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High Price HMA in Texas Going the Way of the Cave Man?

By Dale E. Rand, P.E., Texas DOT

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GEICO may be able to save you a ton of money on your car insurance, but saving money on a ton of hot-mix or warm-mix asphalt is where you can find the real action. The following article describes the staggering savings that can be realized

by making a few changes to the way we think about asphalt pavements. While it might not be “so easy even a cave man can do it,” you might be surprised to learn

how millions of dollars can be saved by using substitute binders as well as recycled asphalt pavement (RAP) and recycled asphalt shingles (RAS).

BACKGROUND

In 2008, for reasons beyond anyone’s control, the supply of both asphalt and polymers became very tight or in some cases nearly non-existent, and as a result, the price of liquid asphalt and polymers skyrocketed along with the price of asphalt pavement and highway construction in general. All of this, combined with serious funding shortages, caused us to re-examine how we do business.

Since 2009, material and construction prices have dropped considerably; however, the Texas Department of Transportation (TxDOT) is still experiencing serious funding shortages, causing the Department to look for various ways to stretch the available funding.

From bulldozers to paper clips, the Department is cutting costs elsewhere to preserve funds for pavement construction, rehabilitation, and maintenance, while

at the same time implementing ways to reduce the cost associated with these three activities. The Construction Division of TxDOT has worked with the Texas Asphalt Pavement Association (TxAPA), The Associated General Contractors of Texas, and other industry partners to develop specifications that emphasize both cost reduction and quality improvements to asphalt pavements in Texas.

Special Provision 341-024 was implemented in January 2010. This special provision contains at least five significant changes that are affecting the paving

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“You might be surprised to learn how millions of dollars can be saved by using substitute binders as well as recycled asphalt pavement (RAP) and recycled asphalt shingles (RAS).”

Tales from the Road



My Little boy Henry turned four last week. He transforms hourly from pirate to superhero to anthropologist to a combination of all three, but what amazes me the most are the daily jumps he makes in his vocabulary, letters, numbers, and math skills. He used the word “banished” correctly in a sentence describing a Scooby-Doo episode last week and then wowed me by counting to 50, with a few errors between 13 and 18. I feel like our asphalt industry is in a similar growth in intelligence following the huge price spike in asphalt cement in August of 2008. This price spike required the asphalt industry to reexamine itself and thereby spurred the greatest technological revolution since the introduction of the milling machine in the early 1970’s.

The promotion of warm-mix asphalt (WMA), high recycled asphalt (RAP) mix designs, the introduction of recycled asphalt shingles (RAS), and the increased importance of building perpetual asphalt pavements have lead this revolution in how we design, engineer, and promote the use of asphalt. The amazing result of these technologies being accelerated into our paving design and operations is that they add both economic and environmental benefits for agencies that specify asphalt pavements

When traveling through Iowa last month during our APAI

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Upcoming Events

(Click event for more information)

TCC Fly-In

May 24-25, 2011
Mandarin Oriental Hotel
Washington, D.C.

1st 2011 Golf Outing

June 28, 2011
Saddleback Ridge Golf Course
4646 180th St., NE
Solon, IA

2011 NAPA Midyear Meeting

July 18-20, 2011
Hyatt Regency Lake Tahoe Resort, Spa,
and Casino

2011 APAI Beach Party & Golf Outing

July 21-22, 2011
Honey Creek Resort
1-877-677-3344, for reservations.
Lake Rathbun, Moravia, IA

2nd 2011 Golf Outing

August 31, 2011
Carroll Country Club
20069 Olympic Avenue
Carroll, IA

2nd International Warm-Mix Conference

October 11-13, 2011
Hyatt Regency at the Arch
St. Louis, MO

APAI 56th Annual Convention

November 30 – December 1, 2011
Tentative: West Des Moines Marriott
West Des Moines, IA

2011 County Engineers Conference

December 6-8, 2011
Scheman Building, Iowa State University
Ames, IA

(Tales from the Road – Cont. from Page 1)

Regional Meetings (thank you to our 250 attendees!), we stressed our theme, **Smoother, Faster, Smarter**. The *Smoother* and *Faster* advantages of asphalt speak for themselves; the *Smarter* was stressing asphalt's environmental advantages, and using these environmental advantages to keep the price of asphalt pavements low. A study by Dr. Robert E. Lee, of the Texas Dept. of Transportation, showed that the use of 20% RAP in an asphalt mix decreased a per ton price of HMA by 12%, a 5% RAS mix design decreased the price per ton by 9%, and a 5% RAS and 20% RAP mix design decreased the price per ton by 19%. Dr. Lee went on to discuss the green house gas (GHG) emissions reduction from using those levels of recycled materials and included the use of WMA in the equations. The use of WMA dropped GHG emissions by 10% over traditional HMA, a drop of 8.5% by using 20% RAP, a drop of 7.0% by using 5% RAS and a whopping 23% decrease in GHG emissions by using all three combined!

