Illinois Tollway APPROVED LIST OF WARM-MIX ASPHALT (WMA) TECHNOLOGIES November 19, 2020

(Applicable to several Tollway asphalt mixture special provisions.)

Chemical Additive Technologies

Arkema Road Science 6502 South Yale Avenue, Ste 100 Tulsa, OK 74143 Attn: Heather O'Hara <u>www.roadscience.net</u> "AD-here ULTRA 1" Akzo Nobel Surface Chemistry LLC Asphalt Applications 525 W. Van Buren St. Chicago, IL 60607-3823 Attn: Sundaram Logaraj www.sc.akzonobel.com "REDISET LQ"

Cargill Industrial Specialties 13400 15th Ave N, Suite B Plymouth, MN 55441 Attn: Susan Listberger <u>www.cargill.com</u> "Anova[™] 1815 Additive" Ingevity 5255 Virginia Ave North Charleston, SC 29406 Attn: Craig Reynolds www.ingevity.com "EVOTHERM M1" "EVOTHERM J1" "EVOTHERM J12" "EVOTHERM P25"

Zydex Industries 106 Kitty Hawk Drive Morrisville, NC 27560 Attn: Radhika Kiran <u>www.zydex.com</u> "Zycotherm SP"

Mechanical (Foaming) Technologies

Astec, Inc. 4101 Jerome Avenue P.O. Box 72787 Chattanooga, TN 37407 Attn: Mike Varner www.astecinc.com "ASTEC WARM MIX SYSTEMS"

AQUABlack Solutions 6501 E. Commerce Ave Kansas City, MO 64120 Attn: Roger Sandberg www.maxamequipment.com "MAXAM AQUABLACK"

Stansteel Asphalt Plant Products

All-State Materials Group Sonneborn, Inc. 100 Sonneborn LanePetrolia, PA 16050 Attn: Chris Strack <u>www.asmg.com</u> "SonneWarmix[™]"

Gencor Industries, Inc. 5201 North Orange Blossom Trial Orlando, FL 32810 Attn: Dennis B. Hunt <u>www.gencor.com</u> "GENCOR ULTRAFOAM GX2™"

AquaFoam LLC

12711 Townepark Way Louisville, KY 40243 Attn: James Horne www.stansteel.com "STANSTEEL ACCU-SHEAR" 7 Wildwood Drive Fairfield, OH 45014 Attn: Paul Schwan aquafoamllc.com "AquaFoam"

Terex Roadbuilding 9528 W. Interstate 40 Oklahoma City, OK 73127 Attn: Tim Owens <u>www.terex.com</u> "Terex Warm Mix Asphalt System"

A.Scope

A Warm-Mix Asphalt (WMA) Technology will be tested and approved prior to use one an Illinois Tollway project. The following guidelines provide the submittal and testing requirements for Illinois Tollway WMA Technologies:

B.Procedure

Submit a proposed WMA Technology to the Illinois Tollway, including the following information:

- The product brand name
- Safety Data Sheet
- Technical Data Sheet
- Contact person's name, title, address, email address, and phone number

Send the submittal information to:

Cynthia M. Williams Illinois Tollway Materials Department 2700 Ogden Avenue Downers Grove, Illinois 60515-1703 cmwilliams@getipass.com

The process for evaluating a WMA Technology involves incorporating the material / technology into a Tollway asphalt mix design containing the proposed technology, along with field production of the mix using the WMA technology. The full submittal shall include the following information:

Part 1:

- 1) All the information required for a Tollway asphalt mix design.
- 2) WMA technology manufacturer's established recommendations for usage.
- WMA technology manufacturer's established target rate for water and/or additives, the acceptable variation for production, and documentation showing the impact of excessive production variation.

- 4) Documentation of at least 3 past WMA technology field applications including project type, project owner, tonnage, location, mix design, mixture volumetrics, field density, and performance.
- 5) Temperature range for mixing.
- 6) Temperature range for compacting.
- 7) Asphalt binder performance grade test data over the range of WMA additive percentages proposed for use.
- 8) Laboratory test data, samples and sources of all mixture components, and asphalt binder viscosity-temperature relationships.

Part 2:

- 1) WMA mixture QC/QA test results measured from the test strip samples specific to the Contractor's proposed WMA technology.
- 2) Lab and/or production Hamburg and DCT results for the WMA mix.

If you have any questions regarding the testing and approval process, contact Cynthia Williams at 630-241-6800, ext. 4944.

The Illinois Tollway shall be notified of any change to the chemical additive, mechanical foaming technology, or company contact information. Failure to do so may result in removal of product from the approved list.