



Wisconsin Department of Transportation

September 15, 2020

**Division of Transportation Systems
Development**
Bureau of Project Development
4822 Madison Yards Way, 4th Floor South
Madison, WI 53705

Telephone: (608) 266-1631
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NOTICE TO ALL CONTRACTORS:

Proposal #01: 1060-33-84, WISC 2020 466
Zoo IC, USH 45
Swan Blvd to Burleigh Street
USH 45
Milwaukee County

1060-34-77
Zoo IC, North Avenue
118th Street to 116th Street
Loc Str
Milwaukee County

1100-18-73, WISC 2021 001
Zoo IC, Polymer Overlays
Zoo IC Mainline Bridges
Var Hwy
Milwaukee County

1100-18-76, WISC 2002 467
Zoo I/C Overpasses
Various Locations
Var Hwy
Milwaukee County

Letting of October 13, 2020

This is Addendum No. 02, which provides for the following:

This addendum replaces ASP-6 shown in Addendum No. 01 with the attached ASP-6 that is Effective with the October 2020 Letting. Standard spec 102.7.2 was added to ASP-6 adding note 8 and Standard spec 102.7.3 (1) note 12 was deleted.

The responsibility for notifying potential subcontractors and suppliers of these changes remains with the prime contractor.

Sincerely,

Mike Coleman

Proposal Development Specialist
Proposal Management Section

END OF ADDENDUM

Additional Special Provision 6

ASP 6 - Modifications to the standard specifications

Make the following revisions to the standard specifications:

102.1 Prequalifying Bidders

Replace paragraph two with the following effective with the October 2020 letting:

- (2) Furnish a dated prequalification statement on the department's form at least 10 business days before the time set for the letting to close.
-

102.6 Preparing the Proposal

Replace the entire text with the following effective with the October 2020 letting:

102.6.1 General

- (1) Submit completed proposals on the department's bidding proposal described in 102.2. Submit legible information only. Write everything in ink, by typewriter, or by computer-controlled printer. Provide all dollar amounts in dollars and cents, in numerals. Attach all addenda to the submitted proposal.
- (2) Properly execute the proposal. Place the required signatures, in ink, in the space provided on the bidding proposal as indicated below:

ENTITY SUBMITTING PROPOSAL

REQUIRED SIGNATURE

| | |
|----------------------------------|--|
| Individual | The individual or a duly authorized agent. |
| Partnership | A partner or a duly authorized agent. |
| Joint venture | A member or a duly authorized agent of at least one of the joint venture firms. |
| Corporation | An authorized officer or duly authorized agent of the corporation. Also show the name of the state chartering that corporation and affix the corporate seal. |
| Limited liability company | A manager, a member, or a duly authorized agent. |

- (3) Instead of using the schedule of items provided on the department's bidding proposal, the bidder may submit a substitute schedule with the proposal. Use a format for the substitute schedule conforming to the department's guidelines for approval of a bidder-generated schedule of items. Obtain the department's written approval before using a substitute schedule.
- (4) Provide a unit price for each bid item listed in the schedule of items. Calculate and show, in the bid amount column, the products of the respective unit prices and quantities. For a lump sum bid item, show the same price in the unit price column and in the bid amount column pertaining to that bid item. Show the total bid obtained by adding the values entered in the bid amount column for the listed bid items.
- (5) If a unit price or lump sum bid already entered in the proposal needs to be altered, cross out the entered unit price or lump sum bid with ink or typewriter and enter the new price above or below and initial it in ink.
- (6) A change that the bidder makes in the proposal is not an alteration if the bidder makes that change as directed in a specific instruction contained in an addendum.

102.6.2 Disadvantaged Business Enterprise (DBE) Commitment

- (1) Before the letting is closed, submit the following documentation for proposals with a DBE goal:
 1. Commitment to subcontract to DBE on department form DT1506.
 2. Attachment A for each subcontractor listed on the DT1506.
 3. If the DBE goal is not attained, certificate of good faith efforts on department form DT1202.
 - (2) Within 24 hours after the letting is closed, email all supplemental documentation for the DT1202 verifying efforts made to attain the DBE goal to DBE_Alert@dot.wi.gov.
-

102.7.2 Department May Reject

Replace paragraph one with the following effective with the October 2020 letting:

- (1) Proposals are irregular and the department may reject them for one or more of the following reasons:
 1. The proposal contains unauthorized alterations of format, words, or figures.
 2. The schedule of items contains errors, alterations, or omissions in, bid item numbers, quantities, descriptions, or units of measure, that cannot be corrected as specified in 102.7.1.

3. The proposal is not prepared as specified in 102.6.
4. There are unauthorized alterations, additions, conditional or alternate bids, amendments, attachments, or irregularities that may tend to make the proposal incomplete, indefinite, or ambiguous as to its meaning.
5. There are unauthorized erasures or alterations appearing on the designation of the party to whom the department issued the bidding proposal.
6. The award of the bid, together with the value of the bidder's uncompleted contract work, exceeds the bidder's established ratings, as determined in 102.1, at the time set for awarding the work.
7. A single entity, under the same or different names, or affiliated entities submit more than one proposal for the same work. The submitting entity may be an individual, partnership, joint venture, corporation, or limited liability company.
8. Does not submit the DBE forms and required supplemental documentation of the good faith efforts as specified in 102.6.2.

102.7.3 Department Will Reject

Replace paragraph one with the following effective with the October 2020 letting:

- (1) Proposals are irregular and the department will reject and will not post them if the bidder:
 1. Does not furnish the required proposal guaranty in the proper form and amount as specified in 102.8.
 2. Does not submit a unit price for each bid item listed, except for lump sum bid items where the bidder may show the price in the bid amount column for that bid item.
 3. Includes conditions or qualifications not provided for in the department-supplied bidding proposal.
 4. Submits a bid on a bidding proposal issued to a different bidder without obtaining departmental authorization to do so.
 5. Submits a bid that contains unauthorized revisions in the name of the party to whom the bidding proposal was issued.
 6. Submits a schedule of items with illegibly printed bid item numbers, descriptions, or unit prices.
 7. Submits a schedule of items for the wrong contract.
 8. Submits a bidder-generated schedule of items with an incorrect bid item number and incorrect description for a single bid item.
 9. Omits a bid item or bid items on a bidder-generated schedule of items.
 10. Submits a materially unbalanced bid.
 11. Does not sign the proposal.
 - ~~12. Does not submit the DBE forms and required supplemental documentation of the good faith efforts as specified in 102.6.2.~~

102.12 Public Opening of Proposals

Replace paragraph one with the following effective with the October 2020 letting:

- (1) The letting will close at the time and place indicated in the notice to contractors. The department will publicly open and post the total bid for each proposal on the Bid Express web site beginning at noon on the day after the letting is closed except as specified in 102.7.3 and 102.8. If a proposal has no total bid shown, the department will not post the bid. After verification for accuracy under 103.1, the department will post bid totals on the HCCI web site.

