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Flexible Pavements of Ohio is an association for the development, improvement and advancement of quality asphalt pavement construction.

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While it seems the world’s business model is best described as “the race to the bottom,” it’s encouraging knowing the asphalt industry is taking a different tack. “Performance for a Lifetime” is the new driving initiative of the nation’s asphalt industry. The goal of Performance for a Lifetime is to exceed owners’ expectations of asphalt’s attributes and provide overall higher value than any other pavement type and preservation strategy.

Defining “Performance”
Roadway engineers are familiar with the word “serviceability,” a metric used— in large part—to quantify performance of a pavement as measured through a motorist’s Seat-O-Meter. Performance for a Lifetime, however, suggests considering metrics that includes more than what is felt by the seat of the pants. Longevity, maintainability, sustainability and smoothness encompass the overall value of an asphalt pavement.

Longevity
Probably the greatest asphalt industry discovery has been the concepts that underpin perpetual pavement. Perpetual pavements are asphalt pavements engineered to provide inexhaustible structural life, having the need only for routine wearing course restoration. “Inexhaustible structural life” infers the pavement will sustain current loading conditions in perpetuity. Many of Ohio’s heavy-duty pavements perform as perpetual pavements, though not initially designed as such. Years upon years of asphalt pavement build-up has brought many into perpetual pavement status. (See “Transformation of Ohio’s Interstates to Asphalt,” Ohio Asphalt Fall 2018.)

The value received from this pavement design method is multi-faceted. Financially, once the initial investment is made in constructing a perpetual pavement it will not require future major rehabilitation, therein reducing future costs. Considering sustainability attributes, future need for virgin materials is reduced. Energy needed to extract, transport, manufacture and place is also reduced. Perpetual pavements support maintainability by reducing scope of work needed to keep the pavement in good condition. Lastly, the cost of constructing a perpetual pavement is never less than when the pavement is first constructed.
Maintainability
I find the agency people who most appreciate asphalt’s attributes are those who maintain the roads. When questioned why they use asphalt, invariably the response is: “ease of maintenance.” And it’s true! When asphalt goes bad it’s skin deep — and occasionally into the dermis. Even with the potholes we are currently experiencing from our winter mix of weather, the pavement will soon be restored to new condition without extensive intervention. While we sleep, roads are renewed in time for our morning commutes.

A lot of innovation is going on in Ohio to extend the maintenance cycle. Efforts are being made to make asphalt pavements increasingly durable and long-lasting. Highly Modified Asphalt (HiMA), for the first time, has been incorporated into a minor rehabilitation project to improve elastomeric properties and toughness.

Research is being conducted under the auspices of Ohio’s Research Initiative for Locals (ORIL) to evaluate the effects of rejuvenators in ensuring asphalt mixes with high reclaimed-asphalt content have as good durability characteristics as mixtures composed solely from virgin raw materials. Columbus is home to a one-of-a-kind (in the USA) asphalt manufacturing process that can expand the effective use of reclaimed-asphalt pavement. ODOT is evaluating performance prediction tests that identify asphalt mix formulations that are less likely to prematurely crack under Ohio environmental conditions and traffic loads. The 2019 ODOT Construction & Materials Specification book includes a new specification (Item 447) to deal with the nagging problem of deterioration where lanes of pavement are joined together. Nationally, equipment manufacturers are rolling out better tools — “intelligent” construction equipment and automation. All of this bodes well for longer pavement life.

The Clincher
There’s a lot of things great about asphalt pavement. For me, the clincher is that asphalt is so simple. Its use facilitates predictable pavement management. With asphalt pavement you’re not going to experience the surprise catastrophic, budget-busting cash outlays for pavements that require slab replacement, or complete removal and replacement. With asphalt you’re not going to shut down storefront businesses. Rather, with asphalt you have a systematic approach to pavement maintenance in which pavement resurfacing can be planned, budgeted, scheduled and constructed with minor intrusion to people’s lives. With a solid asphalt layer undergirding, asphalt pavements merely require refreshing with a new surfacing material the likes of a thinlay.

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Visionary engineers and researchers are constantly innovating asphalt pavements to meet the needs of the future. They’ve created game-changing products like warm-mix asphalt and Thinlays for pavement preservation — and they’re not done yet. The industry is already working on asphalt roads built to accommodate the safe use of driverless vehicles. This commitment to innovation is paving the way for even longer-lasting, higher-performing pavements.

