's at the right temperature."

Hamm HD 110 has 66-inch double-drum

Hamm GRW 18 compacts mat

More information is available from the Texas Hot Mix Asphalt Pavement Association at http://www.txhotmix.org, and from the FHWA Texas Division at http://www.fhwa.dot.gov/txdiv/index.htm.

About The Hamm Compactors

Four separate Hamm models — the Hamm HD 130, HD 110, HW 90 and GRW 18 — were used in the construction of the Superpave Showcase on FM 2061 near Pharr, Tex., earlier this year.

Hamm HD 130. Introduced to North America in 2001, the HD 130 is a 30,430 lb., 84-inch-wide double-drum, articulated machine. The largest Hamm asphalt compactor sold in the United States, it has a working width of 84 inches and boasts a top speed of 7.6 mph.

Hamm HD 110. At 23,400 lb., this 66-inch, double-drum, articulated machine is a workhorse of the Hamm line in North America. Like all large HD rollers it has a 150-degree swing around and swiveling operator's seat, dual, seat-mounted joystick controls for travel and vibration, unmatched industry curb clearance (27 inches/700 mm), and a 3.5-inch drum offset to either side for pinching joints and increased rolling width.

Hamm HW 90. This three-wheeled, static roller is available in three models, 8-, 10- and 12-tons. All three have a rolling width of 75 inches and the machine has a 74 hp engine. The HW 90 has a fully hydrostatic drive, dual operator seats and controls, split front drum, and pressure sprinkler system with interval switch.

Hamm GRW 18 Rubber Tired (Pneumatic) Roller. The GRW 18 can accommodate a maximum operating weight of nearly 62,000 lbs. Hamm pneumatic rollers have a generous 2-inch tire overlap, even at half of the maximum turning angle, and have four wheels each front and back (eight total). Dual pivot points on the front axle provide high stability and maneuverability. They also have three-speed power shift transmissions, smooth, jerk-free shifting with hydrodynamic drive (no chain drive), and high on-site mobility, with transport speed of up to 12.5 mph.

Superpave A Snap For New Vögele America 1110 WB

Superpave mix is placed in suburban Pittsburgh

A new Model 1110 WB Pro-Pav asphalt paver from Vögele America Inc. was speeding a suburban Superpave job for a Pittsburgh-area contractor.

In June Shields Asphalt Paving Inc., Valencia, Pa., was using its new Vögele America paver to improve access on a Pennsylvania DOT road for the Treesdale residential and golf development north of Pittsburgh. The Red Belt, also known as the Bakerstown Warrendale Road, was being improved as part of the development.

"Treesdale is a large development, and we had the majority of the paving involved," said Tim Shields, President, Shields Asphalt Paving Inc. "The work is under PennDOT jurisdiction and control and involves widening and construction of turn lane."

For this job, Shields did excavation, storm sewer work, road widening, full depth pavement, milling, overlay and shoulder work. On a typical day, Shields Asphalt Paving will employ two paving crews and five grading crews. The firm was founded in 1955 by Tim Shields' parents, Jack and Shirley Shields. Today Shields has approximately 60 employees.

On the Treesdale job, the existing roadway was milled 2 inches prior to overlay. Full-depth reconstruction — involving complete excavation and backfill with fresh aggregate — was associated with berm work for the project, Shields said. There, PennDOT No. 2A air-cooled slag was being placed as aggregate.

"We're widening and resurfacing this state road," said Mike Hancheck, Project Supervisor. "We put a leveling course on the existing road, eliminating the high and low spots, and we're going over the top of it with an inch and a half of final wearing."

Shields was placing two 15-foot-wide lifts using the Vögele America Pro-Pav machine. "The binder course has a top size of 19 mm and is all Superpave," Shields said. The binder or base course was placed 6 inches deep. Local conditions dictated a Superpave binder of PG 64-22.

Above the binder course a half-inch leveling course was placed, topped by a 1.5-inch wearing course over the entire project. "The leveling and wearing course was Superpave with top size of 9.5 mm, all produced at our Slippery Rock [Pa.] hot mix asphalt plant," Shields said.

While the roadway being paved was strictly a local road owned by PennDOT, Superpave still was required for the overlays. "PennDOT has committed to the use of Superpave on its projects," Shields said.

Right Temp For Superpave

So long as it's at the right temperature, Superpave is simple to work with, Hancheck said, adding the combination

"It puts down a nice mat. Everything is uniform and there are no voids. And the bigger screed carries a lot better; it floats, rather than rocks back and forth. The machine's tow points make it nicer to use; the screed reacts a lot faster. It's a lot more responsive."

Mike Hancheck

of Vögele America 1110 WB and Carlson EZ-Screed was just right for placing Superpave.

"It does a good job on Superpave mixes," Hancheck said. "It puts down a nice mat. Everything is uniform and there are no voids. And the bigger screed carries a lot better; it floats, rather than rocks back and forth. The machine's tow points make it nicer to use; the screed reacts a lot faster. It's a lot more responsive."

Also, vibration at the screed made Superpave placement even less problematic. "The vibration tightens the mat up and gives a nicer a mat," Hancheck said. "For Superpave, most of the compaction is from the roller, but if you can get some out of the screed it also helps."

The paver tractor pulling the screed works spectacularly, Hancheck said. "We haven't had any trouble with it. The main screed is nice because it has 9-inch wings, and when paving you don't have all that extra weight hanging on the outside, and you have more structure on the main screed."

This model has a 10-foot main screed with 26-inch base, with one 5-foot right side, and one 4-foot wing. "We can go out to 19 feet," Hancheck said. Extensions can be added for even more width, useful for shoulder paving. "This model carries itself a lot better than other pavers because it's stronger and the wings aren't as heavy," he said.

Vibration at screed makes Superpave placement easier

Travel To Chambersburg, Vegas

Shields owns four other pavers. "We'd used another brand of paver exclusively for over 30 years, and this is our first try at a different paver," Shields said.

"Our dealer, Shaull Equipment & Supply Co., picked up the Vögele line, and came to us," Shields said. "Mike, my superintendent Paul Newcamp, and mechanic Gary Lamperski and I flew to the Vögele America factory in Chambersburg [Pa.]. We met their staff and liked everything we saw."

Then, to Conexpo-ConAgg '02 in March, Shields traveled with 12 foremen and office personnel. There they saw the entire Vögele line and were quite impressed, Shields said.

The general construction of the paver was significant to Shields and his staff. "They pay attention to detail and the little things," he said. "Once we put this paver into operation we saw they took good ideas from the field and provided new ideas, too. It lays a great mat. They redesigned their tunnel and got rid of segregation down the middle at higher paving speeds. Their strike-offs are different as well as highly effective. And the mat itself is nice, and smooth."

Welcoming the new 1110 WB to Shields Asphalt Paving are Torrey (age 5), Courtney (age 10) and Kobey (age 8 mo.) Shields

About the Vögele America 1110 WB

The 1110 WB AWD (All-Wheel Drive) asphalt paver from Vögele America Inc., Chambersburg, Pa., has gained good acceptance with contractors since its introduction in 1998. It's proven popular with contractors who prefer wheel machines but need extra traction for the advantages it provides.

The All-Wheel Drive (AWD) system provides contractors with a wheel machine that limits the potential for wheel slippage during paving, thus removing a factor which would contribute to a rough surface.

With the importance of Quality Control/Quality Assurance (QC/QA) in today's paving, contractors require equipment that will meet tight specifications, especially with the Superpave mixes in use. The Vögele screeds have long been known for rigidity, providing superior density and mat quality.

Curved pre-strike offs — along with curved telescoping strike-offs in front of the hydraulic extensions — produce a tighter, denser finish across the width of the mat. Rigidity of the screed comes from heavy box frames, large bearing supports and chrome guide tubes.

Power is supplied independently to each of the four front bogie wheels. If one front wheel loses traction, the remaining three still continue to drive with maximum torque.

Wirtgen, Hamm, Vögele Debut As Trio At Conexpo-Con/Agg '02

Rhino Parts pavilion welcomes visitors at Conexpo-Con/Agg '02

For the first time in North America, Wirtgen asphalt recycling equipment, Hamm asphalt and base compactors, and Vögele America asphalt pavers were on display together at Conexpo-Con/Agg '02 this spring.

These product lines were exhibited as Wirtgen Group affirmed its single-source position as the provider of the world's most technologically advanced, durable and profitable road construction and maintenance equipment in North America.

Never before on this continent had the Wirtgen and Hamm nameplates been exhibited side by side on such a scale, although the products have shared a common ownership by Wirtgen Group since 2000.