<https://wisconsin.gov/Pages/doing-bus/contractors/hcci/bid-let.aspx>

103.1 Consideration of Proposals

Replace paragraph one with the following effective with the October 2020 letting:

- (1) Following the public opening of the proposals received, the department will compare them based on the summation of the products of the quantities of work listed and the contract unit prices offered. In case of discrepancies, errors, or omissions, the department will make corrections as specified in 102.7.1. In awarding contracts, the department, in addition to considering the amounts stated in the proposals, may consider one or more of the following:
 1. The responsibility of the various bidders as determined from a study of the data required under 102.1.
 2. The responsiveness of the bid as determined under 102.6.
 3. Information from other investigations that the department may make.

104.3 Contractor Notification

Replace the entire text with the following effective with the December 2019 letting:

104.3.1 General

- (1) Subsection 104.3 specifies the step-by-step communication process to be followed to expedite the resolution of potential contract revisions identified by the contractor. Both contractor actions and department responses are outlined. The contractor's non-compliance with the requirements of 104.3 may constitute a waiver of entitlement to a pay adjustment under 109.4 or a time extension under 108.10. The department and contractor can mutually agree to extend any time frame specified throughout 104.3.

104.3.2 Contractor Initial Oral Notification

- (1) If required by 104.2, or if the contractor believes that the department's action, the department's lack of action, or some other situation results in or necessitates a contract revision, the contractor must promptly provide oral notification to the project engineer. Upon notification, the project engineer will attempt to resolve the identified issue.

104.3.3 Contractor 5-Day Written Statement

- (1) If the project engineer has not responded or resolved the identified issue within 5 business days after receipt of initial notification, provide a contractor written statement to the project engineer in the following format:

Part 1 - Executive Summary *(label page 1.1 through page 1.x)*

Include a detailed, factual statement of the request for additional compensation and contract time. Include the date the issue was identified, the date initial notification was given to the project engineer, and the dates and specific locations of work involved.

Part 2 - Contractor's Basis of Entitlement *(label page 2.1 through page 2.x)*

Include references to relevant contract provisions and a narrative summarizing how the contract provisions support the request for a revision to the original contract.

Part 3 - Contractor's Request for Damages *(label page 3.1 through page 3.x)*

When requesting additional compensation, include an itemized list of costs with a narrative supporting the requested amount and explaining how the costs are tied to the requested contract revision.

When requesting additional contract time, include a copy of the schedule that was in effect when the issue occurred and a detailed narrative explaining how the issue impacted controlling items of work. Provide a time impact analysis utilizing base and updated schedules.

If the full extent of either compensation or time is not known at the date of submittal of the contractor 5-Day written statement, provide a brief statement as to why, and include estimated compensation and time.

Part 4 - Supporting Documentation *(label page 4.1 through page 4.x)*

Include copies of the following:

- A. Relevant excerpts from specifications, special provisions, plans, change orders, or other contract documents.
 - B. Communication on the issue, including: letters, e-mails, meeting minutes, etc.
 - C. Any other documentation to support or clarify the contractor's position, including: daily work records, cost summary sheets, weigh tickets, test results, sketches, etc.
- (2) With the submittal of the written statement, the contractor may also request a meeting with the region.

104.3.4 Region One-Day Written Acknowledgment

- (1) Within one business day after the contractor provides the 5-day written statement, the project engineer will provide a region one-day written acknowledgment to the contractor. The project engineer will continue to resolve the issue.

104.3.5 Region 5-Day Written Response

- (1) Within 5 business days after receiving the contractor 5-day written statement, the project engineer may request specific additional information to allow the project engineer to decide whether item 1 or 2 of 104.3.6(1) applies. The project engineer will state the information needed and date it is to be received for further review. Submit additional information as an amendment to the contractor 5-day written statement.

104.3.6 Region Final Decision

- (1) Within 10 business days after receiving the contractor 5-day written statement or additional information requested in 104.3.5(1), whichever comes last, the region will consider all information and provide a region final decision in writing to the contractor with one or more of the following responses:

1. The region will confirm that the contractor is entitled to a contract revision and a contract change order is necessary as specified in 104.2. The project engineer will give direction concerning the potential change.
 2. The region will deny that the contractor is entitled to a contract revision. The project engineer will provide a statement as to why the issue is not a change to the contract. At a minimum, the project engineer will respond to the contractor's issues and refer to the contract to show why the issues are not a change from the original contract.
- (2) If the contractor does not agree with the region's decision the contractor may pursue the issue as a claim as specified in 105.13. Alternatively, if the contractor and department mutually agree, the department will get a third-party advisory opinion according to the department's dispute resolution procedures.
- (3) If a third party reviews the issue, their recommendation is not binding on either party. The region has 10 business days after receipt of the third party's written recommendation to render a decision. If the department fails to respond in writing within those 10 business days or the contractor disagrees with the region's decision, the contractor may pursue the issue as a claim as specified in 105.13.
-

104.6.1.2.1 General

Replace paragraph one with the following effective with the December 2019 letting:

- (1) Conduct construction operations and provide facilities required to maintain the portion of the project open to the public in a condition that safely and adequately accommodates public traffic. Use barricades, signs, flaggers, and temporary barrier as specified in part VI, of the WMUTCD and ensure that the contractor's use of the right-of-way conforms to 107.9. Throughout the life of the contract, and as the engineer directs, conduct construction operations and provide facilities as follows:
 - Conduct flagging operations conforming to plan details and the department's flagging handbook.
 - Use drums, barricades, and temporary barrier to delineate and shield abrupt drop-offs and other hazards.
 - Furnish, erect, and maintain traffic control devices and facilities conforming to 643.
 - Furnish, erect, and maintain temporary pedestrian devices and facilities conforming to 644.
-

104.6.1.2.2 Flagging

Replace paragraph three with the following effective with the December 2019 letting:

- (3) Provide associated advanced warning signs that meet the retroreflective requirements of 637.2.2.2. Provide temporary portable rumble strips from the department's APL installed according to manufacturer's instructions and as specified in the flagging plan details. Provide guidance service through the worksite using pilot vehicles if required.

Replace paragraph five with the following effective with the December 2019 letting:

- (5) Flagging is incidental to the contract and includes costs for advance signing, temporary portable rumble strips, and pilot vehicle guidance service.

104.8 Rights in the Use of Materials Found on the Project

Replace paragraph two with the following effective with the December 2019 letting:

- (2) Do not excavate or remove material from within the right-of-way that is not within the vertical and horizontal excavation limits the plans show except as follows:
- If the contract does not identify potential source areas, obtain written authorization from the engineer to use those sources. Complete required environmental documentation and obtain necessary permits. The department will reduce pay by \$1.50 per cubic yard under the Material from Right-of-Way administrative item for material obtained from those areas.
 - If the contract identifies potential source areas that were evaluated and permitted in the original environmental document, do not begin excavating in those areas until the engineer allows in writing. Additional environmental documentation and environmental permits are not required. The department will not reduce pay for material obtained from those areas.

The department may suspend use of these sources if the contractor's operation affects the essential functions or characteristics of the project.

104.10.1 General

Replace paragraph one with the following effective with the December 2019 letting:

- (1) Subsection 104.10 specifies a 2-step process for contractors to follow in submitting a cost reduction incentive (CRI) for modifying the contract in order to reduce direct construction costs computed at contract bid prices. The initial submittal is referred to as a CRI concept and the second submittal is a CRI proposal. The contractor and the department will equally share all savings generated to the contract due to a CRI as specified in 104.10.4.2(1). The department encourages the contractor to submit CRI concepts for the following situations:
1. The contractor generates the original cost savings idea and formulates it into a concept.
 2. The department generates the original cost savings idea and obtains the contractor's assistance to formulate the idea into a concept.