WHEN IT COMES TO INNOVATION ASPHALT PERFORMS

SUSTAINABILITY INNOVATION VALUE FLEXIBILITY

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Audrey Copeland, Ph.D., P.E., began her role as National Asphalt Pavement Association (NAPA) president/CEO in January — becoming only the third leader of the nearly 65-year-old national association.

Flexible Pavements of Ohio is a NAPA state affiliate.

Copeland succeeds Mike Acott, who served as NAPA’s President since 1992, and retired in January. Copeland was named to the position last September and began working with Acott to ensure an orderly transition.

Copeland joined NAPA in 2012, as vice president for Engineering, Research & Technology. In that role, she has grown NAPA’s engineering team and forged strong relationships with the State Asphalt Pavement Associations, Asphalt Pavement Alliance, the National Center for Asphalt Technology at Auburn University, the Asphalt Institute, Federal Highway Administration (FHWA) and other industry professionals and partners. She also served as technical lead for more than $2 million in industry-funded research projects, and secured a cooperative agreement with the FHWA that has invested more than $2 million in government funding to advance asphalt technologies.

Prior to NAPA, Copeland served as a highway and materials research engineer with FHWA. She earned her doctorate in civil engineering from Vanderbilt University, and holds master’s and bachelor’s degrees in civil and environmental engineering from Tennessee Technological University. She is a licensed professional engineer in Maryland and Virginia.

In her address to NAPA members in January, Copeland pledged to continue NAPA’s tradition of working to safeguard the asphalt industry, strengthen alliances and collaborations, and modernize the way the industry and the association do business.

NAPA is the only trade association that exclusively represents the interests of the asphalt pavement material producer and paving contractor on the national level with Congress, government agencies, and other national trade and business organizations.

Founded in 1955, NAPA supports an active research program designed to answer questions about environmental issues and to improve the quality of asphalt pavements and paving techniques used in the construction of roads, streets, highways, parking lots, airports, and environmental and recreational facilities. For more information about NAPA, which has nearly 1,200 company members, visit www.asphaltpavement.org/.
In prior issues of *Ohio Asphalt*, our Technical Seminar series on Composite Pavement Rehabilitation addressed pre-design investigation and coring, pavement planing and pavement repairs. As we begin to specify asphalt concrete materials for our project, let’s start by reviewing the purpose, importance and proper application of tack coat for a composite pavement rehabilitation.

Although often taken for granted, tack coat is one of the most important – and least expensive – items related to long-term pavement performance and durability. The Federal Highway Administration (FHWA) defines tack coat as “a sprayed application of an asphalt binder upon an existing asphalt or portland cement concrete pavement prior to an overlay, or between layers of new asphalt concrete. This thin membrane of asphalt binder provides the glue between the layers, creating a monolithic structure that performs as a unit as opposed to unbound independent layers.”

When improperly applied, an inadequate bond can result in poor pavement performance exhibited by delamination, slippage cracks, shoving, premature fatigue cracking, potholes or other types of costly pavement repairs. In fact, some researchers believe that a 10-percent loss in bond can result in up to a 50-percent loss in the fatigue life of a pavement. Therefore, it is very important that designers properly specify and contractors properly apply appropriate tack coat for your project. See pictures above for examples of uniform and non-uniform tack coat application.

When specifying tack coat, designers should refer to ODOT Construction and Material Specifications Item 407 Tack Coat. Section 407.02 provides...
a list of tack coat materials acceptable for use in Ohio and Table 407.06-1 provides appropriate application rates based upon type of pavement surface. It is recommended that the designer use the mid-point of the appropriate application rate for determining plan quantity.

On many projects, only one Item 407 pay item is needed for all tack coat uses. However, when paving over PCC concrete or brick, 407 requires the tack to meet specification 702.13 SBR asphalt emulsion (rubberized tack coat). On composite pavement rehabilitation projects, placement of your asphalt intermediate course on PCC concrete (or brick), will dictate the need for two separate pay items — one for conventional tack and a second for rubberized tack — Item 407 Tack Coat and Item 407 Tack Coat 702.13. This approach provides clarity for both the contractor and project inspector.

