

Wisconsin Department of Transportation

October 31, 2016

Division of Transportation Systems Development

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NOTICE TO ALL CONTRACTORS:

**Proposal #30: 3360-09-72, WISC 2016 309
 Menomonee Falls – Slinger
 Maple Rd to STH 60
 STH 175
 Washington County**

Letting of November 8, 2016

This is Addendum No. 1, which provides for the following:

Special Provisions

Added Special Provisions	
Article No.	Description
54	HMA Pavement Percent Within Limits QMP (With appendix)
55	HMA Percent Within Limits (PWL) Test Strip, Item SPV.0060.12

Deleted Special Provisions	
Article No.	Description
20	QMP HMA Pavement Nuclear Density

Schedule of Items

Revised Bid Item Quantities					
Bid Item	Item Description	Unit	Old Quantity	Revised Quantity	Proposal Total
460.2000	Incentive Density HMA Pavement	DOL	37,580	-2,960	34,620

Added Bid Item Quantities					
Bid Item	Item Description	Unit	Old Quantity	Revised Quantity	Proposal Total
460.2010	Incentive Air Voids HMA Pavement	DOL	0	29,920	29,920
SPV.0060.12	HMA Percent Within Limits (PLW) Test Strip	EACH	0	3	3

Plan Sheets

Revised Plan Sheets	
Plan Sheet	Plan Sheet Title (brief description of changes to sheet)
293	Added note "HMA Pavement Percent Within Limits QMP only applies to HMA pavement placed in stage 1.
301	Added item HMA Percent Within Limits (PLW) Test Strip

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

ADDENDUM NO. 01

3360-09-72

October 31, 2016

Special Provisions

20. DELETED.

54. HMA Pavement Percent Within Limits QMP.

The following special provision only applies to HMA pavement placed in stage 1.

A Description

This special provision describes the data collection, statistical analysis, and procedure used for determination of pay adjustments for HMA pavement using Percent Within Limits (PWL) specification methodology. Pay adjustments will be made for the properties of air voids and density.

This special provision describes PWL pay determination, providing and maintaining a contractor Quality Control Program, department Quality Verification Program, required sampling and testing, dispute resolution, corrective action, pavement density, and payment for HMA pavements. Pay is determined by statistical analysis performed on contractor and department results conducted according to the Quality Control Program and Quality Verification Program as specified in standard spec 460 and modified here within.

The Quality Management Program (QMP) detailed in standard spec 460.2.8 is supplemented by this article.

B Materials

Conform to the requirements of standard specs 450, 455, and 460 except where superseded by this special provision. The department will allow only one mix design for each type of mix required for the project unless approved by the engineer. The use of more than one mix design for each HMA pavement layer will require the contractor to construct a new test strip.

Replace standard spec 460.2.8.2.1.3.1 for contracts with 5000 Tons of Mixture or Greater with the following Contracts under Percent Within Limits to require a 3-way split, modify retained sample procedure, add ignition oven for AC determination for information, and modify lot and subplot sizes:

460.2.8.2.1.3.1 Contracts under Percent within Limits

(1) Furnish and maintain a laboratory at the plant site fully equipped for performing contractor QC testing. Have the laboratory on-site and operational before beginning mixture production.

(2) Obtain random samples and perform tests according to Appendix A Test Methods & Sampling for PWL QMP HMA Pavements. Obtain HMA mixture samples from trucks at the plant. The QV-split acts as the QC sample for a subplot where a QV sample is taken. For the subplot in which a QV sample is collected, the QC sample shall be discarded, and the QC team shall test the QV-split in its place.

(3) The department will retain the split portion(s) of the contractor HMA mixture and blended aggregate samples. The department will take possession of retained samples collected to date each day QV samples are collected. Samples shall be labeled in accordance with Appendix A. Additional handling instructions for retained samples are found in CMM 8-36.

(4) Use the test methods identified below, or other methods the engineer approves, to perform the following tests at a frequency greater than or equal to that indicated:

Blended aggregate gradations:

Field extraction by CMM 8-36 WisDOT Test Method or ignition oven according to AASHTO T 308.