Replace paragraph five with the following effective with the December 2019 letting:

- (5) The department will consider a CRI that changes but does not impair the essential functions or characteristics of the project. These functions or characteristics include, but are not limited to, appearance, service life, economy of operations, ease of maintenance, design, and safety of structures and pavements, construction phasing or procedures, or other contract requirements. The department will not consider a CRI that changes the following:
- Permanent pavement type.
 - Permanent structural cross section above the subgrade.
-

104.10.2 Submittal and Review of a CRI Concept

Replace paragraphs five and six with the following effective with the December 2019 letting:

- (5) The department may consider a CRI concept that addresses a potential change under 104.2.
- (6) The department will not implement a contractor-initiated CRI concept, or portion of that concept, without sharing the cost savings with the contractor as specified in 104.10.4.2.
- (7) The savings generated by the CRI must be sufficient to warrant its review and processing and offset the level of risk. The department will assess the risk of the CRI relative to departmental design policies and criteria for the project. The department may reject a CRI concept for the following reasons:
1. It requires excessive time or costs for the contractor to develop the CRI proposal.
 2. It requires excessive time or costs for review, evaluation, investigation, or implementation.
 3. It introduces an inappropriate level of risk.

104.10.4.2 Payment for the CRI Work

Replace paragraph one with the following effective with the December 2019 letting:

- (1) The department will pay for completed CRI work as specified for progress payments under 109.6. The department will pay for CRI's under the Cost Reduction Incentive administrative item. When all CRI costs are determined, the department will execute a contract change order that does the following:
 1. Adjusts the contract time, interim completion dates, or both.
 2. Pays the contractor for the unpaid balance of the CRI work.
 3. Pays the contractor 50 percent of the net savings resulting from the CRI, calculated as follows:

$$NS = CW - CRW - CC - DC$$

Where:

NS = Net Savings

CW = The cost of the work required by the original contract that is revised by the CRI. CW is computed at contract bid prices if applicable.

CRW = The cost of the revised work, computed at contract bid prices if applicable.

CC = The contractor's cost of developing the CRI proposal.

DC = The department's cost for investigating, evaluating, and implementing the CRI proposal.

105.13 Claims Process for Unresolved Changes

Replace the entire text with the following effective with the December 2019 letting:

105.13.1 General

- (1) Before submitting a claim, the department and contractor can mutually agree to have the department get a third-party advisory opinion as specified in 104.3.6.
- (2) The department and contractor can mutually agree to extend any time frame specified throughout 105.13 and can mutually agree to utilize an alternative dispute resolution method at any point before the department renders its final decision.
- (3) The department and contractor share costs related to referral to a dispute review board (DRB) as prescribed in the department's dispute resolution procedures.

105.13.2 Notice of Claim

- (1) If the contractor has followed the procedures for revising the contract specified in 104.2 and provided the notification specified in 104.3, but still disagrees with the region, the contractor may pursue the issue as a claim. File a notice of claim with the project engineer concerning the disagreement within 14 calendar days of receiving the region's decision under 104.3.6(1).
- (2) The project engineer may deny the applicable portion of a claim if the contractor does not do the following:
 1. File the notice of claim within 14 calendar days as specified in 105.13.2(1).
 2. Give the project engineer sufficient access to keep a record of the actual labor, materials, and equipment used to perform the claimed work.
- (3) Upon filing the notice of claim, maintain records as specified for force account statements in 109.4.5. Unless the project engineer issues a suspension, continue to perform the disputed work. The department will continue to make progress payments to the contractor as specified in 109.6.

105.13.3 Submission of Claim

- (1) Submit the claim to the project engineer as promptly as possible following the submission of the Notice of Claim, but not later than the end of the time allowed under 109.7 for the contractor to respond in writing to the engineer-issued semi-final estimate. If the contractor does not submit the claim within that response time, the department will deny the claim.
- (2) The department will not accept the submission of a claim until the resolution process in 104.3 has been completed and the contractor makes no further requests to submit updated information that may affect the region's final decision.

105.13.4 Content of Claim

- (1) The final contractor written statement under 104.3.3 is considered the content of the claim. If the contractor makes a request to submit updated information that may affect the region's final decision

under 104.3.6, submit the updated information as an amendment to the contractor written statement and continue the resolution process in 104.3 before submitting a claim.

- (2) The department may refer the claimant of a false claim to the appropriate authority for criminal prosecution. Certify the claim using the following form:

The undersigned is duly authorized to certify this claim on behalf of (the contractor).

(The contractor) certifies that this claim is made in good faith, that the supporting data are accurate and complete to the best of (the contractor's) knowledge and belief, and that the amount requested accurately reflects the contract adjustment for which (the contractor) believes that the department is liable.

(THE CONTRACTOR)

By: _____
(Name and Title)

Date of Execution: _____

105.13.5 Department Final Decision

- (1) The department will have up to 28 calendar days, from the contractor's submission of the claim, to perform a final review of the claim and conduct all meetings. The department may request, in writing, that the contractor submit additional information related to the claim. Submit that additional information, or notify the department in writing to base its decision on the information previously submitted. Either the contractor or region may request a meeting to present their views. Before the meeting, both parties will agree upon written ground rules for the meeting.
- (2) Upon completion of the 28 calendar days for the department's review and meetings, the department will have up to 21 calendar days to render a written decision. The department will consider written and oral submissions from the contractor and region, and may consider other relevant information in the project records.
- (3) The department will provide the following in its final decision:
 - 1. A concise description of the claim.
 - 2. A clear, contractual basis for its decision that includes a reference to 104.2 on revisions to the contract and as appropriate, specific reference to language regarding the bid items in question.
 - 3. Other facts the department relies on to support its decision.
 - 4. A concise statement of the circumstances surrounding the claim and reasons for its decision. If the department rejects the claim in whole or in part, the department will explain why the claimed work is not a change to the contract work.
 - 5. The amount of money or other relief, if any, the department will grant the contractor.
- (4) If the contractor disagrees with the department's final decision, the contractor may initiate a legal action pursuant to state statutes.