When comparing a perpetual pavement design for our full-depth pavements using the Mechanistic-Empirical Design Guide or MEPDG (being adopted by the IDOT right now) versus designing a conventional pavement design using AASHTO 1972, Dr. Dave Newcomb, Vice President of NAPA and President of AAPT, found an initial cost savings of 16.5% and a life-cycle cost savings of over 25% for the perpetual pavement over the conventional design. In addition, the perpetual pavement design

saved over 46% in virgin aggregate and 47% in virgin asphalt cement over the life of the two pavements. It is possible within our industry to do what is environmentally right, save natural resources for our children and grandchildren, and provide an economic benefit to our consumers.

Traditionally, APAI contractors have been on the cutting edge of technology and quality. This environmental initiative is no different. Contractors have made investments in plant modifications for WMA and extra aggregate bins to run RAS and RAP at the same time. They have made investments in training for themselves and their employees. They have made investments in the future of the asphalt industry in Iowa and, I believe, they have made an investment in the future for our children and the world they will grow up in. Henry will continue to expand his knowledge and skills over the next year, and as a parent, I will continue to encourage and praise him for his efforts. The APAI contractors deserve the same praise and encouragement from the agencies they serve for the commitments they have made. The asphalt industry continues to make me proud to be an asphalt man.

Smoother is Better,



Bill

2011 APAI Scholarship Recipients Selected

The APAI Scholarship Committee interviewed students at Iowa State University, University of Iowa, and Des Moines Area Community College – Boone this spring to select the recipients of the 2011 APAI Scholarships. Students at these three institutions were given scholarships which amounted to over \$15,000. The recipients of these awards are as follows:

IOWA STATE UNIVERSITY:

Fred Carlson Scholarship: Michael Bear
Robert Horner Scholarship: Taylor Puelz-Burgen
Tom Manatt Memorial Scholarship: Andrew Backhaus
Harold & Mercedes Cessford Memorial Scholarship: Janyce Kesselmayr
Ronald Kenyon Scholarship: Joel Robinson, Nicholas Clobes, Michael Stinn

UNIVERSITY OF IOWA:

Tom Henningsen Memorial Scholarship: Yiming He, Rebecca Kohles
Asphalt Paving Association of Iowa Scholarship: Riley Quinn

DES MOINES AREA COMMUNITY COLLEGE – BOONE:

Asphalt Paving Association of Iowa Scholarship: Ryan Utter, Robert Fleming, Dale Hanselman, Joel Dory

Congratulations to these fine young scholars.

Avoiding Landmines In Construction Projects: Contracts

Kathryn Barnhill, Barnhill & Associates, West Des Moines, IA

Part 1 of a 3-Part Series

It is important to recognize certain basic facts in the construction context:

- there is an inevitable trade off between risk and reward; and
- the profit margin is very small relative to the risk assumed; and
- the rate of return is limited by competition, however, risk is not limited; and
- and on every construction project it is possible to lose much more money than it is possible to make; and
- factors present on every job create a fertile environment for disputes: complexity, time sensitivity labor intensity and involvement of multiple parties.

Contractors, subcontractors, vendors and owners all make certain assumptions when entering into a construction project. The contractor assumes that the scope of work is sufficiently defined, the plans and specifications are complete and accurate, and the owner, on the other hand, assumes the contractor is qualified to complete the work accurately and on schedule, and the price proposed is the total amount the owner will have to pay for the project. When assumptions are not fulfilled, a lawsuit usually ensues. Undefined assumptions are **LANDMINES**.

Given this relatively hostile environment, the presence of many factors contributing to the likelihood of a dispute and the tendency of contractors to estimate jobs using assumptions that can charitably be said to be optimistic, the first step a contractor should take towards assuring his

survival is to begin a project with a decent contract.

UNDERSTAND THAT A CONTRACT IS AN AGREEMENT ON HOW TO ALLOCATE THE RISKS OF LOSS IN A PROJECT.

The ability to modify a contract term, assuming the need to do so is recognized by the contractor, is a function of the relative bargaining power of the parties and secondly the relative persuasiveness and negotiating skills of the parties. In any event, the negotiating process allows the contractor to better understand the risks involved and to take steps to minimize the assumption of undue risk.

Be aware of and attentive to the underlying fairness of the contract. People often simply will not perform a contract that is perceived as unfair. A fundamentally fair contract identifies the risks involved and attempts to allocate the risks to the party best able to control the circumstances giving rise to the risk.

