

AC 5370-10 Update

Potential Changes for Asphalt Specifications in -10J

Presented to: TRB 2024 - Airfield Asphalt User/Producer Meeting

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**Federal Aviation
Administration**

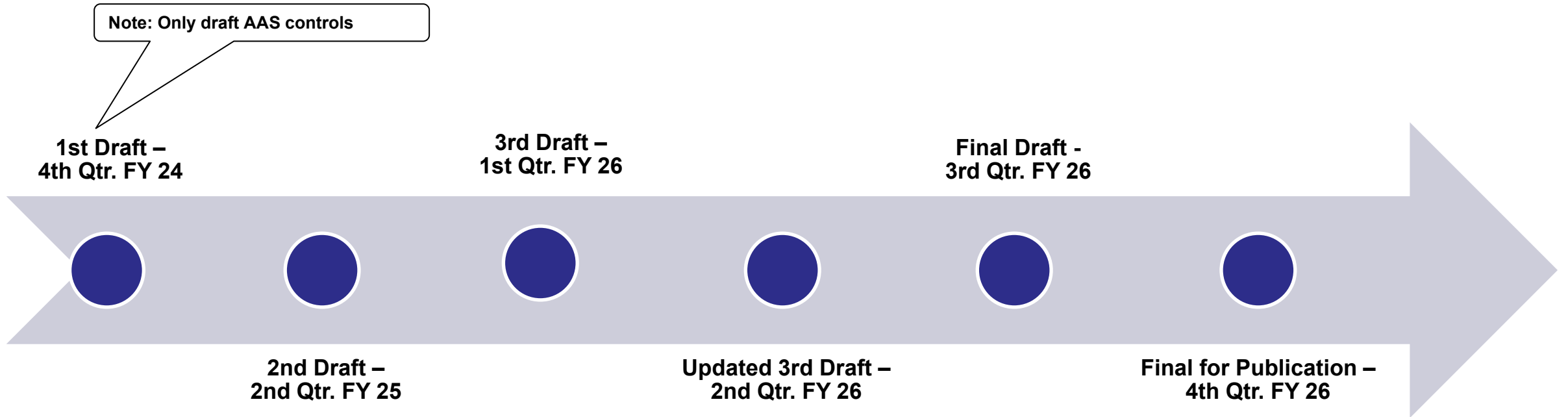


Advisory Circular Update Process

- **1st Draft : internal FAA review** & coordination with HQ, Regions and other LOB's
 - Consolidate and resolve internal review comments and prepare Industry Draft
- **2nd Draft: provided to industry** for review & comment
 - Consolidate and resolve industry comments and prepare FAA Legal (AGC) Draft
- **3rd Draft: submitted to FAA Legal (AGC)** for initial review and comment
 - Is there any infringement of regulatory authority
 - Have FAA and Industry comments been properly adjudicated
 - Address comments and Prepare QA/QC Review Draft
- **Updated 3rd Draft: submitted for QA/QC Review**
 - Review with AGC for any remaining comments and final clearance
 - Prepare final draft for ARP Management Review
- **Final Draft presented to ARP Management**
- **Final Package** prepared for signature & publication



Current Timeline for -10J Update





Let's look at some potential updates.....

- ***Disclaimer: The discussion does not represent final updates. Everything is subject to change before release of draft for industry review.***

General Updates

- Incorporate capability to download individual specs from FAA website
 - Additionally, the entire AC will be available for download
- Improved editing of Word Documents
 - One click removal of unused units and Notes to Engineer
- Establish process for annual updates
 - Incorporates agility for specs to be updated annually if necessary

Part 4 – Base Courses

- Item P-207 In-Place Full Depth Reclamation (FDR) Recycled Asphalt Aggregate Base Course
- Item P-208 Aggregate Base Course
- Item P-209 Crushed Aggregate Base Course
- Item P-210 Caliche Base Course
- Item P-211 Lime Rock Base Course
- Item P-212 Shell Base Course
- Item P-213 Sand-Clay Base Course
- Item P-217 Aggregate-Turf Runway/Taxiway
- Item P-219 Recycled Concrete Aggregate Base Course
- Item P-220 Cement Treated Soil Base Course

Part 5 – Stabilized Base Courses

- Item P-304 Cement-Treated Aggregate Base Course (CTP)
- Item P-306 Lean Concrete Base Course
- Item P-307 Cement Treated Permeable Base Course (CTPB)

Part 6 – Flexible Pavements

- Item P-401 Asphalt Mix Pavement
- Item P-403 Asphalt Mix Pavement [Base] [Leveling] [Surface] Course
- Item P-404 Fuel-Resistant Asphalt Mix Pavement



P-401 – Mix Design (Superpave vs. Marshall) & Asphalt Content

- **NAPA Comment:**

- *NAPA recommends that when the APTP project looking at gyration levels is completed, the FAA should transition to a single compaction method for all asphalt mixtures in this AC.*

- **Preliminary FAA Response:**

- Although the APTP project will likely not conclude prior to release of the industry draft of -10J, we are anticipating to only reference Superpave mix design in P-401.