106.3.4.2.2 Freeze-Thaw Soundness

Replace paragraph one with the following effective with the December 2019 letting:

- (1) Perform freeze-thaw soundness testing according to AASHTO T103 as modified in CMM 8-60.2. Provide freeze/thaw soundness test results based on the fraction retained on the No. 4 sieve as follows:
 - 1. Using virgin crushed stone aggregates produced from limestone/dolomite sources in one or more of the following counties or from out of state:

| | | | | |
|-------------|-----------|-----------|------------|-----------|
| Brown | Columbia | Crawford | Dane | Dodge |
| Fond du Lac | Grant | Green | Green Lake | Iowa |
| Jefferson | Lafayette | Marinette | Oconto | Outagamie |
| Rock | Shawano | Walworth | Winnebago | |
 - 2. Using gravel aggregates produced from pit sources in one or more of the following counties or from out of state:

| | | |
|-------|------------|----------|
| Dodge | Washington | Waukesha |
|-------|------------|----------|

108.10.3 Excusable Compensable Delays

Replace paragraph two with the following effective with the June 2020 letting:

- (2) The following are compensable delays:

1. A contract change for revised work as specified for extra work under 104.2.2.1, for a differing site condition under 104.2.2.2, or for significant changes in the character of the work under 104.2.2.4.
2. A contract change for an engineer-ordered suspension under 104.2.2.3.
3. The unexpected discovery of human remains, an archaeological find, or historical find consistent with 107.25.
4. The unexpected discovery of a hazardous substance consistent with 107.24.
5. The non-completion of work that utilities or other third parties perform, if the contract specifies a number of days or a completion date for that utility or third-party work. For delays covered under Trans 220 of the Wisconsin administrative code, the engineer will grant a time extension, but the contractor must seek recovery of delay costs from the utility.

208.5 Payment

Replace paragraph three with the following effective with the December 2019 letting:

- (3) The department will adjust pay for material obtained from within the project right-of-way limits but outside project excavation limits, furnished under 208.2.2, as specified in 104.8.

301.2.3 Sampling and Testing

Replace paragraph one with the following effective with the December 2019 letting:

- (1) Department and contractor testing shall conform to the following:

| | |
|---|------------------------------------|
| Sampling ^[1] | AASHTO T2 |
| Percent passing the 200 sieve..... | AASHTO T11 |
| Gradation ^[1] | AASHTO T27 |
| Gradation of extracted aggregate..... | AASHTO T30 |
| Moisture content ^[1] | AASHTO T255 |
| Liquid limit..... | AASHTO T89 |
| Plasticity index..... | AASHTO T90 |
| Wear..... | AASHTO T96 |
| Sodium sulfate soundness (R-4, 5 cycles)..... | AASHTO T104 |
| Freeze/thaw soundness ^[1] | AASHTO T103 |
| Lightweight Pieces in Aggregate..... | AASHTO T113 |
| Fracture..... | ASTM D5821 as modified in CMM 8-60 |
| Moisture/density ^[1] | AASHTO T99 and AASHTO T180 |
| In-place density ^[1] | AASHTO T191 |
| Asphaltic material extraction..... | CMM 8-36 WisDOT Test Method 1560 |

^[1] As modified in CMM 8-60.

301.2.4.5 Aggregate Base Physical Properties

Replace paragraph one with the following effective with the December 2019 letting:

- (1) Furnish aggregates conforming to the following:

TABLE 301-2 AGGREGATE BASE PHYSICAL PROPERTIES

| PROPERTY | CRUSHED STONE | CRUSHED GRAVEL | CRUSHED CONCRETE | RECLAIMED ASPHALT | REPROCESSED MATERIAL | BLENDED MATERIAL |
|---|--------------------|--------------------|---------------------|--------------------|----------------------|--------------------------|
| Gradation AASHTO T27 | | | | | | |
| dense | 305.2.2.1 | 305.2.2.1 | 305.2.2.1 | 305.2.2.2 | 305.2.2.1 | 305.2.2.1 ^[1] |
| open-graded | 310.2 | 310.2 | <u>not allowed</u> | <u>not allowed</u> | <u>not allowed</u> | <u>not allowed</u> |
| Wear AASHTO T96 loss by weight | <=50% | <=50% | note ^[2] | — | note ^[2] | note ^[3] |
| Sodium sulfate soundness AASHTO T104 loss by weight | | | | | | |
| dense | <=18% | <=18% | — | — | — | note ^[3] |
| open-graded | <=12% | <=12% | <u>not allowed</u> | <u>not allowed</u> | <u>not allowed</u> | <u>not allowed</u> |
| Freeze/thaw soundness AASHTO T103 ^[6] loss by weight | | | | | | |
| dense | <=18% | <=18% | note ^[2] | — | — | note ^[3] |
| open-graded | <=18% | <=18% | <u>not allowed</u> | <u>not allowed</u> | <u>not allowed</u> | <u>not allowed</u> |
| Liquid limit AASHTO T89 | <=25 | <=25 | <=25 | — | — | note ^[3] |
| Plasticity AASHTO T90 | <=6 ^[4] | <=6 ^[4] | <=6 ^[4] | — | — | note ^[3] |
| Fracture ASTM D5821 ^[6] min one face by count | | | | | | |
| dense | 58% | 58% | 58% | — | note ^[5] | note ^[3] |
| open-graded | 90% | 90% | <u>not allowed</u> | <u>not allowed</u> | <u>not allowed</u> | <u>not allowed</u> |

^[1] The final aggregate blend must conform to the specified gradation.

^[2] No requirement for material taken from within the project limits. For material supplied from a source outside the project limits:

- LA wear maximum of 50 percent loss, by weight.
- Freeze thaw maximum of 42 percent loss, by weight.

^[3] Required as specified for the individual component materials defined in columns 2 - 6 of the table before blending.

^[4] For base placed between old and new pavements, use crushed stone, crushed gravel, or crushed concrete with a plasticity index of 3 or less.

^[5] >=75 percent by count of non-asphalt coated particles.

^[6] as modified in CMM 8-60.

450.2.2 Aggregate Sampling and Testing

Replace paragraph one with the following effective with the December 2019 letting:

- (1) The department and the contractor will sample and test according to the following methods, except as revised with the engineer's approval:
- | | |
|--|-------------|
| Sampling aggregates..... | AASHTO T2 |
| Material finer than No. 200 sieve | AASHTO T11 |
| Sieve analysis of aggregates..... | AASHTO T27 |
| Mechanical analysis of extracted aggregate..... | AASHTO T30 |
| Sieve analysis of mineral filler | AASHTO T37 |
| Los Angeles abrasion of coarse aggregate | AASHTO T96 |
| Freeze-thaw soundness of coarse aggregate ^[1] | AASHTO T103 |
| Sodium sulfate soundness of aggregates (R-4, 5 cycles)..... | AASHTO T104 |
| Extraction of bitumen..... | AASHTO T164 |

^[1] As modified in CMM 8-60.2.

450.3.2.6.3 Compaction Roller Pattern Determined by Growth Curve

Add 450.3.2.6.3 as a new subsection effective with the December 2019 letting:

450.3.2.6.3 Compaction Roller Pattern Determined by Growth Curve

- (1) When specified in 460.3.3.1, compact asphaltic mixture using the roller pattern established during construction of a control strip. Use 2 or more rollers per paver if placing more than 165 tons per hour.
- (2) On the first day of production, construct a control strip under the direct observation of department personnel. After compacting the control strip with a minimum of 3 passes, mark the gauge outline and take a one-minute wet density measurement using a nuclear density gauge in back scatter mode at a single location. Take a density measurement at the same location after each subsequent pass. Continue compacting and testing until the increase in density is less than 1 pcf for 3 consecutive passes. Submit the final roller pattern to the engineer in writing. Once the roller pattern is established do not change the pattern or decrease the number, type, or weight of rollers without the engineer's written approval.
- (3) After establishing the roller pattern, and under the direct observation of the engineer, cut at least one 4-inch diameter or larger core from the control strip density gauge outline. Prepare cores and determine density according to AASHTO T166. Dry cores after testing. Fill core holes and obtain engineer approval before opening to traffic. The department will maintain custody of cores throughout the entire sampling and testing process. The department will label cores, transport cores to testing facilities, witness testing, store dried cores, and provide subsequent verification testing.