Although 702.13 rubberized tack coat may provide some constructability challenges in the form of pickup, this material is recommended for PCC concrete or brick to achieve adequate bond and improve the odds of long-term pavement performance. Alternative materials (to rubber tack) are available, but the materials are often proprietary, costly and not readily available in Ohio.

In recent years, non-tracking tack has become popular as the cost has become competitive with standard tack. As a result, some designers have chosen to specify non-tracking on projects to improve constructability, performance and durability. This approach has merit and is encouraged since a quick break and set that eliminates tracking also provides constructability benefits when paving in urban areas with high-traffic volume, driveways, intersections or when paving in short construction zones or at night.

Non-tracking tack is also highly recommended for Thinlay overlays and other single-lift asphalt overlays, especially those used as preservation treatments.

For an approved list of non-tracking tack coat suppliers in Ohio, see ODOT Office of Materials Mgmt.: http://www.dot.state.oh.us/Divisions/ConstructionMgt/Materials/Approved%20List/APL-Listing-Trackless-Tack.pdf.
OPPORTUNITIES TO GROW YOUR CAREER

Meet Enzo Cannata - Management Trainee for The Shelly Company Northwest Division. Enzo joined the Shelly team in 2016 as an operations intern. He returned the following year to help with CAPEX projects and drone surveys as a performance intern. Enzo earned his current role with The Shelly Company upon completion of his mining engineering degree from Penn State in the spring of 2018.

“The Shelly Company has provided me with a wide range of experiences within the aggregate business. It has truly helped me become a well-rounded professional.”

— Enzo Cannata

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Why You Should Attend
• The Ohio Asphalt Expo is “The Region’s Premier Asphalt Pavement Event”
• 13 General Educational and EXPOEXCEL Education Track sessions, along with Technical & Field Operations Committees, a Public Agency Forum, awards luncheons and breakfasts and Asphalt Pavers’ Celebration!
• The 2019 Equipment Exhibition & Trade Show features the area’s largest collection of asphalt paving equipment, service providers and vendors, with more than 30 exhibitor displays and equipment dealers expected
• One of 2019’s best networking opportunities, as the OHIO ASPHALT EXPO brings all the industry’s major players – contractors, producers, specifiers, plant operators and public officials – to the Columbus/ Polaris Hilton

Workshop Topics:
• Principles of Commercial Parking Lot Construction
• Silica Milling Rule
• Segregation at Placement
• Electronic Asphalt Delivery Management
• Ethics in Asphalt Pavement Construction
• The Future of Asphalt Mix Design
• ODOT Update
• 6 EXPOEXCEL Education Track seminars
• And more!

What You Will Gain:
• Expert knowledge from industry professionals
• Information on latest asphalt technology, equipment
• Professional development credits for certain presentations
• Enthusiasm for 2019 asphalt season

Conference location
Columbus/Polaris Hilton
8700 Lyra Dr.
Columbus, OH 43240
(614) 885-1600
www.hilton.com

To make your hotel reservations online, visit www.hilton.com. No event code is required.

For more information and to register, visit www.ohioasphaltexpo.org
# 2019 Ohio Asphalt Expo

## Schedule At-A-Glance

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<th>GEMINI BALLROOM B</th>
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<th>POLARIS BALLROOM F</th>
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<td>Principles of Commercial Parking Lot Construction – A National Initiative to Create Asphalt Opportunity</td>
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<td>Ohio Department of Transportation Update</td>
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<td>Polaris Ballrooms A, B, D &amp; E Scholarship &amp; Individual Awards Breakfast</td>
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<td>10:30 am</td>
<td>Keynote: “Innovations from the NCAT Pavement Test Track to Improve the Value of Asphalt Pavements” – Dr. R. Buzz Powell, PE, Asst. Director, Senior Research Engineer, NCAT</td>
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<td>Presentation of Industry Service Award to Ralph Kyanko, Kokosing Materials Inc.</td>
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<td>Presentation of William “Bill” Baker Award to Wayne Brassell</td>
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*Program and speakers subject to change

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**SCHEDULE LEGEND**

- General Educational Sessions
- **EXPOEXCEL** Education Tracks
As the construction industry has struggled to resolve disputes in a timely and cost-effective manner, we have seen the rise of DRAs (Dispute Review Advisors) and DRBs (Dispute Review Boards) in an effort to resolve disputes “out in the field” in real-time. Often a single DRA will be used on more modest-sized projects, while a three-person (panel) DRB will be used on larger or more complex projects.