Just as exciting was the introduction of six new asphalt pavers — designed and built in the United States — under the Vögele America Inc. nameplate. Their recent roll out in green color is a continuation of the respected Pro-Pav line of Chambersburg, Pa., acquired by Wirtgen Group in 2001.

"The play and comments that we were getting from distributors and customers was very, very rewarding," said Stu Murray, President and CEO, Wirtgen America Inc. "The single-source provider concept of pavers, rollers and milling machines has really hit home for a lot of people and makes perfect sense for them. A lot of opportunities opened up for us very quickly as a result of Conexpo-Con/Agg."

Conexpo was a critical event for Wirtgen Group this year. "The show was the catalyst we needed to bring the three products together, and it worked out perfectly for us. This was our big splash, and by gosh we all got wet," he said.

Wirtgen Group's splash was aided by superb positioning at the precise corner of the outdoor lot where foot traffic from bus shuttles and a more distant outdoor exhibit area flowed into the trade fair proper. "That spot — without a doubt — was the best in the whole show," Murray said. Some 75 employees from all three operating companies displayed 47 machines in a footprint of just over 30,000 square feet.

"We had a very good show," said Jeff Wiley, Wirtgen America Vice President, Sales & Marketing. "The location we had — where all the foot traffic came in — required visitors walk by Wirtgen before they went to any other product. So the location had a big impact for us."

That well-located stand made Wirtgen Group's single-source concept of road construction and maintenance equipment that much easier to sell, Wiley said. "Having all three product lines together for the first time gave us credibility," he said. "Everybody recognizes the Wirtgen name as being No. 1 in the industry, and when you package the compaction and paver lines with Wirtgen, it got attention."

Conexpo-Con/Agg Gathering Place

This year, Conexpo-Con/Agg was the international gathering place for the worldwide construction, aggregates and ready mixed concrete industries, and was held Mar. 19-23 at Las Vegas.

Organizers of Conexpo-Con/Agg '02 was the Construction Industry Manufacturers Association (CIMA) of Milwaukee, and the International Concrete and Aggregates Group (ICAG) of Silver Spring, Md., representing the National

Three companies display 47 machines in 30,000 sq. ft.

German cuisine attracts fairgoers to Wirtgen Group stand

Vögele America pavers debut at Conexpo

Aggregates Association (NAA) and the National Ready Mixed Concrete Association (NRMCA).

CIMA now has merged with the Equipment Manufacturers Institute (EMI) to form the Association of Equipment Manufacturers (AEM). Conexpo-Con/Agg is held every three years, rotating with two European expositions, Bauma in Munich (2004) and Intermat in Paris (2003).

"I heard a lot of good comments about the high quality of the show from customers," Murray said. "We had many gratifying comments about our display here. We put in a lot of extra effort to showcase the single-source concept and have good representation of the three brands, and the customer response showed us we connected."

For Scott Lyons, Wirtgen America Engineering Manager, Conexpo-Con/Agg was a great opportunity to talk with customers about the homegrown products the firm supplies, like Rhino Parts. "We had a good show," Lyons said. "We had steady streams of clients coming through, wave after wave," he said. "There was a lot of interest, a lot of excitement, a lot of energy."

Vögele America 'Overwhelmed'

The new line of U.S.-sourced asphalt pavers from Vögele America Inc. was well received. "We were overwhelmed by the reception we had from our customers and dealers in North America," said Hugh Latimer, President, Vögele America Inc.

"The Pro-Pav Series customers always realized the superior value in our paver," Latimer said. "But now that we've combined the paver value with the Wirtgen name, support and history in North America, it's given our customers a lot of confidence in our product and people. It's a real springboard to the future.

"This is the first time we've showed all six models together, and in terms of creating an impression of the pavers on our customers, it's been fantastic," he said. "Customers can see the breadth of our range, and that we have people who can talk intelligently, explain features and answer questions."

Following its acquisition by Wirtgen Group in June 2001, through that fall, Vögele America sales were up 25 percent from the previous fall, Latimer said. "The growth is a combination of adding dealers in the right territories, and putting more oomph behind the product in terms of adding features and support systems," he said.

For example, just after acquisition, Vögele America introduced the 8-foot rubber track machine with enhanced marketing muscle. "We launched it with better dealer communications to a broadened dealer base, and better communications to customers," Latimer said. "We have really been pulled along by the Wirtgen name."

"Last year we put the Vögele and Wirtgen names on the new pavers — along with the existing Pro-Pav name — and adopted the Vögele green color from Germany," Murray said. "I must tell you that green asphalt pavers have always been recognized as a quality product in North America.

"The acceptance of what we now call the Vögele America paver line, and the reaction and acceptance here at the show, has been very gratifying," Murray said. "We're definitely on the right track and there's a lot of interest in the product. With the stability and financial wherewithal of the Wirtgen Group behind it I think we're going to be very, very successful with that product line."

While there are no plans to market Eurostyle Vögele AG pavers from Germany in North America, if a customer wants one, he or she can get one.

"Our priorities in North America are to sell the product that's manufac-

tured in Chambersburg," Vögele America's Latimer said. "However we recognize that there's a small but growing need for the European machines in North America, specifically the combination screed, to deliver higher density. Our philosophy is to let the customer decide."

Hamm Makes Wirtgen Group Debut

Like Vögele America, Hamm made its North American debut as part of the triad of Wirtgen Group nameplates, and got a strong positive from customers, dealers and onlookers.

"This is a different Conexpo for Hamm, because we're now associated with the Wirtgen Group," said Britt Barnes, Regional Sales Manager, Southwest Division. "That's really opened up the horizons for our product line, for Pro-Pav and for Wirtgen."

"Visitors were very impressed with our display and our product line," said Steve Strom, Regional Sales Manager, Southeast Division, Hamm Compaction Division. "One comment I kept hearing was that it was the best looking booth, with the best looking products, they'd seen at the entire show."

The quality of visitors reflected the quality of the equipment and display, he said. "I've been to five Conexpos, and by far this was the best I've been to," Strom said. "It's because of the quality of the customers that came in, and the organized way customers were approached as they entered. People were there to buy. There was much more excitement than I'd ever thought we'd get."

"There was a lot of enthusiasm and interest generated by the size and breadth of the line here," Barnes said. "These were people who are really into the roadbuilding/infrastructure business. From the cold mills, to the rollers, to the pavers, everything we could offer to the contractor — from curb-to-curb — was all there."

Hamm products have a common thread of identity across the line, from dirt machines to asphalt machines, Barnes added. And that was evident at the Wirtgen Group display.

"All the machines have an identical look, just differing as you go up in size," Barnes said. "Larger machines may mean larger centrifugal forces. But there's a commonality that customers can see from one roller to the next: They look the same, and operate the same, in that one person can operate any other, even if it's bigger. It makes for a good presentation of the product."

Hamm A Generation Ahead

For years, Hamm's popular HD line of asphalt rollers has been "A Generation Ahead" of the competition, Strom said. "Now that the 3000 Series has come out, we're a generation ahead in soil rollers as well," he said. "A big attraction of our products is their ease of operation and functionality. They have to get to where they're supposed to compact, and once there, they have to get compaction. And these machines will do both better than anyone else."

Superior gradability is one reason why, Strom said. "They have great gradability and have high centrifugal force," he said. "We hit the ground hard. It's a combination of things in the design of the machine that truly makes it a better product."

High frequency is another way vibrating compactors can become more productive. "From the asphalt side, we are already a high frequency machine, being that our frequencies are 2,000, 2,500, and 3,000 [vibrations per minute], higher than the standard lines of most every competitor there," Barnes said.

Another new development for Hamm at Conexpo-Con/Agg was a pressurized cab system. "At the show we had a HD 130 with pressurized cab system with air conditioning and heating," Barnes said. "The same applies to the 3000 Series dirt line."

And what Barnes thought was the largest vibratory roller in the United States was exhibited at Conexpo-Con/Agg, the Hamm Model 3625, a 55,000 lb machine. "It has the Hammtronic system, fully computerized for engine rpms, vibration, and speed," he said. "It's quite a hard-hitter."

In addition to new models, customers of Hamm will find after-sale support for the product line is being vigorously enhanced this year, said Wirtgen America's Stu Murray. "The Wirtgen philosophy has been impressed on Hamm," he said. "Since moving the line to Nashville under the Wirtgen America umbrella — and having worked with it on a day to

Hamm compactors hit the ground hard at Conexpo

Wirtgen's unique Flexible Cutter System (FCS) made first Conexpo

Wirtgen Group at best location at Conexpo

day basis — we have made significant improvements in our ability to support and service the equipment."