450.3.2.8 Jointing

Replace paragraph three with the following effective with the December 2019 letting:

- (3) Construct notched wedge longitudinal joints for mainline paving of HMA layers 1.75 inches or greater. Extend the wedge beyond the normal lane width as the plans show or as the engineer directs.

Replace paragraph five with the following effective with the December 2019 letting:

- (5) Construct the wedge for each layer using an engineer-approved strike-off device that will provide a uniform slope and will not restrict the main screed. Shape and compact the wedge with a weighted steel side roller wheel or vibratory plate compactor the same width as the wedge. Apply a tack coat to the wedge surface and both notches before placing the adjacent lane.
- (6) Clean longitudinal and transverse joints coated with dust and, if necessary, paint with hot asphaltic material, a cutback, or emulsified asphalt to ensure a tightly bonded, sealed joint.

455.2.5 Tack Coat

Replace paragraph one with the following effective with the December 2019 letting:

- (1) Under the Tack Coat bid item, furnish type SS-1h, CSS-1h, QS-1h, CQS-1h, or modified emulsified asphalt with an "h" suffix, unless the contract specifies otherwise.

460.2.2.3 Aggregate Gradation Master Range

Replace paragraph one with the following effective with the December 2019 letting:

- (1) Ensure that the aggregate blend, including recycled material and mineral filler, conforms to the gradation requirements in table 460-1. The values listed are design limits; production values may exceed those limits.

TABLE 460-1 AGGREGATE GRADATION MASTER RANGE AND VMA REQUIREMENTS

| SIEVE | PERCENT PASSING DESIGNATED SIEVES | | | | | | | |
|----------|-----------------------------------|--------------------|-------------------|-------------------------|-------------------------|--------------------|------------------------|-----------------------|
| | NOMINAL SIZE | | | | | | | |
| | No. 1 (37.5 mm) | No. 2 (25.0 mm) | No.3 (19.0 mm) | No. 4 (12.5 mm) | No. 5 (9.5 mm) | No. 6 (4.75 mm) | SMA No. 4 (12.5 mm) | SMA No. 5 (9.5 mm) |
| 50.0-mm | 100 | | | | | | | |
| 37.5-mm | 90 - 100 | 100 | | | | | | |
| 25.0-mm | 90 max | 90 - 100 | 100 | | | | | |
| 19.0-mm | ___ | 90 max | 90 - 100 | 100 | | | 100 | |
| 12.5-mm | ___ | ___ | 90 max | 90 - 100 | 100 | | 90 - 97 | 100 |
| 9.5-mm | ___ | ___ | ___ | 90 max | 90 - 100 | 100 | 58 - 80 | 90 - 100 |
| 4.75-mm | ___ | ___ | ___ | ___ | 90 max | 90 - 100 | 25 - 35 | 35 - 45 |
| 2.36-mm | 15 - 41 | 19 - 45 | 23 - 49 | 28 - 58 | 32 - 67 | 90 max | 15 - 25 | 18 - 28 |
| 1.18-mm | ___ | ___ | ___ | ___ | ___ | 30 - 55 | ___ | ___ |
| 0.60-mm | ___ | ___ | ___ | ___ | ___ | ___ | 18 max | 18 max |
| 0.075-mm | 0 - 6.0 | 1.0 - 7.0 | 2.0 - 8.0 | 2.0 - 10.0 | 2.0 - 10.0 | 6.0 - 13.0 | 8.0 - 11.0 | 8.0 - 12.0 |
| % VMA | 11.0 min | 12.0 min | 13.0 min | 14.0 min ^[1] | 15.0 min ^[2] | 16.0 - 17.5 | 16.0 min | 17.0 min |

^[1] 14.5 for LT and MT mixes.

^[2] 15.5 for LT and MT mixes.

460.2.7 HMA Mixture Design

Replace paragraph one with the following effective with the December 2019 letting:

- (1) For each HMA mixture type used under the contract, develop and submit an asphaltic mixture design according to CMM 8-66 and conforming to the requirements of table 460-1 and table 460-2. Ensure that SMA mixture designs adhere to AASHTO R 46 and AASHTO M 325 in addition to the required test procedures outlined in CMM 8-66 table 1 and CMM 8-66 table 2. Determine the specific gravity of fines or super fines used as a mineral filler or additional stabilizer in SMA designs according to AASHTO T 100. The values listed are design limits; production values may exceed those limits. The department will review mixture designs and report the results of that review to the designer according to CMM 8-66.

TABLE 460-2 MIXTURE REQUIREMENTS

| Mixture type | LT | MT | HT | SMA |
|--|---------------------------------------|--|--|-------------------|
| LA Wear (AASHTO T96) | | | | |
| 100 revolutions(max % loss) | 13 | 13 | 13 | 13 |
| 500 revolutions(max % loss) | 50 | 45 | 45 | 35 |
| Soundness (AASHTO T104) (sodium sulfate, max % loss) | 12 | 12 | 12 | 12 |
| Freeze/Thaw (AASHTO T103 as modified in CMM 8-60.2) (specified counties, max % loss) | 18 | 18 | 18 | 18 |
| Fractured Faces (ASTM D5821 as modified in CMM 860) (one face/2 face, % by count) | 65/___ | 75 / 60 | 98 / 90 | 100/90 |
| Flat & Elongated (ASTM D4791) (max %, by weight) | 5 (5:1 ratio) | 5 (5:1 ratio) | 5 (5:1 ratio) | 20 (3:1 ratio) |
| Fine Aggregate Angularity (AASHTO T304, method A, min) | 40 ^[1] | 43 ^[1] | 45 | 45 |
| Sand Equivalency (AASHTO T176, min) | 40 | 40 ^[2] | 45 | 50 |
| Clay Lumps and Friable Particle in Aggregate (AASHTO T112) | <= 1% | <= 1% | <= 1% | <= 1% |
| Plasticity Index of Material Added to Mix Design as Mineral Filler (AASHTO T89/90) | <= 4 | <= 4 | <= 4 | <= 4 |
| Gyratory Compaction | | | | |
| Gyrations for Nini | 6 | 7 | 8 | 7 |
| Gyrations for Ndes | 40 | 75 | 100 | 65 |
| Gyrations for Nmax | 60 | 115 | 160 | 100 |
| Air Voids, %Va (%Gmm Ndes) | 4.0 (96.0) | 4.0 (96.0) | 4.0 (96.0) | 4.5 (95.5) |
| % Gmm Nini | <= 91.5 ^[3] | <= 89.0 ^[3] | <= 89.0 | ___ |
| % Gmm Nmax | <= 98.0 | <= 98.0 | <= 98.0 | <= 98.0 |
| Dust to Binder Ratio ^[4] (% passing 0.075/Pbe) | 0.6 - 1.2 ^[5] | 0.6 - 1.2 ^[5] | 0.6 - 1.2 ^[5] | 1.2 - 2.0 |
| Voids filled with Binder (VFB or VFA, %) | 68 - 80 ^[6] ^[8] | 65 - 75 ^[6] ^[7] ^[9] | 65 - 75 ^[6] ^[7] ^[9] | 70 - 80 |
| Tensile Strength Ratio (TSR) (AASHTO T283) ^[10] ^[11] | | | | |
| no antistripping additive | 0.75 min | 0.75 min | 0.75 min | 0.80 min |
| with antistripping additive | 0.80 min | 0.80 min | 0.80 min | 0.80 min |
| Draindown (AASHTO T305) (%) | ___ | ___ | ___ | <= 0.30 |
| Minimum Effective Asphalt Content, Pbe (%) | ___ | ___ | ___ | 5.5 |

^[1] For No 6 (4.75 mm) nominal maximum size mixes, the specified fine aggregate angularity is 43 for LT and 45 MT mixes.