“The first step a contractor should take towards assuring his survival is to begin a project with a decent contract.”

Define the assumptions and identify the obligations undertaken by each party and risks to which each party is subject so that the obligations can be discharged and risks avoided during performance of the contract.

Where risks cannot be avoided, the contract should provide remedies that are not only fair but realistic and practical in view of both the uncontrollable risk at issue and performance considerations governing the work on the project.

READ AND KNOW THE CONTRACT DOCUMENTS.

Reading and knowing the contract documents is a simple task, but, surprisingly, the most misunderstood task. Many contractors believe the contract documents

are for the lawyers to know and understand, as long as the contractor has the plans and specifications. The contract documents are not overly complicated, however, and are intended to provide contractors with a roadmap to administer the contract. The contract will not build the project, but they will guide the building of the project.

If there is a disagreement during a project, the assumptions of the various parties will come into conflict. A contract defines the assumptions in writing and sorts out some misunderstandings early on. The contract can and should provide basic definitions to words or terms used in the contract and set forth the rights, responsibilities and relationships of the parties involved in the project. For example, are there warranties? For what? How long are the warranties? If the owner, contractor, subcontractors and suppliers all know, understand and define the assumptions that underlie a construction project, then they will know how to minimize these disagreements and how to minimize a disruptive event.

There are several types of standard form contracts. The American Institute of Architects (AIA), for instance, defines the minimum requirements of a general construction contract as:

1. The agreement or contract between the owner and contractor is the main component of the contract documents.
2. The conditions of the contract provide basic definitions to words or terms used in the contract and set forth many of the rights, responsibilities and relationships of the parties involved in the contract. These conditions describe provisions of the contract and can be supplemented or altered

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industry. For the purpose of this article, we will focus on the three issues that are significantly reducing the cost of hot mix: substitute binders, RAP, and RAS. The proper use of substitute binders as well as RAP and RAS enable suppliers to reduce the cost of asphalt pavement material by more than \$15 per ton in some cases. Combining these three options will produce a mixture that is more affordable and arguably more flexible than using RAP or RAS alone.

Some would argue that the Department may be going too far in allowing the use of these materials to proliferate. It should be pointed out that TxDOT's administration previously made the commitment to allow the use of RAP on almost all asphalt projects, and the Department is already benefitting from the cost savings associated with its use. Since RAS contains roughly four times as much asphalt as RAP, it is logical that if the Department allows RAP, it should also allow RAS. Note that RAS is currently used successfully in asphalt pavements in a number of other states and has been used on a limited basis in Texas.

A valid concern about the use of both RAP and RAS is that these materials contain asphalt binder that is highly oxidized, which if not used properly can adversely stiffen asphalt pavement mixtures. There is no doubt that a mixture with PG 76-22 virgin binder plus RAP and/or RAS will be very stiff. As a general rule, the use of 20 percent RAP or 5 percent RAS will have about the same effect on the asphalt pavement material as raising the binder grade (as an example) from a PG 64-22 to a PG 70-22. Results from the Hamburg Wheel Test (HWT) confirm this stiffening effect. As a result, it is often recommended that the binder be dropped one grade (e.g., from PG 70-22 to PG 64-22) when using more than 20 percent RAP; some engineers refer to this as "grade dumping."

Since TxDOT does not require the use of RAP or RAS but allows for their use, it is difficult for the engineer to specify a lower binder grade, or grade dump, in

anticipation of the contractor choosing to use RAP or RAS. In addition, the amount of "stiffening" in asphalt pavement is a function of both the quality and quantity of RAP on any given project. Because of these issues, the best approach is to test how much stiffening will occur rather than to assume. Historically, testing of chemically recovered binder has been used as an indication of how much stiffening occurs with the use of RAP or RAS; however, in lieu of testing recovered

binder, TxDOT chooses to use the HWT as an indication of asphalt pavement stiffness, since binder stiffness is only one component of mixture stiffness. The quantity and quality of both the asphalt binder and the aggregate component all factor into the stiffness and durability of asphalt pavement material.

