



City of Chicago  
Richard M. Daley, Mayor

Department of Transportation

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Date: April 20, 2009

To: All current Chicago Department of Transportation (CDOT) Hot Mix Asphalt Producers

**RE: Hot-Mix Asphalt (HMA) Plant Procedural Requirements**

### HMA Sampling

Over the past several years the Quality Control/Quality Assurance (QC/QA) program has been implemented and is now the standard for the vast majority of projects the City has jurisdiction over. In some cases the proper methods for sampling and splitting an HMA sample down to the correct test sample size has not been performed according to the current QC/QA program requirements. The program utilized by the City follows the requirements which are detailed in the Illinois Department of Transportation (IDOT) program which is referenced in the Standard Specification for Road and Bridge Construction, Section 1030. Section 1030 references the applicable sampling and splitting procedures which can be found in IDOT's Manual of Test Procedures for Materials.

Review your current procedures and adjust them accordingly so they are in line with IDOT's current version of the Manual of Test Procedures for Materials. The following relevant documents detail the correct procedures for sampling and splitting materials, and can be found in Appendix B of the Manual of Test Procedures, except that the required truck sample size of 150 lbs shall be reduced to a minimum of 75 lbs.

- Hot-Mix Asphalt QC/QA Initial Daily Plant and Random Samples
- Truck Sample Splitting Diagram

All QA split samples shall be stored in standard sample buckets (also known as chicken buckets) typically used in the HMA industry. Each sample bucket shall be properly marked with the following information, date, producer/supplier number, lot number, mixture material code, AC material code, and load number sampled. QA split samples shall not be placed in used sample buckets.

### Control Charts

The QC/QA program requires the completion of control charts for many of the parameters being tested on each mixture. The availability of these charts are critical to the QC and QA process when determining trends and whether a test result or trend requires corrective action. Often these charts are not being kept up to date or are not available as required. Please review your current procedures and verify that they are in compliance with the requirements as detailed in IDOT's Manual of Test Procedures for Materials. The following document is contained in The Manual of Test Procedures for Materials and details the specific QC/QA program requirements for control charts.





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- Hot-Mix Asphalt QC/QA Control Charts / Rounding Values

#### Truck Release Agent

All release agents used shall be on IDOT's current Approved List for Materials, Asphalt Release Agents for Vehicles Transporting Hot Mix Asphalt. After the application of the release agent the bed of the truck shall be lifted sufficiently to drain all excess product from the truck bed. Failure to do this can result in stripping of AC from the mixture and rejection of the load.

#### Overnight Storage

Plants with overnight storage shall begin documenting, in the remarks section on their daily plant reports, how many tons of material was held overnight and for approximately how long. Overnight storage is limited to 20 hours and in many cases additional AC may be necessary to counteract the oxidation process that occurs during long periods of storage. Prior to loading the first truck for delivery to the job site, each silo containing stored material shall have the initial 5 tons or more of material wasted to eliminate the presence of any cold material. Mixtures with highly absorptive aggregates, all F mixtures, IL-4.75 sand mixtures and modified neat AC mixtures shall not be stored overnight for any reason.

#### Positive Dust Control Equipment (PDCE)

The use of PDCE at all HMA plants is a requirement for approval by IDOT. This equipment monitors the amount of dust being collected through the bag house and meters a consistent amount of dust back into the mixture avoiding rapid fluctuation in the mixture's dust composition. This process allows better control over the dust content which results in more consistent AC contents, voids, and field densities. If the equipment is not being utilized at this time CDOT requests an initial review of the equipment's function by your QC Manager so implementation on a limited basis can begin. Initially the equipment should be tested on mixtures with lower dust contents which will result in less variability in the final product. This process should continue until the initial fine tuning has been completed. Once the QC Manager has an understanding of how the system works and responds to different set points the equipment should be made operational for the remaining mixtures produced. Full compliance will be required by July 1, 2009.

#### Test Strip Requirements

When a new mixture is scheduled to be produced for the first time during the construction season CDOT QA must be notified so a test strip or rapid start-up procedure can be coordinated if necessary. All F Mixtures, SMA, IL-4.75, and modified neat AC mix designs shall have a test strip or rapid start-up procedure performed on the first day of production. If any





nuclear gauges are to be correlated the correlation shall occur during the test strip procedure.

These changes are effective immediately.

Sincerely,

A handwritten signature in black ink, appearing to read "Cynthia M. Williams".

Cynthia M. Williams  
Quality Assurance Manager  
Chicago Department of Transportation

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