^[2] For No 6 (4.75 mm) nominal maximum size mixes, the specified sand equivalency is 43 for MT mixes.

^[3] The percent maximum density at initial compaction is only a guideline.

^[4] For a gradation that passes below the boundaries of the caution zone (ref. AASHTO M323), the dust to binder ratio limits are 0.6 - 1.6.

^[5] For No 6 (4.75 mm) nominal maximum size mixes, the specified dust to binder ratio limits are 1.0 - 2.0 for LT mixes and 1.5 - 2.0 for MT and HT mixes.

^[6] For No. 6 (4.75mm) nominal maximum size mixes, the specified VFB is 67 - 79 percent for LT mixes and 66 - 77 percent for MT and HT mixes.

^[7] For No. 5 (9.5mm) and No. 4 (12.5 mm) nominal maximum size mixtures, the specified VFB range is 70 - 76 percent.

^[8] For No. 2 (25.0mm) nominal maximum size mixes, the specified VFB lower limit is 67 percent.

^[9] For No. 1 (37.5mm) nominal maximum size mixes, the specified VFB lower limit is 67 percent.

[10] WisDOT eliminates freeze-thaw conditioning cycles from the TSR test procedure.

[11] Run TSR at asphalt content corresponding to 3.0% air void regressed design, or 4.5% air void design for SMA, using distilled water for testing.

460.2.8.2.1.3.1 Contracts with 5000 Tons of Mixture or Greater

Replace paragraph four with the following effective with the December 2019 letting:

- (4) Use the test methods identified below, or other methods the engineer approves, to perform the following tests at the frequency indicated:

Blended aggregate gradations:

Drum plants:

- Field extraction by ignition oven according to AASHTO T308 as modified in CMM 8-36.6.3.6, chemical extraction according to AASHTO T-164 method A or B; or automated extraction according to ASTM D8159 as modified in CMM 8-36.6.3.1. Gradation of resulting aggregate sample determined according to AASHTO T30.
- Belt samples, optional for virgin mixtures, obtained from stopped belt or from the belt discharge using an engineer-approved sampling device and performed according to AASHTO T11 and T27.

Batch plants:

- Field extraction by ignition oven according to AASHTO T308 as modified in CMM 8-36.6.3.6, chemical extraction according to AASHTO T-164 method A or B; or automated extraction according to ASTM D8159 as modified in CMM 8-36.6.3.1. Gradation of resulting aggregate sample determined according to AASHTO T30.

Asphalt content (AC) in percent:

AC by ignition oven according to AASHTO T308 (CMM 8-36.6.3.6), by chemical extraction according to AASHTO T-164 method A or B; or by automated extraction according to ASTM D8159 as modified in CMM 8-36.6.3.1. Gradation of resulting aggregate sample determined according to AASHTO T30.

Bulk specific gravity of the compacted mixture according to AASHTO T166.

Maximum specific gravity according to AASHTO T209.

Air voids (V_a) by calculation according to AASHTO T269.

VMA by calculation according to AASHTO R35.

460.2.8.2.1.4.2 Control Charts

Replace paragraph one with the following effective with the December 2019 letting:

- (1) Maintain standardized control charts at the laboratory. Record contractor test results on the charts the same day as testing. Record data on the standardized control charts as follows:
- Blended aggregate gradation tests in percent passing. Of the following, plot sieves required in table 460-1: 37.5-mm, 25.0-mm, 19.0-mm, 12.5-mm, 9.5-mm, 4.75-mm, 2.36-mm, 1.18-mm, 0.60-mm, and 0.075-mm.
 - Asphalt material content in percent.
 - Air voids in percent.
 - VMA in percent.
- (2) Plot both the individual test point and the running average of the last 4 data points on each chart. Show QC data in black with the running average in red. Draw the warning limits with a dashed green line and the JMF limits with a dashed red line. The contractor may use computer generated black-and-white printouts with a legend that clearly identifies the specified color-coded components.

460.2.8.2.1.5 Control Limits

Replace paragraph one with the following effective with the December 2019 letting:

- (1) Conform to the following control limits for the JMF and warning limits based on a running average of the last 4 data points:

| ITEM | JMF LIMITS | WARNING LIMITS |
|-------------------------------------|------------|----------------|
| Percent passing given sieve: | | |
| 37.5-mm | +/- 6.0 | +/- 4.5 |
| 25.0-mm | +/- 6.0 | +/- 4.5 |
| 19.0-mm | +/- 5.5 | +/- 4.0 |
| 12.5-mm | +/- 5.5 | +/- 4.0 |
| 9.5-mm | +/- 5.5 | +/- 4.0 |
| 4.75-mm | +/- 5.0 | +/- 4.0 |
| 2.36-mm | +/- 5.0 | +/- 4.0 |
| 1.18-mm | +/- 4.0 | +/- 3.0 |
| 0.60-mm | +/- 4.0 | +/- 3.0 |
| 0.075-mm | +/- 2.0 | +/- 1.5 |
| Asphaltic content in percent | - 0.3 | - 0.2 |
| Air voids in percent ^[1] | +1.3/-1.0 | +1.0/-0.7 |
| VMA in percent ^[2] | - 0.5 | - 0.2 |

^[1] For SMA, JMF limits are +/-1.3 and warning limits are +/-1.0.

^[2] VMA limits are based on requirements for each mix design nominal maximum aggregate size in table 460-1. For No. 6 (4.75mm) mixes, JMF limits are +/- 0.5 and warning limits are +/- 0.2.

460.3.2 Thickness

Replace paragraph one with the following effective with the December 2019 letting:

- (1) Provide the plan thickness for lower and upper layers limited as follows:

| NOMINAL SIZE | MINIMUM LAYER THICKNESS (in inches) | MAX LOWER LAYER THICKNESS (in inches) | MAX UPPER LAYER THICKNESS (in inches) | MAX SINGLE LAYER THICKNESS ^[3] (in inches) |
|--------------------------------|--|--|--|--|
| No. 1 (37.5 mm) | 4.5 | 6 | 4.5 | 6 |
| No. 2 (25.0 mm) | 3.0 | 5 | 4 | 6 |
| No. 3 (19.0 mm) | 2.25 | 4 | 3 | 5 |
| No. 4 (12.5 mm) ^[1] | 1.75 | 3 ^[2] | 2.5 | 4 |
| No. 5 (9.5 mm) ^[1] | 1.25 | 3 ^[2] | 2 | 3 |
| No. 6 (4.75 mm) | 0.75 | 1.25 | 1.25 | 1.25 |

^[1] SMA mixtures use nominal size No. 4 (12.5 mm) or No. 5 (9.5 mm).