Combining softer binders with highly oxidized materials such as RAP and RAS makes good sense from a performance standpoint. One example is TxDOT's

Table 1: Assumptions Used for Asphalt Pavement Cost Estimates

MATERIAL	COST PER TON	NOTES
Aggregate	\$22	Includes processing & freight
PG 76-22	\$538	Based on September 2009 *Index (freight not included)
PG 70-22	\$480	Based on September 2009 *Index (freight not included)
PG 64-22	\$377	Based on September 2009 *Index (freight not included)
RAP	\$15	Contains 5% AC, includes processing & freight
RAS	\$20	Contains 20% AC, includes processing & freight

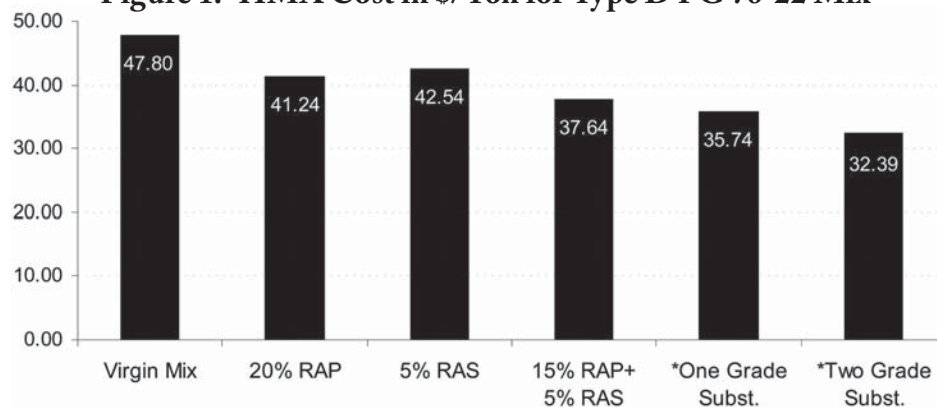
* Source: Louisiana Asphalt Pavement Association

Table 2: Asphalt Pavement Cost Estimates

Binder Grade	COST OF MIX (\$ PER TON)				
	Virgin Mix	20% RAP	5% RAS	15% RAP+ 5% RAS	*One Grade Substitute
PG 76-22	47.80	41.24	42.54	37.64	35.74
PG 70-22	44.90	38.92	40.22	35.74	32.39
PG 64-22	39.75	34.80	36.10	32.39	NA

* Includes 15% RAP and 5% RAS

Figure 1: HMA Cost in \$/Ton for Type D PG 76-22 Mix



* Includes 15 percent RAP and 5 percent RAS

2011 APAI Golf Outings Just Around the Corner

The first of this year's APAI Golf Outings will be held at beautiful Saddleback Ridge Golf Course in Solon (10 miles north of Iowa City), IA (4646 180th St, NE, Solon) on Tuesday, June 28.

The second open outing of year will be held at Carroll Country Club (20069 Olympic Avenue, Carroll) on Wednesday, August 31.

Registration will begin at 8:00 a.m. and the Shotgun will sound at 10:00 a.m. for the 4-Man Best-Ball Tournament. Pre-registration for your four-person teams is now open. The cost per person golfing is \$75. This cost includes golf, cart, practice

balls, and lunch. All are welcome to join us in these events.

There will be contests of skill to raise money for the APAI Scholarship fund, hole events, camaraderie, fun, and fabulous prizes. Get your foursome together and

get signed up today! Registration will be limited again this year to the first 18 teams at each location. Don't miss out! Access the registration page by visiting <http://www.apai.net/2011golfoutings.aspx>.



SPS-5 test section in the Dallas district, where the asphalt pavement with RAP performed very well for more than 17 years. It makes even better financial sense, as you will see from the following examples.

EXAMPLES OF ASPHALT COST SAVING OPPORTUNITIES

The assumptions shown in Table 1 were used to determine the asphalt cost estimates in Table 2 and Figure 1. Note that the cost estimates in Table 2 and Figure 1 represent material costs only. These costs do not reflect the total "as constructed" cost of asphalt. The cost figures in Table 1 are estimates based only on currently available data in Texas. The asphalt pavement supplier's true cost for these materials may vary significantly from the values shown in Table 1.

It is also assumed that the theoretical Type D asphalt pavement used in the examples below has a design asphalt content of 5.0 percent by weight of the total mixture. Table 2 illustrates the asphalt pavement costs for virgin materials and then shows how much the price can be reduced if RAP, RAS, and binder substitution are used. Figure

1 also graphically illustrates the effects RAP, RAS, and substitute binders have on the price of a Type D mix with PG 76-22 binder.

A Type D mix with a specified binder grade of PG 76-22 (5 percent by weight of mixture) would cost \$47.80. This same mixture would cost \$41.24 if 20 percent RAP were used, \$42.54 if 5 percent RAS were used, and \$37.64 if both 15 percent RAP and 5 percent RAS were used. But as they say in advertising "that's not all," because the price could be further reduced if PG 70-22 or PG 64-22 were substituted for the PG 76-22 originally specified. The resulting cost would be \$35.74 and \$32.39, respectively, for PG 70-22 and PG 64-22 binders. It should be noted that the price for the substitute binder mixes also assumes 15 percent RAP and 5 percent RAS were used in the asphalt pavement.

