ADDITIONAL SPECIAL PROVISION 6

ASP 6 - Modifications to the standard specifications

Make the following revisions to the standard specifications:

107.17.1 General

Replace paragraph seven with the following effective with the December 2018 letting:

(7) Have a professional engineer registered in the state of Wisconsin sign and seal the shop drawings. At least 30 calendar days before starting falsework, form, or shoring construction; submit a PDF file of shop drawings to the railroad's chief engineering officer and to the engineer. The engineer and the railroad may review the shop drawings. If the engineer or the railroad finds the shop drawings unsatisfactory, the contractor shall make the required changes. A satisfactory shop drawing review does not relieve the contractor of responsibility and liability for the structural integrity and proper functioning of the falsework, forms, or shoring.

109.1.1 General

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

(1) The engineer will use the US standard system to measure all work completed under the contract. The engineer will determine quantities of materials the contractor furnishes and work the contractor performs using measurement methods and computations conforming to standard engineering practice, modified to meet department requirements. The engineer will document these measurements using department procedures.

(2) The engineer will measure the work as the contract measurement subsection for individual items specifies. The department will measure the actual quantities of work the contractor acceptably completes and make final payment based on those actual measured quantities except as follows:

1. If the measurement subsection for a bid item specifically restricts the quantity measured for payment or allows for use of conversion factors.

2. If the engineer executes a contract change order modifying the method of measurement for specific bid items, the engineer will measure the quantities of applicable bid items for payment using the change order methods.

3. If the engineer, under 105.3.1(2), approves a contractor-requested plan dimension change between US standard and SI metric dimensions, the engineer will measure whichever of the following is less:
   - Actual quantities constructed.
   - Quantities derived from the original plan dimensions.

4. For substitutions made under 106.2.3 between US standard and SI metric products, the engineer will measure the actual quantities of the substitute products using the original contract measuring system.
205.5.2 Excavation
Replace the entire text with the following effective with the April 2019 letting:

205.5.2.1 General
(1) Payment for the Excavation bid items under this section is full compensation for work specified for those excavation classes under 205 with no separate contract bid items; for hauling; and for constructing and removing temporary drainage installations as specified under 205.3.3.
(2) Payment also includes removing walls, foundations, etc. with no separate contract bid items; for disposal of resulting material; and for backfilling basements or openings resulting from removing walls, foundations, etc.

205.5.2.2 Associated Work
(1) The department will pay separately for removing concrete structures under the 203 and 204 bid items.
(2) The department will pay separately for granular backfill the contract or engineer requires under the Backfill Granular bid items.
(3) The department will pay separately for erosion control, fertilizing, and seeding of material disposal sites as specified for material disposal sites in 628.5.1.
(4) If the contract does not include the Excavation Rock bid item, the department will pay 5 times the contract bid price of the Excavation Common bid item to remove boulders having volumes of one cubic yard or more. The department will pay for these boulder removals under the Removing Large Boulders administrative item.

205.5.2.3 Excavation Below Subgrade

205.5.2.3.1 General
(1) The department will only pay for engineer-approved EBS to correct problems beyond the contractor's control.

205.5.2.3.2 Quantity Overruns
(1) The department will provide additional compensation for EBS quantity overruns if the following conditions are met:
   - The quantity of engineer-approved EBS, calculated exclusive of work covered under 205.5.2.3.3 or 301.5, exceeds the total contract EBS quantity the earthwork summary sheet shows by more than 25 percent.
   - The material exceeding that 25 percent threshold cannot be disposed of within the project right-of-way.
(2) The department will pay 2 times the contract unit price, up to $25,000, for the quantity of EBS meeting the above conditions. After exceeding $25,000 per contract, the department will pay for additional EBS as determined under 109.4.