^[2] SMA mixtures with nominal sizes of No. 4 (12.5 mm) and No. 5 (9.5 mm) have no maximum lower layer thickness specified.

^[3] For use on cross-overs and shoulders.

- (2) Place leveling layers using No. 4 (12.5 mm), No. 5 (9.5 mm), or No. 6 (4.75 mm) mixtures. Leveling layers may be thinner than the minimum lower layer thickness for the mixture used.
- (3) Place wedging layers as the contract specifies or engineer directs. Wedging layers have no specified minimum or maximum thickness.

460.3.3.1 Minimum Required Density

Replace paragraph one with the following effective with the December 2019 letting:

- (1) Compact No. 6 mixtures in lower layers as specified in 450.3.2.6.2 and in upper layers as specified in 450.3.2.6.3. For other HMA mixtures, compact all layers to the density table 460-3 specifies.

TABLE 460-3 MINIMUM REQUIRED DENSITY^[1]

| LOCATION | LAYER | PERCENT OF TARGET MAXIMUM DENSITY | | |
|------------------------------|-------|-----------------------------------|---------------------|--------------------|
| | | MIXTURE TYPE | | |
| | | LT and MT | HT | SMA ^[5] |
| TRAFFIC LANES ^[2] | LOWER | 93.0 ^[3] | 93.0 ^[4] | — |
| | UPPER | 93.0 | 93.0 | 93.0 |
| SHOULDERS & APPURTENANCES | LOWER | 91.0 | 91.0 | — |
| | UPPER | 92.0 | 92.0 | 92.0 |

^[1] The table values are for average lot density. If any individual density test result falls more than 3.0 percent below the minimum required target maximum density, the engineer will investigate the acceptability of that material according to CMM 8-15.11.

^[2] Includes side roads, crossovers, turn lanes, ramps, parking lanes, bike lanes, and park-and-ride lots as defined by the contract plans.

^[3] Minimum reduced by 2.0 percent for a lower layer constructed directly on crushed aggregate or recycled base courses.

^[4] Minimum reduced by 1.0 percent for a lower layer constructed directly on crushed aggregate or recycled base courses.

460.3.3.2 Pavement Density Determination

Replace paragraph three with the following effective with the December 2019 letting:

- (3) A lot is defined in CMM 8-15 and placed within a single layer for each location and target maximum density category indicated in table 460-3. The lot density is the average of all samples taken for that lot. The department determines the number of tests per lot according to CMM 8-15.

460.5.2.1 General

Replace paragraph six with the following effective with the December 2019 letting:

- (6) If during a QV dispute resolution investigation the department discovers unacceptable mixture defined by one or more of the following:
 - Va less than 2.5 or greater than 6.5 percent for SMA, or for other mixes, less than 1.5 or greater than 5.0 percent.
 - VMA more than 1.0 percent below the minimum or above the maximum specified in table 460-1.
 - AC more than 0.5 % below the JMF target.

Remove and replace the material, or if the engineer allows the mixture to remain in place, the department will pay for the quantity of affected material at 50 percent of the contract price.

501.2.5.5 Sampling and Testing

Replace paragraph one with the following effective with the December 2019 letting:

- (1) Sample and test aggregates for concrete according to the following:

| | |
|---|-------------|
| Sampling aggregates ^[1] | AASHTO T2 |
| Lightweight pieces in aggregate | AASHTO T113 |
| Material finer than No. 200 sieve ^[1] | AASHTO T11 |
| Unit weight of aggregate | AASHTO T19 |
| Organic impurities in sands | AASHTO T21 |
| Sieve analysis of aggregates | AASHTO T27 |
| Effect of organic impurities in fine aggregate | AASHTO T71 |
| Los Angeles abrasion of coarse aggregate | AASHTO T96 |
| Alkali Silica Reactivity of Aggregates | ASTM C1260 |
| Alkali Silica Reactivity of Combinations of Cementitious Materials and Aggregates | ASTM C1567 |
| Freeze-thaw soundness of coarse aggregate ^[1] | AASHTO T103 |
| Sodium sulfate soundness of coarse aggregates (R-4, 5 cycles) | AASHTO T104 |
| Specific gravity and absorption of fine aggregate | AASHTO T84 |
| Specific gravity and absorption of coarse aggregate ^[1] | AASHTO T85 |
| Flat & elongated pieces based on a 3:1 ratio ^[1] | ASTM D4791 |
| Sampling fresh concrete | AASHTO R60 |
| Making and curing concrete compressive strength test specimens | AASHTO T23 |
| Compressive strength of molded concrete cylinders | AASHTO T22 |

^[1] As modified in CMM 8-60.

505.2.2 Bar Steel Reinforcement

Replace paragraph one with the following effective with the December 2019 letting:

- (1) Conform to AASHTO M31, type S or type W.

505.2.3 High-Strength Bar Steel Reinforcement

Replace paragraph one with the following effective with the December 2019 letting:

- (1) Conform to AASHTO M31, grade 60, type S or type W.

505.2.4.1 General

Replace paragraph one with the following effective with the December 2019 letting:

- (1) Conform to AASHTO M31, grade 60, type S or type W. Ensure that the coating is applied in a CRSI certified epoxy coating plant. Bend bars that require bending before coating, unless the fabricator can bend the bar without damaging the coating.

505.2.6.1 General

Replace paragraph one with the following effective with the December 2019 letting:

- (1) For dowel bars and straight tie bars, there is no requirement for bend tests. Ensure that the bars are the specified diameter and length the plans show.

505.2.6.2.2 Solid Dowel Bars

Replace paragraph one with the following effective with the December 2019 letting:

- (1) Furnish coated bars conforming to AASHTO M31 grade 40 or 60. Alternatively the contractor may furnish dowel bars conforming to AASHTO M227 grade 70-80. Coat in a plant certified by the Concrete Reinforcing Steel Institute with a thermosetting epoxy conforming to AASHTO M254, type B.

520.3.7 Deflection Testing

Replace paragraphs three and four with the following effective with the June 2020 letting:

- (3) Test 100 percent of the installed length of pipe 24 inches or greater in diameter. Ensure that the mandrel passes through the entire section in one pass when pulled by hand without using excessive force. If the designated length of pipe fails, the engineer may require additional testing.

-
- (4) For pipe less than 24 inches in diameter, the engineer will designate at least 10 percent of the installed length of pipe for testing. The mandrel must pass through the entire section in one pass when pulled by hand without using excessive force. If the designated length of pipe fails, engineer may require additional testing.
 - (5) Relay or replace pipe that does not pass deflection testing. Retest all relayed or replaced pipe.
-

608.3.7 Deflection Testing

Replace paragraphs three and four with the following effective with the June 2020 letting:

- (3) Test 100 percent of the installed length of pipe 24 inches or greater in diameter. Ensure that the mandrel passes through the entire section in one pass when pulled by hand without using excessive force. If the designated length of pipe fails, the engineer may require additional testing.
 - (4) For pipe less than 24 inches in diameter, the engineer will designate at least 10 percent of the installed length of pipe for testing. The mandrel must pass through the entire section in one pass when pulled by hand without using excessive force. If the designated length of pipe fails, engineer may require additional testing.
 - (5) Relay or replace pipe that does not pass deflection testing. Retest all relayed or replaced pipe.
-

625.3.2 Processing Topsoil or Salvaged Topsoil

Delete paragraph four effective with the December 2019 letting.