The new special provision SP 341-024 will allow the use of these substitute binders when the asphalt pavement mixture meets the HWT requirement for the originally specified binder. This can sometimes be accomplished without using RAP or RAS, depending on the quality of the aggregate and PG binder. It

can almost always be accomplished when RAP or RAS or a combination of RAP and RAS are used with the substitute binder. The cost reduction can be very significant. The example above shows how a \$47.80 per ton asphalt pavement can be reduced to as low as \$32.39 per ton, which is a saving of \$15.41 per ton—more than a 32 percent cost reduction. Using the same logic, a virgin PG 70-22 Type D asphalt pavement could be reduced in cost from \$44.90 per ton to \$32.39 per ton, which is a saving of \$12.51 per ton—almost a 28 percent cost reduction.

Polymer-modified binders, such as PG 76-22 and PG 70-22, are significantly more expensive than unmodified binders, such as PG 64-22. As a result, binder substitution (grade dumping) and the use of RAP and RAS are most cost-effective for asphalt pavement that contains polymer-modified binders; however, the cost reductions are still significant when RAP and RAS are used in asphalt pavements that contain unmodified binder. Table 2 illustrates how asphalt pavement with PG 64-22 can be reduced from \$39.75 per ton to \$32.39 per ton,

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Greater Iowa Asphalt Conference Has Record Attendance

The 2011 Greater Iowa Asphalt Conference (GIAC) was held on March 2-4, 2011 at the Airport Holiday Inn Des Moines. The theme this year was “Leadership in Paving” and with over 540 participants made up of contractors; county, city, and consulting engineers and technicians; and national industry leaders; the biggest and best GIAC ever was held. The topics, entertainment and camaraderie were unbeatable. This year also featured a record number of exhibitors who provided important product information and special prize giveaways. A special thanks goes to the vendors who held hospitality rooms, they provided added entertainment throughout the evening for the attendees.

Keynote speaker, Kevin Kush, football coach of Boys’ Town in Nebraska was received with great enthusiasm. He spoke on teamwork and that everyone is a piece of the puzzle. Breakout sessions on Safety, Percent Within Limits (PWL), Mix design, building leadership, Perpetual Pavements, Employee Relationships and Diversity in

the Workplace were all warmly greeted. Comments by attendees showed that there was something for everyone, and the opportunity to speak with others in the industry was a tremendous advantage.

The Annual Awards luncheon was Thursday’s highlight with the crew members and agency representatives collecting their certificates and SMOOTH t-shirts for

the work that they had done on the 2010 award winning projects. Photos of these projects and the winners may be viewed at <http://www.apai.net/2010apaiawards.aspx>. Make sure the 2012 Greater Iowa Asphalt Conference, Feb 29th-March 2nd, 2012 is on your schedule for next year!

For more photos and the full story, [click here](#).



(Avoiding Landmines – Cont. from Page 3)

specifically for the project.

3. A modification to the contract after execution is generally a written agreement signed by both parties that alters either the scope of the work or scope of the contract and becomes a part of the contract documents.
4. Project drawings and technical specifications are generally included as a reference within the contract documents.
5. Addenda issued prior to the receipt of bids or executions of the contract are included.

Standard form contracts can be modified but special care must be taken or piecemeal modifications will create inconsistencies and ambiguities. Standard form contract

families have interrelationships between the various documents and clauses and other clauses and other documents may refer to the one modified or depend on it for its operation. Changing one clause without following the change through every related clause and document all too easily sets up a potential dispute as to which clause controls.

A word on “boilerplate”. Many people dismiss standard language or small type as boilerplate. This is a mistake. Every word in a contract is there for a reason and every word counts even if it is “boilerplate”. Use a yellow maker to go through fine print or confusing paragraphs and highlight the main words to make the meaning easier to decipher. There are many books that discuss separate types of clauses. These books are

available from libraries, trade organizations or go online and google an unfamiliar term.

Do whatever it takes to be certain you completely understand what a clause means, how it is related to other clauses and other documents and what it requires you to do or not do.

Kathryn Barnhill holds a law degree from Drake University, Des Moines, Iowa where she graduated with honors and was awarded Order of the Coif (top 10% of her class). She also has an M.B.A. degree, also from Drake University. Barnhill & Associates P.L.C. is a small highly specialized law firm concentrating almost exclusively in real estate, real estate development and construction law. Kathryn has served on numerous Boards of Directors and is a member of the Asphalt Paving Association of Iowa.