In the roller business that's critical, he added, because there are many people making rollers that are very much alike. "What really separates one company from another is its ability to service a product when it goes down," Murray said. "We've made significant changes in the product support system and we're already getting the results back to us."

Leader In Milling Machines

The roller and paver lines were displayed alongside the familiar white, black and orange cold milling and stabilizer machines of Wirtgen America.

"By far we're the world leader in manufacture of milling machines," Wirtgen's Wiley said. "The product we have is well accepted and proven. Typically a Wirtgen milling machine will cost less to own and operate in the long term than a competing machine. And we have great success with repeat business; customers who buy their first machine typically will buy a second or third."

The powerful new W 2100 series machine was new at Conexpo, replacing the 2100 DC, Wiley said. The W 2100 now is Cat diesel-powered, boasts a gradation grid that prescreens oversize RAP cuttings at the cutter head, has a much tighter turning radius, and more operator friendly controls.

The gradation grid is standard on the W 2100, W 2200, the W 2000 and W 1900. "If you have a RAP pile, it's much better to have the material presized at the job site, rather than having big chunks for plant recrushing," Wiley said.

Wirtgen Group high-speed, full-lane mill-and-fill capability was highlighted by a display of W 2200 cold milling machine with 12.5-foot cutter drum, Vögele paver and Hamm compactor right on the convention lot.

"The 860 hp W 2200 was new at this Conexpo, and can now accept a cutter from 12.5 to 14 feet wide," Wiley said. "If you're doing mill-and-fill it's become more popular to use a full-lane size machine because you don't have to back up your half-lane machine to make two passes, which can slow up the progress, especially when doing night work."

Type III tooth holder-style cutter drums for competing machines also were displayed at Conexpo. Rhino teeth also were displayed. "We're building a larger customer base in that area because of the success of teeth and drum technology," Wiley said. "That separates us from our competitors, which really aren't that much involved in selling teeth or building cutter drums for competitive machines. We feel if we can place a cutter drum in a competing machine, that may lead to sale of a Wirtgen machine down the road."

Also, the Flexible Cutter System (FCS) — which allows contractors to quickly switch cutter drums in a variety of widths — was exhibited. "The FCS is becoming more popular because it gives the contractor more flexibility with a given machine," Wiley said. "He can invest in a machine that cuts 6.5 feet wide, but later can buy different cutter widths from 2 up to 6.5 feet. No two jobs are alike."

Also new for Conexpo-Con/Agg visitors was the Rumbler II high-speed rumble strip grinding attachment for the W 600 DC, Wiley noted (see following article, *Wirtgen Engineering*).

"The high speed rumble strip attachment gives a contractor a much higher production speed than before," Wiley said. "The previous model would make a cut about one per second, or 60 feet per minute. The new Rumbler II gives us upwards of 180 feet per minute, and the contractor gains profitability by being able to make high quality cuts much faster as the market becomes more competitive."

A fine texture drum which fits within that same Rumbler II housing will give the W 600 even more versatility, Wiley said. "It's used for cutting wheel ruts out and texturizing concrete bridge decks. The drum will smooth out pavements, eliminate vibration and enhance skid resistance as a safety feature."

Versatile Wirtgen drums on display

W 500 at smaller end of line

Wirtgen America Staff Engineers Equipment For Local Markets

Rumbler II cuts at 180 feet per minute

Owners of road construction and maintenance equipment from Wirtgen America Inc. benefit from decades of experience in engineering and design built into Wirtgen milling machines at Wirtgen GmbH in Germany.

What they may not realize is that they may benefit from products and engineering conceived and executed in the United States on German-sourced Wirtgen equipment for sale in North America.

"At Wirtgen America we design options and kits for the local market that aren't necessarily suited for the European markets or for the rest of the world," said Scott Lyons, Engineering Manager, Wirtgen America Inc. "It's important for North American contractors to realize we have engineering capability here, and that we engineer and manufacture kits, options and hardware right here in the United States."

For example, the new rumble strip attachment for the W 600 DC (see *New Rumble Strip Attachment Triples Productivity,* Winter 2002, page 35) is a home-grown product.

"We call it the W 600 DC Rumbler II," Lyons said. "We designed the Rumbler II attachment right here at Wirtgen America, to fit with the base tractor unit designed and built in Germany."

Lyons said the original Wirtgen America rumbling concept came from Wirtgen America President Stu Murray. "He decided after seeing the potential growth of rumble strips that Wirtgen America should sell a machine that could quickly grind them," Lyons said. "He collaborated with our fabricator, Fabriweld in Ohio, to design and build the first rumble attachments for the W 500, the W 500 Rumbler."

The original Rumbler system system was then fitted to the W 600 DC. "The 500 Rumbler can go about 70 feet per minute, but the 600 Rumbler can go 80 to 90 fpm," Lyons said.

Customers requested higher productivity. "We developed the W 600 DC Rumbler II that would smooth the ride for the machine and driver, and would put rumble strips in faster," Lyons said. "The economics indicate that the faster an operator can go, the more profitable it is for the owner, and the 600 Rumbler II can go up to 180 fpm."

The cutter drum for the Rumbler II also was designed at Wirtgen America, and fabricated in Ohio. "We use Wirtgen holders and recommend using Rhino bits to conserve the holders and make the drum last longer," Lyons said.

Urgent Need For Rumble Strips

The W 600 Rumbler II — and its predecessor, the W 500 Rumbler I — are responses by Wirtgen America to the urgent need in the United States to mill rumble strips into highway shoulders both quickly and economically.

For years, rumble strips on shoulders have been recognized by the Federal Highway Administration (FHWA) and many state departments of transportation as being able to dramatically reduce accidents and fatalities due to run-off-road incidents.

Rumble strips may be formed in fresh asphalt shoulders when they are placed. But in a December Technical Advisory, the FHWA unequivocally stated that milled-in strips are preferred for saving lives, due to their ease of placement in existing shoulders and higher degree of vibration (see related sidebar).

The engineering behind the Rumbler II serves this need nicely. "We have a six-sided hydraulically driven wheel attached to the front side of the W 600 cutter housing," Lyons said. "That causes the subframe, or the cutter housing itself, to move up and down, to create the rumble strip pattern in the shoulder." Thus Wirtgen America's new design leaves the machine frame stationary.

The standard cutter drum housing on Wirtgen utility class machines is on the right hand rear corner of the machine. "We take the side skirts off the housing, remove the cutter drum, take the conveyor and rear moldboard off the back of the housing, and bolt a stub shaft onto the end of the gear box," Lyons said.

"Then we put a side plate on the side of the housing with a bearing that supports the stub shaft," he added. "And we put a large pulley on the end of the stub shaft with a belt to the drum shaft; it drives the rumble or texturizer drum."

Providing Texturizing Capability

The Wirtgen America Rumbler II design provides an extra-wide attach-

ment housing which permits moving the Rumble drum from left to right so strips can be cut on either side. And this width opened up yet another opportunity.

"Because of the 6-foot wide housing, we figured we could put a fine-toothed texturizing drum in the housing for doing bump removal and texturing of asphalt or concrete pavements," Lyons said. "It fits within the standard Rumbler II subframe. We simply remove the shaft and rumble drum, and install the new texturizing drum and shaft."

Wirtgen America expects that this capability will compete against complicated diamond grooving and grinding machines.

"We certainly hope to make that a reality," Lyons said. "Precision can be attained by a 20-foot grade averaging ski on each side of the machine. And we also will use our grade controls with sonic tracer which reads off the grade averaging ski. We will be able to remove bumps and provide a surface that will be appreciably smoother for the driving public."

Last year constituted a development phase for the Rumbler II. "We were able to do some field testing with some of our cooperative customers," Lyons said.

Recessed Reflective Pavement Markers

Yet another locally designed adaptation for a Wirtgen machine was an application involving recessed lane markers and a W 350 in California. "The contractor had to cut grooves in the road at certain distances from one another," Lyons said.

"We came up with a system to meter how fast the machine dropped down and came back up," he said. "We also put on a skip-line timer so the machine will automatically know when to lower itself, cut the groove, and come back up over and over again."

That way the operator can move along with the W 350 milling machine without concentrating on the repetition of the actual cut. "They've been able to improve the production dramatically by using the machine adaptation which automates the cutting process for the operator," he said.

Also, the Combo-Cutter system on Wirtgen cold milling equipment is a long time United States-designed adaptation.

And Wirtgen America engineers designed an early high-volume water pump for the WR 2500 stabilizer for use in arid regions.