205.5.2.3.3 Subgrade Correction
(1) Work performed under 105.3 to correct unacceptable work is the contractor's responsibility. For EBS work performed where the engineer did not approve the subgrade for subsequent operations, the department will pay for EBS at the contract price under the pertinent excavation and backfill bid items, or absent those bid items as extra work. For EBS work performed where the engineer approved the underlying layers for subsequent operations, the department will pay for EBS as follows:
   1. Up to a maximum of $25,000 per contract, the department will pay as follows:
      1.1 For excavation: 3 times the contract unit price for the Excavation Common bid item under the EBS Post Grading administrative item.
      1.2 For backfill with the materials the engineer directs: at the contract unit price for the bid items of each material used to fill the excavation.
      1.3 For excavation or backfill without contract bid items: as extra work.
   2. After exceeding $25,000 per contract, the department will pay for additional EBS in engineer-approved areas as determined under 109.4.
305.2.1 General
Replace paragraph two with the following effective with the December 2018 letting:
(2) Where the contract specifies or allows 1 1/4-inch base, do not place reclaimed asphalt, reprocessed material, or blended materials below virgin aggregate materials unless the contract specifies or the engineer allows in writing. The department will allow virgin aggregate above reclaimed asphalt, reprocessed material, or blended materials in shoulder areas adjacent to concrete pavement.

420.3.2.1 General
Replace paragraph one with the following effective with the December 2018 letting:
(1) Use self-propelled grinding machines with depth, grade, and slope controls designed for grinding and texturing concrete. Equip grinding machines with diamond blades and a vacuuming system capable of removing liquid and solid residue from the ground surface. Shroud the machine to prevent discharging loosened material into adjacent work areas or live traffic lanes. Provide the specified effective wheelbase, defined as the center of the front to center of the rear main support wheels.

420.3.2.2 Continuous Grinding
Replace paragraph one with the following effective with the December 2018 letting:
(1) Under the Continuous Diamond Grinding Concrete Pavement bid item, ensure that the grinding machine, including the grinding head, weighs 35,000 pounds or more, will grind a strip at least 4 feet wide, and has an effective wheel base of 25 feet or more. For pavements with a design speed less than 40 miles per hour and areas difficult to access, the contractor may use equipment with an effective wheel base of 12 feet or more.

450.3.2.8 Jointing
Replace paragraphs three through five with the following effective with the December 2018 letting:
(3) Construct notched wedge longitudinal joints for mainline paving if the pavement thickness conforms to the minimums specified in 460.3.2, unless the engineer directs or allows an alternate joint. Construct the wedge using a slope no steeper than 3:1. Extend the wedge 12 inches beyond the normal lane width, or as the engineer directs. Ensure that the wedge for all layers directly overlaps and slopes in the same direction.
(4) Locate the joint at the pavement centerline for 2-lane roadways, or at lane lines if the roadway has more than 2 lanes. Construct a vertical notch 1/2-inch to 3/4-inch high on the centerline or lane line at the top of each wedge. Place a 1/2-inch to 3/4-inch notch at the outside bottom edge of the wedge after compacting each layer. Align the finished longitudinal joint line of the upper layer with the centerline or lane line.
(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 the same width as the wedge. Apply a tack coat to the wedge surface and both notches before placing the adjacent lane.

455.2.4.3 Emulsified Asphalts
Replace paragraph two with the following effective with the December 2018 letting:
(2) The bill of lading for emulsified asphalts shall indicate the asphalt content of the original emulsion and dilution rate of the additional water added to the original emulsion. If undiluted samples are not available, test the diluted material and modify AASHTO M140, M208, or M316 to reflect properties resulting from dilution of the asphalt.
460.2.8.3.1.4 Department Verification Testing Requirements
Replace paragraph three with the following effective with the December 2018 letting:

(3) The department will perform testing conforming to the following standards:
   - Bulk specific gravity (Gmb) of the compacted mixture according to AASHTO T166.
   - Maximum specific gravity (Gmm) according to AASHTO T209.
   - Air voids (Va) by calculation according to AASHTO T269.
   - VMA by calculation according to AASHTO R35.
   - Asphalt content by ignition oven according to AASHTO T308 as modified in CMM 8-36.6.3.6,
     chemical extraction according to AASHTO T-164, or Asphalt Analyzer™ according to manufacturer
     recommendations.