2011 APAI Regional Meetings Educate over 250 Attendees

The APAI staff and members recently completed six 2011 APAI Regional Meetings held across the State of Iowa during the end of March and first week of April. The meetings held in Sioux City, Des Moines, Council Bluffs, Mason City, Dubuque, and Coralville were a resounding success according to the attending local IDOT, city, county and consulting engineers. APAI Field Engineers, Larry Mattusch and Royce Fichtner; APAI Consultant, John Bellizzi; and APAI Executive Vice President, Bill Rosener; along with local contractors, county engineers and IDOT engineers, presented on topics that are relevant to today's new longer-lasting

asphalt pavements.

The theme of the Regional Meetings was "Smoother, Faster, Smarter" and the presentations reflected strongly the "Smarter" aspect of asphalt pavements, including the use of RAP, RAS (recycled asphalt shingles), and WMA (warm-mix asphalt). Along with these discussions, attendees were shown how to design local systems asphalt pavements, rehabilitate failing PCC pavements, how to build Perpetual Asphalt Pavements and local projects that have used asphalt with great success and longevity.

We would like to sincerely thank all of our attendees and our special guest presenters: Alissa Wagner (twice), Blacktop

Services; Dan Lewis, Knife River; Brad Lenz, Ames Manatts; Scott Schram, IDOT; Brad Henningsen, Henningsen Const.; Dan Ahart, Shelby Co.; Steve Epley and Ray Arnold, Western Engineering; Dan Staebell (twice), Mathy Const.; Dave Ricken, Heartland Asphalt; Scott Keuter, River City Paving; Todd Kinney, Clinton Co.; Roger Boulet, IDOT; Dan Gee, Gee Asphalt Systems; and DeWayne Heintz, LL Pelling Co. We look forward to seeing you all again next year!

To view more pictures taken during the various regional meetings, visit <http://www.apai.net/2011regionalmeetingsphotos.aspx>.



APAI BEACH PARTY

THE PIRATES of HONEY CREEK

JULY 21-22, 2011

LOCATION:
Honey Creek Resort State Park Lodge
12633 Resort Drive, Moravia, IA
641-724-9100

*Come for a day of fun in the sun
and a night of revelry with your
fellow brigands.*

SCHEDULE:

JULY 21, 2011	
Boating, fun in the sun, relax on the beach:	Noon
Cocktails:	5 pm
Dinner/BBQ:	6:30 pm
JULY 22, 2011	
Golf at The Preserve at Honey Creek at 10:00 am	

ASPHALT PAVING ASSOCIATION OF IOWA

APAI Welcomes New Members

APAI has added 4 new members since the end of the last fiscal year. Thank you to those who have helped recruit these new members. These companies and their sponsors will be eligible to have their names drawn from the official hard hat during the 56th APAI Annual Convention which will be held at the West Des Moines Marriott on November 30-December 1, 2011 for the Snow Goose Hunting Trip that is being offered by Jim Hawk Truck Trailers. Join with us in welcoming our new members and please take advantage of the services that they offer.



WIRTGEN AMERICA

Wirtgen America, Inc., Nashville, is the North American arm of the Wirtgen Group, the single-source marketer of the world's most technologically advanced lines of asphalt reclaiming/recycling, base stabilization, concrete slipform paving, and surface mining equipment from Wirtgen, asphalt and soil compactors from Hamm Compaction Division, asphalt pavers from Vögele America Inc., and minerals processing equipment from Kleemann.



Monson and Sons, Inc.

Rely on **Monson and Sons, Inc.** for all of your transportation needs. Serving Iowa and surrounding states with over 70 company-owned tractors and trailers, including belly dumps, side dumps, belt trailers and lowboys.

Their professional dispatchers are available 24 hours per day. Their skilled and knowledgeable drivers, along with their qualified staff are committed to their customers.

HAWKEYE CONSULTING SERVICE

Asphalt Plant Services joined the Association but has since changed to **Hawkeye Consulting Service**. Hawkeye Consulting Service specializes in the brokering of both used asphalt plants and plant component sales. They offer new portable and stationary asphalt plants, and do consulting on new and used plant set up and operations.



For the past twenty-three years **Denco Highway Construction** has promoted creative solutions in pavement and bridge repair. During that time they have expanded and diversified into many inter-related disciplines to better serve the needs of their customers. Their specialties include: Hot Pour Random Crack & Joint Sealing, Crack Filling with Emulsion, Slurry Leveling, Rumble Strip Cutting, Full & partial Depth Patching, Asphalt Rejuvenation, Mud-jacking, Specialty Bridge Repair, and Soil Stabilization. Operating out of Mingo, IA Denco is an approved Iowa DOT Contractor, a proud member of the Associated General Contractors of Iowa and APAI, and an Equal Opportunity Employer.