"Originally Wirtgen did not produce a high-volume water system for doing stabilization 20 inches deep, and adding lime or cement or water," Lyons said. "We added a high-volume water pump and automated system in which the controller would monitor how fast the machine was moving, and control the speed of the water pump to add just the right amount of water for the speed of the machine."

Thus, as the machine would slow down, the water volume would slow with it, and vice versa. "Subsequently Wirtgen GmbH developed a high-volume water system for the WR 2500," Lyons said, "but we filled the gap for a couple of years until they did."

Rhino After-Market Parts

In addition, Rhino after-market wear parts are designed by Wirtgen America in Nashville for use with other brands of milling machines.

"We sell aftermarket wear parts for competitive milling equipment," Lyons said. "We sell cutter bits for all makes of milling machines. We sell cutter drums for competitive equipment. And there is a lot of interest in our Type III bolt-in holder system. We sell Type III bolt-in cutter drums for all machines, so there is great interest there. We also sell heavy-duty conveyor belts, urethane track pads and track groups for competitive units."

Development of most of these new products is customer-driven, Lyons said. "I generally don't come up with the ideas for new products," he said. "The market does that. Our salespeople speak with customers, who ask for special adaptations, kits and options. The customer speaks, and we serve them by coming up with a functional, consistent, efficient way of solving their problem."

And at Wirtgen America, solving these local needs through local design is a team process. "It takes a lot of people," Lyons said. "It takes me, our salespeople, our purchasing people, our fabricator, the whole organization to bring a product together, test it, put in production and out to the market."

New FHWA Tech Advisory Lauds Milled Rumble Strips

In late December 2001, the Federal Highway Administration (FHWA) released a Technical Advisory (T 5040.35) that endorses shoulder rumble strips for driver safety from run-off-road (ROR) events, and lauds milled-in strips as the best option.

"In recent years several State transportation agencies and toll road authorities have installed and evaluated the effects of shoulder rumble strips," the FHWA said. "The results ... have consistently shown significant decreases in single-vehicle run-off-the-road crashes."

Rolled-in strips for freshly placed asphalt shoulders, or formed-in strips for concrete shoulders have been two early designs, FHWA said. But research by the Pennsylvania Turnpike Authority found strips milled into existing shoulders to be superior for a number of reasons.

In conclusion, the FHWA advises "Continuous, milled shoulder rumble strips should be installed on rural freeways and expressways on the National Highway System ... while they may be installed on a project-by-project basis, economies of scale and timely implementation of shoulder rumble strips make systemwide installation projects highly desirable."

The complete technical advisory may be downloaded at http://www.fhwa.dot.gov/legsregs/directives/techadvs/t504035.htm

Wirtgen Milling Machines Give Mexico Maintenance Big Boost

Local governments now responsible for road maintenance

"This is the first time a Wirtgen surface miner has been used on a road supply project in Mexico...But the customer was totally satisfied with the speed and cost effectiveness of the unit, as no crushing plant was needed."

Maintenance and reconstruction of local roads in Mexico has been given a big boost from recent administrative changes, and with a helping hand from Wirtgen cold milling machines. There, both government agencies and private sector contractors are using Wirtgen machines to rebuild roads.

- The Cuauhtemoc Delegation (district) of Mexico City acquired a W 500 cold milling machine in 2000 and is using it for bituminous mill-and-fill operations which get resurfaced roads open in the same day.
- The Xochimilco Delegation of Mexico City — home to the splendid "chinampas," or man-made islands, where flowers and vegetable gardens have been cultivated for centuries on islands built over what was a huge lake — acquired a W 1000 to reconstruct driving surfaces.
- And late last year in the state of Campeche, on the western coast of the Yucatan Peninsula, a Wirtgen 2200 SM surface miner supplied base material for a new coastal highway, the first time a surface miner has been used on a road application in Mexico.

New Responsibilities For Local Roads

At the turn of the century, Mexican legislation has been changed to move responsibility for local highways from the central government to local administrations or "delegations".

The change has meant that for the first time, local delegations have been buying road maintenance equipment, said Fernando Garcia, of Maquinaria y Caminos, the Wirtgen distributor for Mexico D.F., the Federal District of Ciudad de Mexico (Mexico City).

The public works departments of the delegations are looking for machines that have good maneuverability and efficiency, criteria that Wirtgen cold milling machines meet. By the end of 2001 six delegations had purchased nine Wirtgen milling machines.

The Delegations Respond

One of the 16 delegations of Ciudad de Mexico, Cuauhtemoc, is centrally located, with over 186 miles of local roads, many of which had not been repaired for over 20 years.

Cuauhtemoc purchased its first Wirtgen unit in early 2000, a W 500 cold milling machine that quickly racked up hundreds of hours. With a 20-inch working width, in Cuauhtemoc the W 500 typically mills 10,764 square yards per week. Previously this work would have been done by hand.

The agency's emphasis is on quickly getting motorists back on the road. "As these minor roads are in constant use, time is of the essence," Garcia said. "Consequently the 2-inch milling is done in the morning, and a 2.75-inch wearing course is applied in the afternoon." Thus disruption to Mexico City's

enormous traffic volume is kept to a minimum.

The W 500 has three-wheel propulsion and all-wheel drive, giving it impressive versatility in small and confined projects. The Cuauhtemoc public works department is particularly fond of its integrated scraper and loading feature, which adds to its utility.

The W 500 scraper blade is movable, meaning milled material always is picked up cleanly, even on very tight corners. This is especially useful when negotiating small traffic islands.

To the east of the metro area, the delegation of Xochimilco acquired a W 1000 in 2000 and after 18 months had cold-milled 131,559 square yards in about 855 hours. There, the W 1000 typically removes 1.5 inches at a width of 3.28 feet.

According to Xochimilco public works, staff can mill a 492-foot stretch of road in 10 minutes. Local roads are finished in one day, with a typical length of 1,640 feet and 24.6 feet wide. Like in Cuauhtemoc, milling is completed in the morning and bituminous surface placed and compacted in the afternoon.

Gulf Coast Base Construction

In tropical Campeche, along the scenic Gulf of Mexico (Golfo de Mexico), a Wirtgen 2200 SM was supplying all base material for a new coastal highway.

Connecting the industrial city of Ciudad del Carmen with points north and east, the very busy highway was breaking down under crushing traffic volume. As a result, an 87-mile section between Carmen and Champoton was widened from two to four lanes.

The prime contractor, Facopsa (Fabricacion y Colocacion de Pavimentos), took delivery of the 2200 SM specifically for this project. "The contractor chose to use the surface miner after consultation with Wirtgen America Inc. and being briefed on a similar application in Costa Rica," said Raul Deyden, Wirtgen Sales Manager.

"This is the first time a Wirtgen surface miner has been used on a road supply project in Mexico," Deyden said. "But the customer was totally satisfied with the speed and cost effectiveness of the unit, as no crushing plant was needed. And use of the surface miner permitted continuous and consistent rock excavation near adjacent residential properties without drilling and blasting, which was not permitted."

The 2200 SM provided all base material for the widening, from a company quarry alongside the highway, working on average six days a week and 10 hours a day. It averaged 4 to 6.5 cubic yards of aggregate per minute, which was immediately loaded onto trucks for on-site screening.

The 2200 SM cut medium-to-hard limestone to an average depth of 11.8 inches, some 7-foot, 2 inches wide. The minus 6-inch aggregate was screened down to minus 4 inch size and transported by 40 trucks as far as 37 miles to the work zone.

Cuauhtemoc public works' new W 500 at work

About the 2200 SM Surface Miner

Wirtgen Surface Miners such as the 2200 SM are used for selective mining of coal and useful soft to medium-hard minerals, thus permitting more efficient extraction from the deposit.

Operations such as drilling, blasting and preliminary crushing are no longer required when using surface miners. Vibrations, noise and dust loads are reduced considerably. The material is cut and crushed into small sizes and can be transported on conveyor belts to trucks if necessary.

Wirtgen Surface Miners also can be used in tunnels to enlarge headroom by lowering the tunnel floor. In underground salt mines, these machines are used to maintain the heavily frequented transport roads.

While sometimes used for asphalt or concrete cold milling, the robust 2200 SM Surface Miner more typically is used for mining coal, gypsum, limestone and other minerals in an economical and environmentally sound manner.

The 2200 SM is capable of cutting up to a uniaxial compressive strength of 50 MPa (7,252 psi). This equates to production of approximately 750 to 300 tons per hour in softer materials, with the larger 2500 SM and 3700 SM models recommended for harder materials.

The 2200 SM has a mechanically driven cutting drum and two-part slewing front-end discharge conveyor of variable height. The machine travels on crawler tracks suspended from the chassis via cylinders, with each crawler track individually adjustable.