460.2.8.3.1.6 Acceptable Verification Parameters
Replace paragraph one with the following effective with the December 2018 letting:

(1) The engineer will provide test results to the contractor within 2 mixture-production days after obtaining
    the sample. The quality of the product is acceptably verified if it meets the following limits:
    - Va is within a range of 2.0 to 4.3 percent. For SMA, Va is within a range of 2.7 to 5.3 percent.
    - VMA is within minus 0.5 of the minimum requirement for the mix design nominal maximum aggregate
      size.
    - Asphalt content is within minus 0.3 percent of the JMF.

460.2.8.3.1.7 Dispute Resolution
Replace paragraph one with the following effective with the December 2018 letting:

(1) When QV test results do not meet the specified limits for 100 percent pay, the bureau's AASHTO
    accredited laboratory and certified personnel will referee test the retained portion of the QV sample
    and the retained portion of the required forward and backward QC retained samples according to
    CMM 8-36.
460.5.2.1 General
Replace paragraphs five and six with the following effective with the December 2018 letting:

(5) The department will reduce pay for nonconforming QMP HMA mixtures as specified in 460.2.8.2.1.7, starting from the stop point to the point when the running average of 4 is back inside the warning limits. The engineer will determine the quantity of material subject to pay reduction based on the testing data and an inspection of the completed pavement. The department will reduce pay as follows:

<table>
<thead>
<tr>
<th>ITEM</th>
<th>PRODUCED WITHIN WARNING BANDS</th>
<th>PRODUCED OUTSIDE JMF LIMITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gradation</td>
<td>90%</td>
<td>75%</td>
</tr>
<tr>
<td>Asphalt Content</td>
<td>___</td>
<td>___</td>
</tr>
<tr>
<td>Air Voids</td>
<td>70%</td>
<td>50%</td>
</tr>
<tr>
<td>VMA</td>
<td>90%</td>
<td>75%</td>
</tr>
</tbody>
</table>

\[1\] For projects or plants where the total production of each mixture design requires less than 4 tests refer to CMM 8-36.

\[2\] Payment is in percent of the contract unit price for the HMA Pavement bid item. The department will reduce pay based on the nonconforming property with lowest percent pay. If the quantity of material subject to pay adjustment based on the running average of 4 is also subject to pay adjustment resulting from dispute resolution in accordance with 460.2.8.3.1.7, the department will apply the single pay adjustment resulting in the lowest percent pay.

\[3\] In addition to any pay adjustment listed in the table above, the department will adjust pay for nonconforming binder under the Nonconforming QMP Asphaltic Material administrative item. The department will deduct 25 percent of the contract unit price of the HMA Pavement bid item per ton of pavement placed with nonconforming PG binder the engineer allows to remain in place.

\[4\] The department will not adjust pay based on a running average of 4 asphalt content tests; however, corrective action will be applied to nonconforming material according to 460.2.8.2.1.7.

(6) If during a QV dispute resolution investigation the department discovers unacceptable mixture defined by one or more of the following:
- \(V_a\) greater than 5.0 or less than 1.5.
- VMA more than 1.0 below the minimum allowed 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.

501.3.8.2.1 General
Replace paragraph two with the following effective with the April 2019 letting:

(2) If the concrete temperature at the point of placement exceeds 90 F, do not place concrete under the following structure and concrete barrier bid items:

- Concrete Masonry Bridges
- Concrete Masonry Bridges HES
- Concrete Masonry Culverts
- Concrete Masonry Culverts HES
- Concrete Barrier Single-Faced 32-Inch
- Concrete Barrier Double-Faced 32-Inch
- Concrete Barrier Transition Section 32-Inch
- Concrete Masonry Retaining Walls
- Concrete Masonry Retaining Walls HES
- Concrete Masonry Endwalls
- Concrete Masonry Overlay Decks
- Concrete Barrier (type)
- Concrete Barrier Fixed Object Protection (type)
- Concrete Barrier Transition (type)

506.3.2 Shop Drawings
Replace paragraph four with the following effective with the December 2018 letting:

(4) Ensure that the fabricator submits a PDF file of shop drawings for railroad structures to the railroad company's chief engineering officer upon contract completion.
603.3.1.1 General

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

(3) Cast permanent barrier and transitions in place. Use construction methods conforming to 502 and conform to the hot weather placement requirements of 501.3.8.2. Use forms or engineer-approved slip form methods for barrier. Use forms for transitions. Construct barrier on horizontal curves as a series of 12-foot or shorter chords.