Please welcome these new members and show your support for them, by contacting them and utilizing their services. To find contact information for these members, go to www.apai.net/members.aspx.

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which is a saving of \$7.36 per ton—almost a 19 cost reduction.

CONCLUSIONS

TxDOT typically uses between 5 million and 15 million tons of asphalt pavement each year. If we can save \$10 per ton by using RAP, RAS, and substitute binders, the overall savings will be between \$50 million and \$150 million per year. If TxDOT were to save only half that much, we would still be looking at a tremendous opportunity to

stretch our available funding. Allowing the use of substitute binders will not only save money, but it will also help to ensure that asphalt pavement containing RAP or RAS does not become overly stiff. There are many factors that go into the cost of asphalt pavement that we have little to no control over, including the price of liquid asphalt and polymers; however, through the use of substitute binders, RAP, and RAS, we will be better positioned both now and the next time the price of asphalt spikes.

It is clear that we no longer have the financial luxury to specify asphalt pavement using 100 percent virgin asphalt and aggregate. The days of specifying asphalt pavement with PG 76-22 and not allowing RAP or RAS are quickly fading; some may even argue that those days are long gone. The good news is that asphalt pavement costing \$100 per ton or more may also go the way of the cave man, thanks in part to the proper use of substitute binders, RAP, and RAS.

Team Asphalt Raises Over \$16,500 for Special Olympics of Iowa

Team Asphalt, consisting of several L. L. Pelling Co. employees, volunteers and one tall, bald APAI employee, plunged into the frigid waters of the Coralville Reservoir to raise money for the Special Olympics of Iowa. The funds raised go towards athletes and their families in attending the Mid-Winter Games held at the University of Iowa Fieldhouse.



Iowa Plants Receive Diamond Achievement Commendation Awards



Patterns of growth all over the country have placed many asphalt plants in the midst of communities. This development makes it imperative that asphalt plants demonstrate good corporate citizenship and neighbor-friendly operations.

To assist asphalt companies in reaching these goals, and to provide an avenue for continuous improvement, NAPA launched the Diamond Achievement Commendation for Excellence in Hot-Mix Asphalt Plant/Site. This process stresses continuous improvement. The process begins with a self-assessment of six aspects of plant/site operations: appearance, operations, environmental practices, safety, permitting and regulatory compliance, and community relations. It also includes verification by an outside third party who is not associated with the company.

The Asphalt Paving Association of Iowa would like to congratulate those companies that received their Diamond

Achievement Commendation Awards at the 2011 NAPA Annual Convention in Orlando this past January. Companies who received awards are:

Des Moines Asphalt & Paving Co., a division of Oldcastle Materials Group/Midwest: Plant #4

Fort Dodge Asphalt Co.:
Fort Dodge Asphalt

Grimes Asphalt & Paving Corp:
Grimes Plant

Grimes Asphalt & Paving Corp: Plant 3

Grimes Asphalt & Paving Corp:
West Plant

L.L. Pelling Co.: Base 14

L.L. Pelling Co.: Base 15

L.L. Pelling Co.: Base 16

Manatt's, Inc.: Ames Division

Norris Asphalt Paving Co.: Plant 350

Tri-State Paving Co., a division of Oldcastle Materials Group/Midwest: Fostoria Plant 2

Tri-State Paving Co., a division of Oldcastle Materials Group/Midwest: Portable Plant 3

APAI Members

CONTRACTOR MEMBERS

Aspro, Inc., Waterloo
Blacktop Service Company, Humboldt
Determann Asphalt Paving, L.L.C., Camanche
Duininck Inc., Prinsburg, MN
Fort Dodge Asphalt Company, Fort Dodge
Gee Asphalt Systems, Inc., Cedar Rapids
General Asphalt Construction Company, Davenport
Grimes Asphalt & Paving Corp., Grimes
Heartland Asphalt, Inc., Mason City
Henningsen Construction, Inc., Atlantic
Illowa Investment, Inc., Blue Grass
Kluesner Construction, Inc., Farley
Knife River Midwest, L.L.C., Sioux City
Koss Construction Company, Topeka, KS
Manatt's, Inc., Brooklyn
Mathy Construction Company, Onalaska, WI
River City Paving, Dubuque
McCarthy Improvement Company, Davenport
Norris Asphalt Paving Company, Ottumwa
Oldcastle Materials Group
Cessford Construction Company, LeGrand
Des Moines Asphalt & Paving Company, Ankeny
Tri-State Paving, Inc., Estherville
Pate Asphalt Systems, Marion
L. L. Pelling Company, Inc., North Liberty
Shamrock Construction Company, L.L.C., Coralville
Shipley Contracting Corp., Burlington
Western Engineering Company, Inc., Harlan