It has a cutting width of 7-foot-2 and a cutting depth of 0 to 13.7 inches. Its electronic automatic level control system controls cutting depth, meaning changes in height of the reference plane are compensated rapidly and without overshooting by the machine.

Milling In Boston Is Susi & Sons' Cup Of Tea

Susi's new W 2100 cuts Martin Luther King Blvd. in Boston's Roxbury neighborhood

A new Wirtgen W 2100 is making easy work of difficult milling jobs in central Boston.

With centuries of public infrastructure situated just below the driving course, Boston contractor Mario Susi & Sons, Dorchester, Mass., sometimes runs into unexpected surprises below the trafficked lifts of asphalt the firm cold-mills.

This ongoing work in one of the United States' oldest and most densely populated cities is complicated by an awesome flow of traffic, with its famously frustrated drivers who are notorious for not giving other drivers a "brake".

But Susi's brand new W 2100 is the latest of a succession of Wirtgen models that has stood up to the challenges of pavement restoration and traffic. "We've had three in our experience in cold planing," said Jim Thomas, operator.

In May Susi was cutting zero to 2-inch transitions in a leveling course from a new pavement onto an existing pavement on Martin Luther King Drive at Washington Street in Boston's Roxbury section.

In addition to its milling work Susi also is a concrete contractor. The firm put in all new concrete curbs and sidewalks related to the Martin Luther King improvement, and electrical work like streetlights and traffic signals. The firm also does water and soil line placement and reconstruction.

"The maximum cut runs from 1.5 to 2 inches, depending on when we come into material," Thomas said. "We're prepping it for a final course." This final friction or driving course would be placed by Aggregate Industries' Northeast Region, serving as subcontractor to Susi.

Earlier this year Thomas had been using a 1998 Wirtgen 2100 DC, which was traded in at 3,600 hours for the W 2100. "They improved over 50 of the operating features from the 2100 DC," Thomas said. "I had to get used to them but I swear by the W 2100 now.

"It's a great machine, a little big for the city, but we make it work," Thomas said. Before that 2100 DC Susi used a Wirtgen Model 2000 VC acquired in 1990, and run for eight years for over 6,000 hours. It's still working today for a contractor in Virginia, he said.

No Stopping The W 2100

Machines in the W 2100's class sometimes are acquired to allow a smaller milling contractor grow its business into bigger Interstate-type work. Instead, Susi uses this sole milling machine, the W 2100, for tough, inner city street reconstruction.

Susi uses the 2100 exclusively to simplify its operations, choosing to use a larger machine that can literally do everything. "This machine can do both, mill an inch or mill a foot," Thomas said. "The machine goes every day. Right now, 90 percent of the time, we work in Boston. We're on a different street every day."

Therefore the W 2100 is used for thin cuts as well as the deeper ones. "We go into some jobs where we'll have to mill a foot deep, or deeper," Thomas said. "On Martin Luther King Drive we milled 8, 9 inches of mix on top of cobblestones; I grind right down to the cobblestones. Or we may hit streetcar tracks. But we've been in the city so long we know right where they are and stay a half an inch above them. The excavator will come behind me and take what's left."

So the city remains Mario Susi's bread and butter. "We're really happy in the city," Thomas said. "You don't have to travel too far or deal with night work, although we do night work downtown on weekends," he said. "But normally we work our six days a week in the city."

Mario Susi & Sons prefers a yellow-orange paint scheme

Milling Saves Time, Money

Cold milling saves time and money for all parties involved, Thomas said. The mill preps the reclaimed asphalt pavement (RAP) into a useful size for the plant, he said. "If you dig it out in big chunks, you can't get rid of it," he said. "The landfills won't take it any more." The City of Boston will use up to one-third RAP in asphalt mixes, he said.

Wirtgen's new Sonic Leveling System is a step up from the old system used previously. "Big difference," he said. "The camera would take the grades off the ski. But anything, including wind, could make the machine lose its grades. Now I'll put it on automatic and it will follow whatever the ground man enters. My monitor at the operator's panel up on top lets me follow what he's doing."

This robust, urban work environment takes a toll on teeth. "I'm in the process of switching over to the Wirtgen teeth," Thomas said. "Wirtgen teeth came in this machine and I found them much better. This is the first year we are going over to the Wirtgen teeth. I get more wear out of them; when the W 2100 was brand new I went a whole week before I even had to start changing them."

W 2100 leaves clean, evenly milled surface

What's Beautiful About Machine

"What's beautiful about this machine," Thomas said, "is that if I sit up on the curb with my ski I can take the whole pavement right out. I've been operating milling equipment for 11 years, and this new W 2100 for two months. I'm very happy with the Wirtgen line. It's a good machine all the way around, the top of the line. We are very happy with its performance and agility in tough city street work."

Florida's DeWitt Makes Earth Move With Hamm Compactors

Model 2420 has 84-inch smooth drum

A new trio of Hamm soil compactors is making good vibrations for a Florida contractor which just celebrated its Golden Anniversary.

DeWitt Excavating Inc., Winter Garden, Fla., has carved out its niche in the competitive central Florida earthwork market. DeWitt works in Orange, Lake, Seminole, Osceola and Volusia counties in central Florida.

"We do infrastructure work," said Ted DeWitt, Vice President, DeWitt Excavating. "This includes clearing, earthwork balancing, and underground utilities for sewer, water and storm. We also do soil cement and lime rock road base and associated concrete work."

For roadways, all work is done in-house, except for the actual paving. "We do municipal road work and are Florida DOT-certified," he said. "We do a lot of private and commercial work, such as subdivisions."

Celebrated 50th Anniversary

Last year DeWitt celebrated its 50th anniversary. The firm was founded in Flint, Mich., by Ted DeWitt's father, Dale DeWitt, who continues as president. The firm moved to Florida in 1980. In observance of this milestone, DeWitt remodeled and enlarged its offices into an attractive, modern facility.

DeWitt continues as a family-owned firm. In addition to Ted DeWitt, brothers Tom and Tim DeWitt work as project managers, and sister Ann Severns serves as secretary and office manager.

The firm found Florida to be a different world from Michigan. It's a misconception that central Florida is plagued with sandy soil and a high water table, DeWitt said. "In this part of central Florida we get blue and gray gumbo like they do in northern Florida; in fact, it's just like in Michigan," DeWitt said. "You can get hardpans, silty sands, grove sands, a large variety of materials."

Grove sand is a yellow-brown sandy soil which is good for orange crops, because it allows percolation of water that doesn't drown roots. Silty sands are brown/black sands which do not allow free movement of water. And the hardpan is a dense compacted sand material — not clay — that comes out in chunks when excavated. "It will break up when you put a roller on it," DeWitt said.

Greater 'Pounding Power'

In June DeWitt was running 35 projects in central Florida. The firm employs about 160 people. DeWitt owns some 20 excavators, six motor graders and 15 soil compactors. However, his last three compactor acquisitions have been Hamm products, a Model 3412, Model 2420 and Model 2220.

His first Hamm compactor was acquired just over a year ago. Another was bought in spring 2002. And the third was added in May, all from local distributor Briggs Equipment.

"We demo'ed competitors and a

"We demo'ed competitors and a Hamm...We felt we were getting more roller for the money with the Hamm. We ran three different models alongside each other and were getting more compactive or pounding-power with the Hamm."

Ted DeWitt

Model 3412 compacts industrial development

Hamm," DeWitt said. "We felt we were getting more roller for the money with the Hamm. We ran three different models alongside each other and were getting more compactive or pounding -power with the Hamm. We feel they hit harder, and we like the Deutz engines in them."

Later, his experience with the Hamms indicated day-to-day savings as well. "Our records indicate that we are getting better fuel economy with the Hamms than with the competitors, by quite a margin with some of them," DeWitt said.

"You don't have to roll the area as many times to get the compaction you require," he said. "We haven't had any downtime, although we haven't had any Hamm for much more than a year. But we've had no problems and the machines are used every day. We probably put at least 40 hours a week on each."

Compaction Without Added Water

The Hamm units are used on commercial projects such as a Super Target site, in which 800,000 cubic yards of dirt had to be moved and recompacted on site.

"It was all grove sand as I described, and we were having moistures of 4 to 6 percent, which is very low," DeWitt said. "We attained density without applying water, which is a big plus. You would have had to use an awful lot of water in 800,000 yards to get up to optimum moisture. That means we had a compactor that was doing a good job."

