



METROPOLITAN GOVERNMENT PAVEMENT ENGINEERS COUNCIL

October 26, 2017

TO: MGPEC Communities and potential communities
FROM: MGPEC Steering Committee
Subject: Item 20 Asphalt Paving Materials Specification, Version 10222017 Final

On October 26, 2017 at the regular MGPEC Steering committee meeting a vote was conducted to adopt a new version of the Asphalt Paving Materials (APM), Item 20 (formerly Item 9) specification for use in the MGPEC influence area. MGPEC's original asphalt specification was written in 1994 (the same year the first Superpave mix was being placed in Colorado) and has had limited updates/edits since then. Most recently, Item 20 was edited in draft form in 2014 and 2015, however the updates were not published. In June 2017, The Colorado Asphalt Pavement Association offered to provide Item 20 update recommendations to then be vetted by a MGPEC Quick Action Team. MGPEC members and Steering Committee were invited to participate as part of the Quick Action Team. The team met on July 25, 2017 to review the proposed specification updates (including previous versions). A vote to approve was held at the September 24, 2017 Steering Committee meeting. When put to a vote the updated Specification was not approved. Those present wanted to address concerns and comments from CDOT prior to approving the Item 20 specification. After the No vote was recorded there was discussion to hold a second QAT meeting to address the CDOT comments. A Second QAT was held on October 6, 2017 to review and consider comments from CDOT. All the topics brought forth by CDOT were discussed individually. Members of the QAT also brought their individual concerns for discussion. After a lengthy meeting and productive discussion several of the CDOT and individual member comments were adopted while some were rejected. After the QAT meeting the Steering Committee chair and Vice Chair informed the group the specification would be brought to the entire Steering committee for a vote on October 26th. There would be no further discussion other than if members found spelling or grammatical errors in the specification.

At the October 26th meeting the Quick Action Team(s) recommended to the MGPEC Steering Committee to approve the Item 20 update for inclusion into *MGPEC's Volume I – Pavement Design Standards & Construction Specifications*. A vote was held, and the specification was approved with and 11 to 2 votes. A summary of the Item 20 updates includes:

- The previous Item 9 (now Item 20) included both method specifications (how to) and result specifications (required material properties, density, etc.). To streamline the spec with the intent that more agencies across the Front Range will adopt MGPEC, most of the method specifications have been removed. With this completed, Item 20 was shortened from 40 pages to 20 pages.
- Item 9 heavily referenced CDOT specifications, many of which are not suitable or relevant to local agencies. The updated Item 20 has been reworked to focus on MGPEC and local agency interests. Reference to CDOT in the proposed version is to their Approved Products List (APL).
- New verbage has been introduced to reflect current industry trends. References to Hot Mix Asphalt (HMA) have been replaced with the general term Asphalt Paving Materials (APM). References to Warm Mix Asphalt (WMA) had been changed to Workability Mixture Additive (WMA) to incorporate the significance of the compaction aid.

- Section 20.2 (B) The updated version recommends APM allow up to 25% RAP (35% for SG mixes), which is equivalent to CDOT's current RAP specification to allow up to 23.0% asphalt binder replacement.
- Section 20.2 (G) All APM's placed require the inclusion of an Anti-Strip additive. The Item 9 only allowed the use of lime, the Item 20 version allows for the use of liquid Anti-Strip additives.
- Section 20.3 (A) Traffic levels for mix designs have been changed. Currently 3 three levels of traffic are identified as Low (ESAL <100,000), Medium (ESAL 100,000 – 3M), and High (ESAL > 3M). The High category (> 3M) and associated 100 gyrations mix requirement have been eliminated. There is a statement in the updated specification which states "For mixes requiring a design gyration of 100 (ESALs greater than 3 million) the Project Special Conditions should be used. This gyration is not recommended for most roads within MGPEC agencies." Agencies that do have state highways may have ESAL counts in that range, but as state highways, they are subject to CDOT design procedures, not MGPEC. For example, Peña Boulevard (maintained by Denver) only has an ADT value of 77,000 with 6% trucks (below the 3M ESAL value). Eliminating the high traffic level serves two purposes, first, it is not appropriate for local agency design. Second, by reducing the 100-gyration level design down to 75 gyrations, the volume of liquid asphalt binder in the mix will increase, increasing the durability of the APM.
- Table 20.3A-3 The standard recommended target air void has been reduced from 4.0% to 3.5%. Reducing the air voids will increase the volume of liquid asphalt binder in the mix, increasing the durability of the APM. Industry trends across the US are moving to reduce air voids from 4% to 3.5% and have already been adopted in the Colorado Springs area in the PPRTA specifications.
- Section 20.7 (C) The use of WMA technology (additive or foaming) as a compaction aide and maintaining workability of APM at lower temperatures has been included.
- Section 20.78 (A) Item 9 specs utilized the use of ambient air temperatures for the placement of APM. The Item 20 specification states that ambient temperatures shall not be used to determine placement, instead, minimum surface temperatures are provided and may be influenced with the use of a WMA additive or cooler ambient temperatures.
- Section 20.13 (B) Using core thickness for project acceptance has been updated to allow for representative sampling. Remedial and Corrective action options are now provided for the agency for projects with deficient thickness.
- Section 20.13 (C) A discussion on smoothness has been included and states that assignment of a smoothness category is not appropriate for projects with speed limits under 35 mph. Discussion is provided for projects with speeds over 35 mph.
- Proposed specifications for Pay Factor Incentives/Disincentives based on Quality Levels was not included for two reasons. One, pay factors are based on CDOT methodologies, and two, not all local agencies have the administrative ability to impose pay factors for awarded contracts.
- Form 20 has been revised to reflect each of the proposed updates and is easier to use.