SUPPLIER MEMBERS

Bituminous Material & Supply Company, Inc., Des Moines
Flint Hills Resources, Dubuque
Jebro, Inc., Sioux City

AGGREGATE SUPPLIER MEMBERS

BMC Aggregates, L.C., Elk Run Heights
Concrete Materials Co., Sioux Falls, SD
L. G. Everist, Inc., Sioux Falls, SD
Hallett Materials, Des Moines
Kuhlman Construction L.C., Colesburg
Martin Marietta Materials, Des Moines
Schildberg Construction Company, Greenfield
Wendling Quarries, DeWitt

ASSOCIATE MEMBERS

Accurate Test Systems, Inc., Richfield, MN
Ahrold Fay Rosenberg, Inc., Des Moines
Altorfer, Inc., Cedar Rapids
Antigo Construction, Inc., Antigo, WI
Arr-Maz Products, L.P., Mulberry, FL
Astec Industries, Chattanooga, TN
Avello Bioenergy, Boone
Barnhill & Associates, West Des Moines
James W. Bell Company, Inc., Cedar Rapids
Bituminous Insurance Company, West Des Moines
BOMAG Americas, Kewanee, IL
Bonnie's Barricades, Inc., Des Moines
Burroughs Consulting Group, Hiawatha
Central Service & Supply, Inc., Ankeny
Coleman-Moore Company, Des Moines
Construction & Aggregate Products, Des Moines
Construction Materials Testing, Des Moines

Cryogenic Engineering, Cedar Rapids
Custom Welding & Metal Fabricating, Inc., Waite Park, MN
Cylosoft, Inc., Ames
Dahl Trucking, Inc., Elmore, MN
Denco Highway Construction, Mingo
J.D. Donovan, Inc., Rockville, MN
Edwards Contracting Ltd., Hampton
Elite Flagging, Inc., Cedar Rapids
Flagger Pros USA, Ames
Gencor Industries, Inc., Orlando, FL
Glendandy Marketing & Advertising, Ames
Hawkeye Consulting Service, Inc., Cedar Rapids
Heuss Printing, Inc., Ames
Holmes Murphy & Associates, West Des Moines
Housby Mack, Inc. Des Moines
Humboldt Manufacturing Company, Schiller Park, IL
Innoventor, St. Louis, MO
Iowa Parts, Inc., Cedar Rapids
Iowa Plains Signing, Slater
Jim Hawk Truck Trailers, Inc., Altoona
La Mair-Mulock-Condon Company, West Des Moines
Manhole Adjustable Riser Company, Oskaloosa
Merchants Bonding Company, Des Moines
Modified Asphalt Solutions, Inc., West Des Moines
Monson and Sons, Britt
Murphy Tractor & Equipment Company, Inc., Wichita, KS
Quality Striping, Inc., d/b/a DPLM, Inc., Des Moines
Quality Traffic Control, Inc., Des Moines
Quick Supply Company, Des Moines
R2R Recycling, L.L.C., West Des Moines
Road Machinery & Supplies, Des Moines
Road Science, Juaniata, NE
RoadSafe Traffic Safety, Inc., Des Moines
Roadtec, Inc., Chattanooga, TN
Sakai America, Inc., Adairsville, GA
Save Our Sewers, Inc., Cedar Rapids
South West Inspection, Inc., Atlantic
Star Equipment, Ltd., Des Moines
3M Company, Omaha, NE
Tarmac, Inc., Blue Springs, MO
Tennis Services of Iowa, Marion
Terex Roadbuilding, Cedar Rapids
Titan Machinery, Des Moines
Troxler Electronic Labs, Inc., Downers Grove, IL
Unique Paving Materials, Cleveland, OH
Valley Environmental Services, Newton
Walker Construction Company, Emporia, KS
Weiler, Knoxville
Wells Fargo Bank, Des Moines
Whitfield & Eddy, P.L.C., West Des Moines
Wirtgen America, Inc., Antioch, TN
Wynne Transport Service, Inc., Omaha, NE
XL Specialized Trailers, Inc., Manchester
Ziegler, Inc., Des Moines

CONSULTING ENGINEERS

Anderson-Bogert Engineers & Surveyors, Inc., Cedar Rapids
Bolton & Menk, Inc., Ames
Bishop Engineering, Urbandale
Foth Infrastructure & Environmental, LLC, Lake Elmo, MN
Fox Engineering Associates, Ames
Debra S. Haugen, LLC, Minneapolis, MN
Terracon, Cedar Rapids