DeWitt also is using the Hamms on fills for subdivisions and apartment complexes, supermarkets and roadways. "The smaller roller, the 2220, was bought for compacting pipe trenches, such as in the deeper sanitary storm sewer cuts, where you pull a box that's 6-, 7- to 8-foot wide," he said. "We'll follow with the 54-inch roller because it fits down in the trench easier."

DeWitt said market competition has intensified significantly in the last few years. Like his firm, many contractors have attempted to set up shop in sunny central Florida. "A lot of contractors have come and gone in Orlando," he said. "Everybody who goes to Disney World wants to come down and go to work on it."

Hamm 2420 compacts in South Orlando

About DeWitt's Hamm Compactors

DeWitt Excavating Inc.'s Model 3412 is an 84-in. wide, single-drum vibratory compactor with an operating weight of 12 tons. Like other 3000 Series machines, it features infinitely variable hydrostatic drive, high degree of gradability, automotive type instrumentation, an ergonomic operator environment including adjustable sliding and swiveling seat and adjustable steering column, a no-spin differential, a new design articulation joint and new cooling system, and unsurpassed visibility from operator's seat. It's available in smooth drum or padfoot models.

The Model 2420. predecessor to the 3412, is a smooth drum vibratory soil compactor featuring an 84-inch smooth drum, a 12-ton operating weight and 134 hp engine. The Model 2220 vibratory soil compactor features a 54-inch smooth drum, with a 5-ton operating weight and 62 hp engine.

Like all Hamm soil compactors, they include hydrostatic drive, high centrifugal force, spring-applied and hydraulically released brake, adjustable driver's seat, and easy maintenance with long service intervals.

Big W 2100, W 1900 Make Light Work Of Night Work

This spring a duo of Wirtgen cold milling machines was making light work of night work done on incredibly busy I-95 and the Merritt Parkways in Connecticut northeast of New York City.

Traffic volumes are such that the client, the Connecticut Department of Transportation, was requiring all milling be done at night, by the milling contractor, Cavaliere Industries, Inc., Stamford, Conn.

To reflect commuting patterns into New York City, southbound work was taking place from 8 p.m. to 4 a.m., and northbound from 9 p.m. to 6 a.m.

A total of 104,000 square yards on both northbound and southbound lanes of I-95 was being milled off portland cement concrete pavement and bridge decks by a Wirtgen W 2100, including three lanes and 4-foot shoulders inside and full 8-foot shoulders outside, said D.J. Cavaliere, Project Manager. And a Cavaliere Industries' Wirtgen 1900 DC was seeing even harder duty right up I-95 in Norwalk.

"Between 4 to 8 inches of asphalt were milled from the driving lanes in Stamford," D.J. Cavaliere said, reflecting the number of overlays that had been placed on the pavement in recent years. "It had been overlaid that many times. In some spots it was about 14 inches of asphalt."

One of Cavaliere's main goals was to expose the existing, original portland cement concrete pavement for further repairs. "We're finding the concrete," D.J. said. "We have to expose the concrete so they can remove broken slabs and replace them with fresh concrete." After slab repairs the expressway will be overlaid with 4 to 6 inches of Superpave mix.

Milling On Concrete Decks

As I-95 skirts downtown Stamford along Long Island Sound — paralleling the suburban railroad "main line" northeast of New York City — it is elevated on concrete piers and steel and concrete bridge decks. "We were milling 2.5 inches of asphalt off the concrete bridge decks using a 7-foot half-lane drum," Cavaliere said.

As a result the W 2100 was slicing through bridge joints. "We cut right through the concrete headers," Cavaliere said. The paving contractor was to pave directly over the concrete with asphalt, come back and expose the concrete header, and put a metal plate over the open joint and place a rubberized asphalt plug above the joint.

400,000 Square Yards Up Road

Separately, a few miles up I-95 in Norwalk, a Cavaliere Industries' W 1900 was milling some 400,000 square yards of I-95 lanes and shoulders under the supervision of D.J.'s brother, Lou Cavaliere.

"It's the same kind of project as in Stamford, but much bigger," D.J. said. "For example he's milling over 150,000 square yards 8 inches deep. He was taking out shoulders 10 feet wide an average of 10 inches deep." Then the prime contractor will remove gravel, place suitable fill and repave the shoulder.

A third Cavaliere job — using the W 2100 — is on the Merritt Parkway, another major suburban commuter thoroughfare. "It's an all-slope job," D.J. said. "It's all sloped 2 percent, with 8 percent on the supers. In late May we were doing almost a mile of highway, two full lanes a night, a total of five passes. It works out to over 15,000 square yards a night."

Cavaliere works W 2100 on I-95 all night long

Fleet Of Wirtgens

To keep up with this work Cavaliere has a fleet of Wirtgen equipment. "We have two 1900 DCs — one with a 4-foot drum — the W 2100, a W 1000 and W 500," D.J. said. "We do a lot of trench work with the smaller units," including fiberoptic cable installation. The family-owned firm employs 12 workers. Office manager is sister Maria Cavaliere.

"We've never owned any other type of milling equipment, but I've seen them all work, and we're very impressed with the Wirtgens," D.J. said. "They make the very best equipment. It's quality-made and lasts."

Wirtgen's high level of parts availability is critical to a subcontractor like Cavaliere, and doesn't disappoint, D.J. said. "Their customer service and parts fulfillment is great. I literally can get parts the same day. I can call Nashville at 5 a.m. my time and go 20 minutes to the airport and pick it up late that day."

Maintaining uptime while discovering parts needing replacement is part of the challenge, D.J. said. "It's all because of the maintenance we do between shifts," he said. "The machine is inspected and washed every day. And every winter each machine comes into the garage for at least a month and is torn down," he said. "All worn parts, or any part with a potential problem, are replaced with an OEM part."

That's important to keep a job running and prime contractors happy.

"For the next day I may have 10 trucks lined up, the broom lined up, state police lined up, everyone ready to work, and the GC is relying on you to keep the job rolling," D.J. said. "The added expense of getting the part there the same day is nothing compared to that. Without the machine running there is nothing else to do."

I-95 work in Stamford, Conn. begins at dusk

Burden Of Night Work

D.J. is not a fan of night work, but is resigned to it as part of roadbuilding in the 21st Century.

"You can get more done at night, but the main reason for it is that they won't let you work during the day," he said. "Honestly, the flow of traffic never seems to let up. I-95 is busy 24 hours a day, seven days a week. And the Merritt Parkway is even worse. It's all cars, and pitch black."

I-95 itself has perhaps 200,000 vpd one way, with over 50 percent trucks at night, he estimated.

Cavaliere can be reached via its web site, http://www.cavaliereindustries.com.

W 2100 maneuvers around iron inlet on elevated lanes

Home Owner Chooses Base Reclamation For Street Rebuild

Fitzgerald's Recyclersaurus at work

Full depth base reclaiming using a Wirtgen WR 2500 saved time and lots of money for a home owner who had to rebuild his street so he could build his new home.

The U.S. War of the Revolution began on Lexington Green, only a short stroll from Tower Road in Lexington, Mass., just northwest of Boston.

But when a property owner announced plans to build his $2 million dream home on a lot on steep, wooded, but decaying Tower Road, the Town of Lexington ordered him to rebuild Tower Road on his block — at his own expense — as a condition for a building permit.

A new war was averted when the property owner consented. The homebuilder himself owned construction equipment, and could have used his own resources to do the work. But he knew the best and cheapest way to rebuild a road is to base recycle it, and that's when Fitzgerald Grading Inc. of Hampton Falls, N.H. stepped in.

"We specialize entirely in full-depth asphalt reclamation and grading," said Fitzgerald's WR 2500 equipment operator David Smallman. "It's a niche in the industry into which we've fit very well, and our customers seem to like the quality of our work."

Fitzgerald has been around for 33 years, and has been kept small on purpose. "We're a small company with four people in the field and two in the office," Smallman said. "We started full-depth reclamation 14 years ago and have had every type of machine there is," he added. "But without a doubt the Wirtgen is the best machine we've ever had, from initial start-up on to today." The WR 2500 is in its second season and has about 1,100 hours.

Weather in New England dictates the WR 2500's used only nine months out of the year. "It's not a full-year machine, but we keep a full slate and use it about every day of the season except weekends, unless we need to," Smallman said.

Paul, Pamela and Frank Fitzgerald are the owners, and Paul and his son operate the two graders. "I run the reclaimer and Darren Conant runs the roller," Smallman said.

Rocks, Rocks And More Rocks

"It's a fairly typical job for us of making something out of nothing," Smallman said of Tower Road. "The owner of the new home site had to rebuild the road in order to get his permit. The town more or less pushed him into it. He could either use full-depth reclamation, grade it off and put a couple of inches of asphalt on it, or he had to strip it all off and put 18 inches of aggregate base down. He chose reclamation from a cost standpoint."