646.3.1.2 Liquid Marking

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

(5) Apply liquid marking and glass beads across the line at or exceeding the following:

<table>
<thead>
<tr>
<th>LIQUID MARKING</th>
<th>PAVEMENT TYPE</th>
<th>THICKNESS (mils)</th>
<th>BEAD APPLICATION (pounds per gallon)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paint</td>
<td>all</td>
<td>16</td>
<td>8</td>
</tr>
<tr>
<td>Epoxy SMA, seal coats, and polymer overlays</td>
<td>25</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Epoxy all other</td>
<td>20</td>
<td>22.5</td>
<td></td>
</tr>
<tr>
<td>Wet Reflective Epoxy</td>
<td>all</td>
<td>20</td>
<td>18</td>
</tr>
</tbody>
</table>

646.3.2.3 Wet Reflective Epoxy

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

(1) Apply wet reflective epoxy binder in a grooved slot. and provide a double drop bead system as follows:

- First: wet reflective/recoverable elements at the application rate specified for the product chosen from the department's APL.
- Second: glass beads at the application rate specified in 646.3.1.2(5).
650.3.1 General
Replace the entire text with the following effective with the December 2018 letting:

(1) Department and contractor responsibilities for construction staking are specified in 105.6. Conform to 105.6 and the additional requirements specified here in 650.3 for the individual contractor-staking bid items the contract includes.

(2) Protect and preserve known property and survey marks and land monuments as specified in 107.11.3. The contract may require related work under the 621 bid items.

(3) Obtain or calculate benchmark data, grades, and alignment from plan information. The engineer will furnish data for the horizontal and vertical control points, control point ties, horizontal alignments, profiles, and elevations. Reestablish, set additional, and maintain the horizontal and vertical control points and control point ties, as needed for bid items.

(4) Check horizontal and vertical information including but not limited to alignments, locations, elevations, and dimensions, that either the plans show or the engineer provides, for compatibility with existing field conditions. Conduct similar compatibility checks and accuracy checks of horizontal and vertical positions either the department or the contractor establishes in the field.

(5) Perform survey work using conventional methods, or AMG methods capable of achieving the lines and grades the plans show for the work in question. Establish additional benchmarks and control points as necessary to support the method of operation.

650.3.1.1 Staking

(1) Furnish, set, reference, and maintain stakes and markings necessary to establish the alignment, location, benchmarks, elevations, and continuous profile-grades for road and structure work as needed for bid items. Supervise and coordinate construction staking.

(2) Maintain neat, orderly, and complete survey notes, drawings, and computations used in establishing the lines and grades. Make the survey notes and computations available to the engineer within 24 hours, upon request, as the work progresses.

(3) Furnish surveying equipment, stakes, flags, pins, lath, whiskers, and other materials necessary to perform this work, subject to the engineer’s approval.

650.3.1.2 Automated Machine Guidance

650.3.1.2.1 General

(1) The contractor may substitute AMG for conventional staking on all or part of the work under the individual staking bid items. Coordinate with the engineer throughout the course of construction to ensure that work performed using AMG conforms to the contract tolerances and that the methods employed conform to the contractor's AMG work plan and accepted industry standards. Revert to conventional staking methods for all or part of the work at any point during construction if AMG is producing unacceptable results.