Both DRAs and DRBs have been used with increasing frequency across the construction industry. These boards typically include independent experts whose job it is to oversee project events, and employ expertise and impartial judgment to make recommendations to parties about disputes on a construction project. While not legally bound, the parties frequently adopt the recommendations of the DRA or DRB.

The goal of DRBs is to settle disputes at the earliest opportunity at the lowest project level possible. The hope is that by resolving disputes quickly and informally, disputes will cause minimal disruption in the project; long-term relationships will be protected; and legal fees and other disruptions are minimized. Real-time dispute resolution mechanisms like DRAs and DRBs have been very effective at achieving cost-effective outcomes without formal “lawyering up.”

Some of the advantages of the DRB process are:

- Parties are less likely to advance frivolous claims or defenses at the risk of losing credibility with the DRB
- Board members continually monitor the project and readily understand developments
- Board members get to know and understand the people involved and can facilitate trust and respect
- Ongoing knowledge of the project and its participants give credibility and support to the DRB’s recommendation.
The Ohio Department of Transportation (ODOT) has frequently used alternative dispute resolution (ADR) processes such as DRAs and DRBs, and has done so since 2002. This is one of the reasons that ODOT has experienced much less litigation in the Court of Claims than other similarly situated state agencies doing a similar volume of construction work.

Studies have shown that DRBs have been positively received by project stakeholders and contribute to the success of a project. Resolution rates (avoiding litigation) of almost 99 percent have been reported.

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Mark Your Calendars

**Ohio Asphalt Expo**
**March 26-27, 2019**
Columbus/Polaris Hilton Hotel
8700 Lyra Drive
Columbus, OH 43240

The Asphalt Expo is Ohio's premier asphalt pavement event with multiple concurrent educational sessions and an indoor and outdoor trade show and exhibition. If you construct, inspect, manage or maintain local or private transportation infrastructure, the Ohio Asphalt Expo has the information you need to ensure a successful, long-lasting asphalt pavement.

**Field Quality Control Supervisor Training**
**April 4, 2019**
Crowne Plaza Hotel Dublin
600 Metro Place N.
Dublin, OH 43017

This seminar provides the training required to become approved to perform the Field Quality Control Supervisor (FQCS) function required under ODOT specifications or to acquire re-approval after five years since the previous training. This session will include training on porous asphalt pavement construction to become approved to construct porous asphalt pavement.

**Level 2 Asphalt Quality Control Technician Training**
**May 7-10, 2019**
Ohio University Lancaster Campus
1570 Granville Pike
Lancaster, OH 43130

Flexible Pavements of Ohio offers this training course to prepare individuals having basic lab familiarity to take the ODOT Level 2 Asphalt Technician Exam. After the training, students will have the opportunity to take the ODOT written examination for Level 2 Asphalt Concrete Technician approval.

Visit FPO's website at www.flexiblepavements.org for more information regarding these events.

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**Preservation for the Long Haul**

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- **Longer Lasting**
- **Smotherer Ride**
- **Enhanced Structural Capacity**

www.ThinlayAsphalt.com
Unscramble the following 10 Industry related words.

**AOFNREPRECM**  
Clue: What we expect from a pavement

**FTEEIIML**  
Clue: Age old

**LSATHPA**  
Clue: The smoothest pavement

**CIYTELREVABIIS**  
Clue: AASHO seat-o-meter

**ULTAITYABSISNI**  
Clue: A Green metric

**SSMOSNOHTES**  
Clue: Most appreciated asphalt attribute

**YNGEVOLTI**  
Clue: Perpetual Pavements ensures this

**OHAIRNBAILTITE**  
Clue: Made simple by using asphalt

**NTAPVEEM**  
Clue: Cars drive on it

**LANTYIH**  
Clue: An asphalt preservation treatment

Performance, lifetime, asphalt, serviceability, sustainability, smoothness, longevity, rehabilitation, pavement, thinlay
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