It was cheaper to reclaim, even though the builder already owned equipment such as backhoes. And reclamation, while disruptive for a day or two, completely eliminated the conventional parade of noisy trucks so aggravating to a streetful of future neighbors.

"It also keeps the road open to residents all the time," Smallman said. "It's a matter of a little inconvenience for a short time, versus a lot of inconvenience for a long time."

Approximately 3,000 square yards of asphalt road were reclaimed. The road consisted of 3 to 4 inches of asphalt placed directly on granite ledges and broken granite ledges, with very little dirt fill. Down a 12 percent steep slope at one end the road degenerated into dirt with very large boulders either poking through or ensconced with a thin veneer of dirt on top.

"It's very, very rocky," Smallman said. "You can hear it. We

Owner saved money by base recycling

David Smallman at helm of WR 2500

used a lot of teeth for a small job, probably upwards of 300 teeth. But it's typical of New England. The rocks are there and you have to deal with them. We chip away at some, and some chip away at us." Smallman tried to cut down 6 to 8 inches whenever he could, but some spots did not permit that.

Business Of Reclamation

This was a standard reclaiming job for Fitzgerald Grading. "We go in and crush a road up and regrade to specifications, either set by the builder or governing authority," he said. "We've done runways for airports, highways, small parking lots, and even a small basketball court."

Fitzgerald also has done excavating of frozen ground for winter site work. "It's good if they can get going, but the material cannot be reused right away because it's still frozen," he said. "We have done roads in early winter prior to quick overlay so a contractor can get a release of funds, and then we'll go back in spring and re-reclaim the road for a more permanent construction."

No stabilizing agents were used with the Tower Road reclamation, Smallman said. "It's a tough sell in New England. Liquid calcium probably is the most common stabilizing agent, but it's an expense most municipalities don't want to bother with." On the plus side, New England lacks the expansive clays and soils that require stabilization in other regions.

Following reclamation and compaction to a tight, water-resistant, driveable state, Fitzgerald would return the next week and grade to spec. Tower Road has a 12 percent grade at this location, so cut field stone granite curbs were required by the town per its specifications.

Using The WR 2500

The WR 2500 is the only reclaimer currently owned by Fitzgerald, even though the firm has owned all makes of reclaiming equipment in the past. "We can't afford any downtime," Smallman said.

"Things can break, that's the nature of what we're doing," he said. "Any time we're down we lose money. I believe in the long run that the 2500 will be superior to any other machine we've had. It's certainly started out that way.

"We've had absolutely no leaks, drips, errors on the machine," he said. "Everything was put together perfectly, with no mechanical problems to speak of during the first 1,100 hours of operation. Right out of the box we had no problems, which is more than what I can say for the others."

About The WR 2500

Introduced in North America in 1996, the Model WR 2500 Road Reclaimer and Soil Stabilizer is designed for the 21st Century.

The design incorporates a 690 hp (intermittent-rated), V-12 turbocharged/aftercooled diesel engine to power a 96-inch-wide by 20-inch-deep cutting rotor, making it a true, high-horsepower deep-cutting heavyweight.

Perhaps the most significant of several innovative features is a two-frame design that allows the WR 2500 to retain the very important "floating hood" concept, which allows an expanded volume of material to pass freely through the process without creating a "friction brake" effect on the cutter and cutter drive components.

Material size is controlled by using hydraulically adjustable, manganese-lined breaker bars that can be remotely adjusted by the machine operator to tighten or close down the area between the rotating cutter and the impact bars, a scheme used for decades by the aggregate crushing industry.

Its Type III holder system allows quick and easy replacement of broken or worn-out cutter bit toolholders without the inconvenience and added cost of a cutting torch and welder. Drum rebuilding can be executed in one day by two workers without removal of the cutter.

Pallette's 2100 Carves Place On Banks Of Mohawk

New York State DOT improves Amsterdam interchange

Late this spring a Wirtgen 2100 DC cold milling machine was cutting aged asphalt in the tight quarters of historic downtown Amsterdam, N.Y., on the banks of the Mohawk River just west of Schenectady and Albany.

Despite its large size, Pallette Stone Corp.'s 2100 DC made quick work of the abrupt corners and narrow streets of the old river city. The 65,000-square meter (54,350-square yard) milling was part of a $1.15 million New York State Department of Transportation intersection improvement on State Route 30 in the Town of Amsterdam. Paving contractor was Kubricky Construction Corp.

"We were cold milling routes 30 and 67," said Jim Case, Superintendent of Construction Services — including cold planing, portable crushing and concrete pumping — of the Saratoga Springs, N.Y.-based firm. The project involved milling 1.5 inches of asphalt, with no taper-in or taper-outs. "The pavement was heavily rutted and was actually failing," Case said.

After milling Kubricky's paving had to commence within two weeks. "State specs don't allow a pavement to stay open more than 14 days," Case said. "Other specs in the state are much tighter. We're going to be doing a job on the Taconic Parkway, and the original specs said we could not leave the [milled] pavement open overnight. But that's changed."

While beneficial to motorists, in some spots same-day mill-and-fill operations can snarl the contractor's job. "In certain areas it can complicate things because there may not be enough room there," Case said.

"In the case of the job on the Taconic Parkway, that's precisely the case. They're trying to mill and pave it the same day, and we actually have one milling machine running opposite of traffic, loading trucks in the other lane because there is so little room."

Tight Downtown Corners

Nonetheless, Pallette's 2100 DC worked its way through the tight downtown corners and historic buildings of old Amsterdam with ease. "It worked great for the purpose," Case said. "It's a big, hefty machine but our guys have all learned how to get around those buildings because originally, all we've had were 2100s."

Recently, Pallette has been using its massive mill in the inner city of Watervliet, N.Y. "The conditions there are even tighter," he said. "The bigger machines are very appropriate for these conditions. The 1900 is a little bit smaller than the 2100, but doesn't gain you that much in maneuverability."

Instead, the greater power of the

"In the case of the job on the Taconic Parkway, they're trying to mill and pave it the same day, and we actually have one milling machine running opposite of traffic, loading trucks in the other lane because there is so little room."

Jim Case

larger machines pays off in terms of the ability of a milling sub to get in and out of a job, making the prime contractor happy, he suggested.

"Our contractors — once you set down to mill — want you to go as fast as you possibly can, and get as much done in a day as you can, while maintaining a standard of quality," Case said. "In fact, on the Amsterdam project Kubricky demanded a 2100."

Sister Firms In New York State

Perhaps the prime, Kubricky, can make demands like that on Pallette because they are sister companies under common ownership by D.A. Collins Companies, Mechanicsville, N.Y. "Milling is not a huge portion of our business, but it's significant," Case said.

A highway, bridge and industrial contractor, Pallette produces stone, owning five quarries in New York State, and also produces hot mix asphalt, ready mixed concrete and precast concrete.

Nonetheless, Pallette owns three half-lane milling machines — a 1900 DC and two 2100 DCs — and a W 500 and W 600. "Everything we own is Wirtgen," Case said. "They're more dependable and their longevity appears better than the other machines. They're built well, although they are a little more technical to operate than some of the others. But with the right training operators can deal with it."

Wirtgens Highly Productive

"Wirtgens are highly productive and have low operating costs," said Bryan Vuillaume, Pallette Vice President of Construction Services. "They're state-of-the-art. Their combination of power, torque and drum durability gives them high capabilities. They're very versatile with lots of attachments and different configurations for drums."

Pallette uses its W 500 and W 600 for trimming, utility trenching and for rumble strip installation. "The smaller machines radius manholes particularly well," Vuillaume said, adding that's why they don't use skid-steer loaders with milling drum attachments for that purpose.

2100 DC handles tight quarters in Old Amsterdam, N. Y.

A prime benefit of the Wirtgens is the uptime resulting from their robust construction, Vuillaume said. "We find that the structure, the frame, is built more heavily, especially the drum housings," he said. "They still have to be maintained quite well in order to keep the uptime high, but they are far superior to anything else on the market as far as we're concerned."

All Pallette's operators have attended training courses conducted by Wirtgen America. "It's very important to getting the most out of the machine," Case said.

2100 DC's high productivity speeds job in Amsterdam, N.Y.

About The W 2100

The W 2100 has replaced the Model 2100 DC featured in this article, but shares the same benefits that have kept Pallette Stone Corp. a continuing user of Wirtgen. The new Model W 2100 surpasses its predecessor, in both performance and profitability.

