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Department Memorandum

Idaho Transportation Department

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DATE: November 29, 2023 **Program Number(s)**

TO: District Engineers (1-6), HQ Section Managers **Key Number(s)**

FROM: Dan McElhinney, P.E. **Program ID, County, Etc.**
Chief Deputy/Chief Operations Officer

RE: New 405 Superpave Hot Mix Asphalt Specification (2024)

In coordination with FHWA and teaming with our ITD/AGC Industry Peer Review Advisory Group (PRAG)/ Technical Advisory Group (TAG) since fall 2020 with a focus on quality asphalt pavement and constructability for projects in Idaho, please find attached the updated 405 HMA specification for use in all contracts to be advertised this fall/winter.

The new specification includes limiting RAP in the Superpave mixtures to 17% by asphalt content (or less), calibrates the NCAT ovens using the AASHTO T 308 method, no longer uses the IR 157 asphalt analyzer method, and enhances the testing process to help avoid delays during production.

The following are points of clarification or changes to ITD's process in relation to the plant mix specification. The following bullet points will be incorporated into ITD's processes for all projects with the latest version of the plant mix specification.

- The Department will not incorporate this specification into existing contracts but will begin including this specification in new contracts being advertised.

- Aggregate Specific Gravity testing requires both lab qualification and a two-part tester qualification.

    - The laboratory must be qualified for the following tests: FOP AASHTO T 85, IR 144, and IR 146. The tests will be added to the existing list of options that are open to the districts for lab qualifications. AASHTO T 85 cannot be obtained as an individual qualification.

    - The Gsb tester qualifications will consist of two parts.

        - Part A. FOP AASHTO T 85 is a WAQTC qualification, and the IR 144 and IR 146 test methods are individual qualifications. They may be obtained from the Central Lab using a prescribed curriculum. The first qualification must be by obtained through the Central Lab. Requalification will be obtained by Part B.

        - Part B. Each year, testers will participate in observed peer-review testing, round-robin activities, or proficiency testing coordinated through the Central Labs. The purpose of this is to ensure uniformity in testing throughout the Department. The results of any round-robin or proficiency statistics will be used for continual improvement only.

- The prebatch meeting will be to discuss FOP AASHTO T 308 and 405.03.B.3. The meeting will cover the details of when, where and how the samples will be made, and what ITD's expectations are to accept the samples.

- ITD will witness the making of AASHTO T 308 correction factor specimens starting after the virgin aggregate has been dried to constant mass and has been graded per individual sieves through the minus #200 or 95% retained. The inspector will witness the amount of aggregate from each sieve and the amount of oil added and document the amounts on a new batching witnessing form – ITD 4665. Please note, AASHTO T 308 specimens may be used on multiple projects as long as all conditions are satisfied. Failure to witness the making of the AASHTO T 308 specimens is an exception to the material requirements as contained in the 400 section of the Quality Assurance Manual. The witnessing requirement may not be waived by DCEs or construction staff.

- ITD will collect a sample of aggregate for AASHTO T308 during the specimen batching process to verify material from the correct aggregate sources are being used. The sample will be delivered to either the Headquarters Lab or a District Lab for Gsa testing. The verification Gsa test results will be compared to the Gsa test results determined prior to Mix Design approval. For coarse materials tested using AASHTO T 85, the difference in values must not vary by more than 0.035 and the fine Gsa aggregate tested using IT 144 must not vary by more than 0.015. If the differences in Gsa values for both the course and fine aggregates are not within the tolerance, FOP AASHTO T 308 correction factor samples will be discarded and new AASHTO T308 samples will be made using aggregates that can be proven to have come from the aggregate source described in the mix design documents. The Gsa differences will be recorded on a new form, Source Verification Form, ITD 4666.

- ITD inspectors will verify that the contractor has calibrated the hot plant as per Idaho IR 155. If they do not match the most recent plant calibration record that was witnessed, the inspector will witness a new calibration verification in accordance with Idaho IR 155.

It is intended this memo will be used as Department Policy in conjunction with the new 405 HMA Superpave (2024) specification. The Department reaffirms the importance of witnessing the making of the AASHTO T 308 specimens and they will be witnessed and documented by the Engineer including the materials being verified to have come from the approved sources. These two new material acceptance requirements will be accounted for in the project material summary. A new Gsb testing qualification program will be implemented for testing technicians. Finally, the new 405 HMA Superpave (2024) will be included in new projects only and will not be implemented by change order into existing contracts. These actions are key elements to a smooth implementation of the new 405 specification.

In addition, several points from the PRAG/ TAG 2022 Spring 405 HMA Update Memo are still viable and will be incorporated by addenda to the Quality Assurance manual. These items consist of specimen cure times, pre-paving meeting agreements, allowable changes to the JMF and “Small Quantities.”

Since our December 2022 ITD/AGC all asphalt companies workshop, we appreciate all the input from our ITD team of district managers, material engineers, lab experts, and also our contractor industry asphalt experts to capture the lessons learned during the last three paving seasons and develop a simpler specification that will deliver quality projects with less risk of delay during production. In addition, we extend a sincere thanks again to our industry PRAG and TAG members, and a special thanks to Idaho AGC CEO Wayne Hammon, Chris Hartman of Knife River, Tim Bentley of IMC, Chase Camberlango and Gary Mattson of Western Construction, Taj Anderson of POE Asphalt, Wade Allen of District 6, Jason Brinkman of District 3, Megan Kautz of LHTAC, Aaron Kloepfer of Kloepfer Inc., Kyle Holman of FHWA, Jason Minzghor of District 6, Tim Morgan of Atlas, Scott Cron of Strata, Orlan Lund of Sunroc, Pat McEntee of Central Paving, Josh Smith of Knife River, Ed Benson of Interstate, and Chad Clawson our ITD Construction/Materials Manager and the Construction/Materials team.