701.3.1 General

Replace the entire text with the following effective with the December 2019 letting:

- (1) Perform contract required QC tests for samples randomly located according to CMM 8-30. Use the test methods specified in table 701-1.

TABLE 701-1 TESTING AND CERTIFICATION STANDARDS

| TEST | TEST STANDARD | MINIMUM REQUIRED CERTIFICATION (any one of the certifications listed for each test) |
|--------------------------------------|-----------------------------|---|
| Random Sampling | CMM 8-30.9.2 | Transportation Materials Sampling Technician (TMS) Aggregate Technician I (AGGTEC-I) AGGTEC-I Assistant Certified Technician (ACT-AGG) PCC Technician I (PCCTEC-I) PCCTEC-I Assistant Certified Technician (ACT-PCC) Grading Technician I (GRADINGTEC-I) Grading Assistant Certified Technician (ACT-GRADING) |
| Sampling Aggregates | AASHTO T2 ^{[1][4]} | TMS, AGGTEC-1, ACT-AGG |
| Percent passing the No. 200 sieve | AASHTO T11 ^[1] | AGGTEC-I, ACT-AGG |
| Fine and coarse aggregate gradation | AASHTO T27 ^[1] | |
| Aggregate moisture content | AASHTO T255 ^[1] | |
| Fractured faces | ASTM D5821 ^[1] | |
| Liquid limit | AASHTO T89 | |
| Plasticity index | AASHTO T90 ^[3] | Aggregate Testing for Transportation Systems (ATTS) GRADINGTEC-I, or ACT-GRADING |
| Sampling freshly mixed concrete | AASHTO R60 | PCCTEC-1 ACT-PCC |
| Air content of fresh concrete | AASHTO T152 ^[2] | |
| Air void system of fresh concrete | AASHTO TP118 ^[5] | |
| Concrete slump | AASHTO T119 ^[2] | |
| Concrete temperature | ASTM C1064 | |
| Making and curing concrete cylinders | AASHTO T23 | |
| Moist curing for concrete cylinders | AASHTO M201 | |
| Concrete compressive strength | AASHTO T22 | Concrete Strength Tester (CST) CST Assistant Certified Technician (ACT-CST) |
| Concrete flexural strength | AASHTO T97 | |
| Profiling | — | PROFILER |

^[1] As modified in CMM 8-60.

^[2] As modified in CMM 8-70.

^[3] A plasticity check, if required under individual QMP provisions, may be performed by an AGGTEC-I in addition to the certifications listed for liquid limit and plasticity index tests.

^[4] Plant personnel may operate equipment to obtain samples under the direct observation of a TMS or higher.

^[5] Consolidate by rodding.

715.2.1 General

Replace paragraph five with the following effective with the December 2019 letting:

- (5) For new lab-qualified mixes, test the air void system of the proposed concrete mix. Include the SAM number as a part of the mix design submittal.

715.3.1.1 General

Replace paragraph two with the following effective with the December 2019 letting:

- (2) Test the air void system at least once per lot and enter the SAM number in the MRS for information only. SAM testing is not required for the following:
- For lots with less than 4 sublots.
 - High early strength (HES) concrete.
 - Special high early strength (SHES) concrete.
 - Concrete placed under the following bid items:
 - Concrete Pavement Approach Slab
 - Concrete Masonry Culverts
 - Concrete Masonry Retaining Walls
 - Steel Grid Floor Concrete Filled
 - Crash Cushions Permanent
 - Crash Cushions Permanent Low Maintenance
 - Crash Cushions Temporary

730.3.1 General

Replace paragraph three with the following effective with the December 2019 letting:

- (3) Stockpile tests^[1] can be used for multiple projects. If placement on a project does not begin within 120 calendar days after the date the stockpile sample was obtained, retest the stockpile before placement begins.
- ^[1] Replace the stockpile test with an in-place production test for concrete pavement recycled and processed on-site; test on the first day of production.

730.3.2 Contractor QC Testing

Replace paragraph four with the following effective with the December 2019 letting:

- (4) Submit test results to the engineer within one business day of obtaining the sample, except any aggregate classification with recycled asphalt may be submitted within two business days.

730.3.4.1 Contractor QC Testing

Replace the entire text with the following effective with the December 2019 letting:

- (1) For small quantity contracts with ≤ 500 tons, submit 2 production tests or 1 stockpile test. Production tests are valid for 3 years from the date the production sample was obtained. Begin placement within 3 years of the date sampled.
- (2) For small quantity contracts with ≤ 6000 tons and > 500 tons, do the following:
1. Conduct one QC stockpile test before placement.
 2. Submit 2 production tests or conduct 1 loadout test instead of placement tests. Production tests are valid for 3 years from the date the production sample was obtained; the first day of placement must be within 3 years of the date sampled.
 3. If the actual quantity placed is more than 6000 tons, on the next day of placement perform one additional random QC test for each 3000 tons of overrun, or fraction thereof.

740.3.2 Contractor QC Testing

Replace paragraph three with the following effective with the December 2019 letting:

- (3) Field-locate the beginning and ending points for each profile run. Measure the profiles of each standard and partial segment. Define primary segments starting at a project terminus and running contiguously along the mainline to the other project terminus. Define segments one wheel path wide and distinguished by length as follows:
1. Standard segments are 500 feet long.
 2. Partial segments are less than 500 feet long.

Errata

104.6.1.2.3 Drop-Off and Hazard Protection

Correct errata by changing 2 inches or greater to greater than 2 inches.

- (1) Eliminate vertical drop-offs greater than 2 inches and edge slopes steeper than 3:1 between adjacent lanes open to traffic.

305.3.3.3 Shoulders Adjacent to Asphaltic Pavement or Surfacing

Correct errata by changing 2-inch or more to greater than 2-inch.

- (2) If the roadway remains open to through traffic during construction and a greater than 2-inch drop-off occurs within 3 feet or less from the edge of the traveled way, eliminate the drop-off within 48 hours after completing that days paving. Unless the special provisions specify otherwise, provide aggregate shoulder material compacted to a temporary 3:1 or flatter cross slope from the surface of the pavement edge.

501.3.2.2 Concrete Proportions

Correct errata in footnote [8] by allowing either grade 100 or grade 120 slag in C-S concrete.

^[8] For grade C-S concrete, use grade 100 or grade 120 slag.

614.3.6 Thrie Beam Structure Approach Retro Fits

Correct errata by deleting the galvanization reference already required under 614.3.1.

- (2) Install posts and drill holes into existing thrie beam conforming to 614.3.2.

628.3.7 Mobilizations for Erosion Control

Correct errata by clarifying that mobilizations for erosion control include proceeding with the work.

- (1) Move personnel, equipment, and materials to the project site and promptly proceed with construction of erosion control items at the stages the contract indicates or the engineer directs.
-