- **NAPA Comment:**

- *NAPA recommends the removal of asphalt content ranges from Table 2 since the minimum VMA requirement sets the minimum asphalt content and the rutting test requirement protects against rutting potential for mixtures.*

- **Preliminary FAA Response:**

- *Concur. Asphalt content ranges are intended to be removed from this table.*



P-401 – Control Strip

- **NAPA Comment:**

- *NAPA recommends that FAA clarify that the average of a minimum of three samples must fall within the tolerances for control strip acceptance when those tolerances are stated. Additionally, NAPA recommends considering relaxing the control strip tolerances to align closer to Table 5. If FAA thinks this is not an appropriate action, this could be an appropriate study for the AAPT to consider.*

- **Preliminary FAA Response:**

- We intend to add language in the specification regarding a pre-paving meeting, which will accompany language regarding control strip requirements. We will strive to clarify any confusion regarding the acceptance for a control strip in the update.
- We intend to include the following control strip acceptance criteria: Mat density greater than or equal to 94.0%, laboratory air voids >2% and <5%, and joint density greater than or equal to 92.0%.



P-401 – Natural Sand Requirements

- **NAPA Comment:**

- *NAPA recommends forgoing the limitations placed on natural sand due to the additional testing of mixture stability.*

- **Preliminary FAA Response:**

- Despite the current requirement for rutting tests during mix design, some airports are still experiencing rutting of in-service pavements.
 - In July 2023, the FAA Technical Center published a report that included recommended changes to our asphalt specifications. This report recommended inclusion of an uncompacted voids test along with adjustments to natural sand limits based upon aircraft loading.

Proposed Change to Fine Aggregate Material Req's

Uncompacted Voids	For pavements designed for aircraft gross weights $\geq 60,000$ lb (27,200 kg): Uncompacted Voids $>45\%$ For pavements designed for aircraft gross weights $< 60,000$ lb (27,200 kg): Uncompacted voids not required	ASTM C1252, Method A
[Natural Sand	For pavements designed for aircraft gross weights $\geq 60,000$ lb (27,200 kg): [0% to 10%] maximum by weight of total aggregate For pavements designed for aircraft gross weights $< 60,000$ lb (27,200 kg): [0% to 15%] maximum by weight of total aggregate	ASTM D1073



P-401 – Job Mix Formula & RAP Allowances

- **NAPA Comment:**

- *NAPA recommends that FAA consider allowing job mix formulas to be valid beyond one construction season.*

- **Preliminary FAA Response:**

- We will consider incorporating language into the update that provides for some allowance to extend job mix formulas beyond one construction season.... There might be some amount of material quality testing to accomplish as part of the validation process.

- **NAPA Comment:**

- *NAPA recommends removing “Engineer will determine if RAP is/is not allowed and make appropriate selection” from the AC.*

- **Preliminary FAA Response:**

- There is a current AAPTTP project to evaluate the broader use of RAP in airport pavements. We appreciate this comment. However, presently we are not intending to make any significant updates to RAP allowance prior to the outcome of this project.



P-403 – Mat Density & P-603 – Emulsified Asphalt Tack Coat

- **NAPA Comment:**
 - *NAPA recommends revising the mat density acceptance criteria for Item P-403*
- **Preliminary FAA Response:**
 - We are considering (intending) to eliminate P-403 as an individual specification in the -10J update.
- **NAPA Comment:**
 - *NAPA recommends that FAA consider additional tack coat materials be allowed in the AC.*
- **Preliminary FAA Response:**
 - We are intending to expand the allowable tack coat materials in the -10J update.
 - This will likely include virgin asphalt grades along with reduced-tracking materials.

Final thoughts.....

- Provide input to NAPA and we will gladly discuss/consider these items as we move towards the first draft of -10J for internal FAA review.
- A draft for Industry Review should be available in early(ish...) 2025. Please coordinate comments through NAPA for consolidation and final submission to the FAA.



Questions?

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