The powerful 6-cylinder straight-type diesel engine with its impressive output of 640 hp allows the operator to easily steer. The W 2100 uses joysticks which are identical in design to the W 2000 and W 2200 machine models. The maximum milling depth of up to 32 cm (12.6 inches) and a milling width of 2.00 m (6.5 feet) makes high production milling possible in only one pass.

WIRTGEN GROUP

Wirtgen News

Hamm, Vögele America Launch New Web Sites

To better serve their customers, new World Wide Web sites have been launched by Wirtgen America, Inc. subsidiaries Hamm Compaction Division, Nashville, and Vögele America Inc., Chambersburg, Pa.

The new sites may be accessed through the URL http://www.wirtgengroup.com, or via http://www.hammcompactors.com or http://www.vogeleamerica.com.

The new sites reflect the firms' recent acquisition by Wirtgen Group and provide full information on the complete product lines of Hamm soil and asphalt compaction equipment, and Vögele America asphalt pavers, now available in North America.

Design, technology and application of Hamm and Vögele America products are profiled in the sites, with downloadable images, news, literature and contact information as well.

The contemporary sites utilize current Macromedia Flash Player 6 software, the leading rich "client" for Internet content and applications across the broadest range of platforms. A static, standard html option is available as well. Corresponding updates to the existing Wirtgen America site will take place later this summer.

Nixon-Egli Honored As No. 1 Dealer

At Conexpo reception, Steve Nixon (left) is honored by Jurgen, Gisela and Stefan Wirtgen

At Conexpo-Con/Agg '02 in Las Vegas this spring, Nixon-Egli Equipment Company, Santa Fe Springs, Calif. again was honored as Wirtgen America Inc.'s No. 1 dealer.

Steve Nixon, President, was honored with a token of Wirtgen America's appreciation. Also, John Skaff, Nixon-Egli Vice President in the Bay Area at Tracey, Calif., was honored with the Wirtgen No. 1 dealer sales award. Carl Bahnsen, Vice President in the L.A. area was honored with Wirtgen's No. 1 governmental sales award.

Nixon-Egli covers the State of California for all three product lines: Wirtgen milling and recycling machines, Hamm compactors and Vögele America pavers. They've provided outstanding sales and product support for Wirtgen products for more than 10 years.

Wirtgen, Hamm Suspend Support For Sprint Car Racing

Citing lack of a national television package, Wirtgen America, Inc., and its Hamm Compaction Division, Nashville, has suspended sponsorship of World of Outlaws Racing.

"Wirtgen has been very disappointed by the lack of a TV package providing nationwide exposure of premier Outlaw races," said Stu Murray, president and COO of Wirtgen America, Inc. "Without television exposure of 12 to 15 shows a season, Outlaws management took all of the incentive out of sponsorship packages," Murray said. "It just doesn't make economic sense for our company to continue without TV coverage."

Hamm Compaction Division's sponsorship of Tony Stewart's No. 20 car driven by Danny Lasoski ended May 31. Wirtgen America will end the Forbrook Motorsports program at the end of August 2002.

"Tony Stewart and Danny Lasoski have been tremendous to work with, producing some awesome results," Murray said. "Winning the Knoxville Nationals and the Outlaw Championship in 2001 exceeded our hopes and dreams. This year has produced good racing results for both Wirtgen-sponsored teams, but a highly promoted, much-talked-about television package never materialized and destroyed our incentive."

"We've made wonderful, warm friendships during the last 10 years, and we know these relationships will last a lifetime," he said. "Time and market conditions will direct Wirtgen's future involvement in motorsports. We are not finished, just making a precautionary pit stop," Murray said.

New Brochures Highlight Vögele America Pavers

A series of new brochures from Vögele America, Inc. subsidiary, Chambersburg, Pa., is available from that Wirtgen Group subsidiary.

The brochures stress the technological leadership of the United States-sourced line of Pro-Pav Series asphalt pavers, and highlight user benefits.

A six-page general brochure, *America's Leading Paving Technology*, provides an overview of the full product range. Then, each of the models — the 780 WB, 880 WB, 1010 WB, 1110 WB, 880 RTB and 1110 RTB — are profiled in its own 16-page, four-color brochure.

The brochures highlight technological, mechanical and application features of the pavers, and contrast color photos of paver benefits with black and white photos of assembly at the Chambersburg facility.

Newsmakers

The new Midwestern District Sales Manager for Wirtgen America is Mike McCulloch. He's responsible for the states of Illinois, Indiana, Ohio, Michigan, eastern Missouri, Kentucky, Tennessee, and West Virginia. He's located at 11895 E. Bethel Road, Rochelle, Ill., 61068, voice 815.561.0918, mobile 815.742.1505, fax 815.561.0918. When not with his family he hunts, golfs and rides his Harleys.

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At Vögele America Inc., Steve McClellan is the new Inside Sales Manager at headquarters at Chambersburg, Pa., responsible for sales administration and product fulfillment.

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At Vögele America, Matt Wilson is new District Sales Manager for western Pennsylvania, Ohio, Kentucky, west Tennessee, West Virginia, Virginia and Maryland. He's married to Kimberly and his offices are located at 495 Arona Road, Irwin, Pa., 15642. He can be reached at 724.446.2019, cell 724.396.1504.

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Also at Vögele America, Art Fothergill is the new District Sales Manager out West. He's responsible for the states of Montana, Idaho, Wyoming, Utah, Colorado, Arizona, New Mexico, Nevada, California, Oregon, Washington State, Alaska and Hawaii. His wife is Pat and he is based out of 11413 East Pratt Ave., Mesa, Ariz., 85212, 480.354.0571.

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New Wirtgen Eastern Canada District Sales Manager is Pierre Turcotte, who resides at 3 rue Prince Edward, Pointe-Claire, Quebec, H9R 4C2, voice 514.694.0029, mobile 514.913.9478, fax 514.694.4335.

And Dennis Michel is Vögele America's District Sales Manager for Wisconsin, Illinois, Indiana, Michigan, Missouri, Iowa, Kansas, Minnesota, Nebraska, North Dakota and South Dakota. He is married to Connie and his offices are at 156 Autumn Woods Drive NW, Cedar Rapids, Iowa, 52405, cell 319.329.3557.

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Michael Orzel is new Service Engineer in Nashville. He's a 22-year resident of Middle Tennessee and has graduated from Overton ... Sean Davis is Warehouse Clerk in Nashville and has lived in the area two years. He has three children and likes to fish when not otherwise occupied ... Jeff Youtsey is a part-time Hamm Technician Assistant, is a graduate of Nashville Auto and Diesel College, and loves car shows and drag racing.

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New Chief Financial Officer is Bob Collins. He's lived in the Franklin, Tenn., area for eight years, has been married 16 years and has two children. He's a graduate of the University of Missouri and calls his pet yellow lab Roxy.

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Brad McKinney is new Accounting Manager in Nashville, has two children and is a graduate of University of Tennessee-Martin ... new Payroll & Benefits Manager is Melissa Jackson. She has two children and likes working at Wirtgen America because it challenges her to continuous improvement ... also new as Senior Accountant is Jami Tumlin, who's lived in the Nashville area for three years with her husband and Timber, the Chocolate Lab.

Dave Loope is new in Parts Sales ... MTSU-grad Rebecca Miller is Product Support Coordinator, and loves summer because of its warmth, water sports and vacation opportunities ... new with Rhino Parts Sales is Tom Sanders, who's lived in the Henderson, Tenn., area for 18 years.

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New Warranty Assistants are Kristina Cadovec and Patti Cline ... a University of Tennessee-Knoxville grad, Patti's lived in the Brentwood area for eight years with husband Steve and daughter Amanda ... Kristina has lived in the Nashville area just one year and is a student at MTSU ... new Hamm Service Engineer Jerry Maly lives in the Portland, OR area and has three children, two goats, three dogs, four puppies, and three cats.

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Lyle Broeder is new Wirtgen Service Engineer. A resident of Lewisburg, Tenn., for two years, he's been wed 18 years and has three children and Judy, a Chesapeake Bay retriever ... San Antonio-resident Steve Helton is new Hamm Service Engineer ... new Parts Marketing Manager in Nashville is Christy Becker, who's been married seven years, and is expecting her first child, who will keep her two Rottweilers and two cats company.

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Other new employees include Wirtgen Service Engineer Daniel Phillips.

Cold Milling

Cold Milling Integral To Florida DOT Preservation Project

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Conexpo-Con/Agg '02

Wirtgen, Hamm, Vögele Debut As Trio At Conexpo-Con/Agg '02

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Hamm

Florida's DeWitt Makes Earth Move With Hamm Compactors

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