650.3.1.2.2 AMG Work Plan

(1) Submit a comprehensive written AMG work plan for department review at least 5 business days before the preconstruction conference. In that plan discuss how AMG technology will be integrated into other technologies employed on the project. List the staking bid items that will have work performed using AMG and, for each bid item listed, include the following:
   1. Designate which portions of the contract will be done using AMG and which portions will be done using conventional staking.
   2. Designate a single staff person as the primary contact for AMG technology issues.
   3. List and map the primary and secondary control points required under 105.6.2 enveloping the site.
   4. Describe the contractor's quality control procedures. Include the frequency and type of checks performed to ensure that the work conforms to the contract plans.

(2) The engineer will review the plan to determine if it conforms to the contract. Do not perform AMG work until the engineer approves the governing portion of the AMG workplan. Perform the work as the contractor's AMG work plan provides. Update the plan as necessary.
650.3.1.2.3 Geometric and Surface Information
650.3.1.2.3.1 Department Responsibilities
(1) At any time after the contract is awarded the contractor may request the contractor data packet. The department will provide the packet within 5 business days of receiving the contractor's request.

650.3.1.2.3.2 Contractor Responsibilities
(1) Develop and maintain a contractor construction model for areas of the project employing AMG. Confirm that the resulting model agrees with the contract plans.
(2) If the engineer requests, provide the construction model to the department in LandXML or other engineer-approved format.

650.3.1.2.4 Managing and Updating Information
(1) Notify the department of any errors or discrepancies in department-provided information. The department will determine what revisions may be required. The department will revise the contract plans, if necessary, to address errors or discrepancies that the contractor identifies. The department will provide the best available information related to those contract plan revisions.
(2) Revise the construction model as required to support construction operations and to reflect any contract plan revisions the department makes. Perform checks to confirm that the revised construction model agrees with the contract plan revisions. If the engineer requests, provide construction model updates to the engineer. The department will pay for costs incurred to incorporate contract plan revisions as extra work.

650.3.1.2.5 Construction Checks
(1) Check the work against the plan elevation at randomly selected points on cross-sections located at stations evenly divisible by 100 at the frequency the engineer approved as a part of the AMG work plan. Submit the results of these random checks to the engineer daily. Notify the engineer immediately if a check exceeds the tolerances specified in 650.3.1.2.6 below.
(2) Check the work at additional points as the engineer directs. The department may conduct periodic independent checks.

650.3.1.2.6 Construction Tolerances
(1) Ensure that the finished work vertically matches existing or other completed features. Ensure that the work conforms to revised plan elevations as follows:
   - Subgrade : +/- 0.10 feet.
   - Base : within the tolerance specified in 301.3.4.1(2).

650.3.3 Subgrade
Retitle and replace the entire text with the following effective with the December 2018 letting:

650.3.3 Subgrade Staking
(1) Set construction stakes or marks at intervals of 100 feet, or more frequently, for rural sections and at intervals of 50 feet, or more frequently, for urban sections. Include additional stakes at each cross-section as necessary to match the plan cross-section, achieve the required accuracy, and to support construction operations. Also set and maintain stakes as necessary to establish the horizontal and vertical positions of intersecting road radii, auxiliary lanes, horizontal and vertical curves, and curve transitions. Locate stakes to within 0.25 feet horizontally and establish the grade elevation to within 0.03 feet vertically.
Errata

520.3.3 Laying Pipe
Correct errata by replacing “sections” with “joints” to clarify the intent that the last 3 joints need ties.

(5) Provide joint ties on the upstream and downstream ends of circular and horizontal elliptical concrete culvert and concrete cattle pass installations. Tie the next 3 pipe joints or, if using apron endwalls, the endwall joint and the last 2 pipe joints. Ties are not required on culverts with masonry endwalls unless the plans show otherwise.

608.3.3 Laying Pipe
Correct errata by replacing “sections” with “joints” to clarify the intent that the last 3 joints need ties.

(5) Provide joint ties on concrete storm sewer system infall and outfall pipes. Tie the last 3 pipe joints or, if using apron endwalls, the endwall joint and the next 2 pipe joints. Ties are not required on installations with masonry endwalls unless the plans show otherwise.