Asphalt content (AC) in percent

AC by calculation.
 AC by nuclear gauge reading, optional.
 AC by inventory, optional.
 AC by ignition oven according to AASHTO T 308 (required, but informational only)
 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.

⁽⁵⁾ Test each design mixture at a frequency of 1 test per 750 tons of mixture produced and placed on the project. Add a random sample for any fraction of 750 tons at the end of a project. Lot size will consist of 3750 tons with sublots of 750 tons. Partial lots with less than three subplot tests shall be included into the previous lot. Lots for PWL Air voids may include areas other than the main travel lane which may include shoulders, bypass/turn lanes, etc. as specified in the plan. Lot sizes for PWL Density and PWL Air Voids will not match in size.

⁽⁶⁾ Also conduct field tensile strength ratio tests according to ASTM D4867 on all mixtures requiring an antistripping additive. Test each full 50,000 ton production increment, or fraction of an increment, after the first 5000 tons of production. Perform required increment testing in the first week of production of that increment. If field tensile strength ratio values are either below the spec limit or less than the mixture design JMF percentage value by 20 or more, notify the engineer. The engineer and contractor will jointly determine a corrective action.

Delete standard spec 460.2.8.2.1.5 and 460.2.8.2.1.6

Replace standard spec 460.2.8.2.1.7 Corrective Action with the following to add stop criteria and individual test tolerances:

460.2.8.2.1.7 Corrective Action

⁽¹⁾ Material must conform to the following action limits based on individual QC and QV test results (tolerances relative to JMF):

ITEM	ACTION LIMITS	CONFORMANCE LIMITS
Percent passing given sieve:		
37.5-mm	+/- 8.0	
25.0-mm	+/- 8.0	
19.0-mm	+/- 7.5	
12.5-mm	+/- 7.5	
9.5-mm	+/- 7.5	
2.36-mm	+/- 7.0	
75- μ m	+/- 3.0	
Asphaltic content in percent	- 0.5	
Air Voids		- 1.0 & +2.0
VMA in percent ^[1]	- 0.5	-1.0

^[1] VMA limits based on minimum requirement for mix design nominal maximum aggregate size in table 460-1.

⁽²⁾ QV test results will be determined for air voids, VMA, Gmm, and Gmb, and AC Content

⁽³⁾ If any individual test results fall outside the action limits, notify the engineer, investigate the cause, and take corrective action to return to within limits. If two consecutive test results fall outside the action limits, stop production. Production may not resume until approved by the engineer. An additional QV sample may be collected upon resuming production, at the discretion of the engineer. Any additional QV tests must meet the tolerances of the action limits or be subject to additional stoppage and/or remove and replace.

⁽⁴⁾ For any additional tests outside the random number testing conducted for density or volumetrics, the data collected will not be entered into PWL calculations. However, additional QV testing shall

meet the tolerances for material acceptance as specified in the Standard Specification and this document. If additional density data identifies nonconforming material, proceed in accordance with CMM 8-15.11.

(5) Remove and replace nonconforming material at no additional expense to the department. The engineer may allow nonconforming material to remain in place. The department will pay for the nonconforming HMA Pavement that remains in place at 50 percent of the contract price. Nonconforming material is defined as individual QC or QV tests resulting in material outside of the conformance limits or a PWL value < 50.

Delete standard spec 460.2.8.2.2

Replace standard spec 460.2.8.3.1.2 with the following:

(1) The department will provide at least one HTCP-certified HMA technician, certified at a level appropriate for sampling and mixture production control testing, to observe QV sampling of project mixtures.

(2) Under departmental observation, a contractor HMA technician certified at a level appropriate for sampling and mixture production control testing will collect and split samples.

(3) For QV testing, a department HMA technician certified at a level appropriate for sampling and mixture production control testing will ensure that all sampling is performed correctly and conduct testing, analyze test results, and post resulting data.

(4) The department will make an organizational chart available at the testing laboratory and to the contractor before mixture production begins. The department's chart will include names, telephone numbers, and current certifications of all QV testing personnel. The department will update the chart with appropriate changes, as they become effective.

Replace standard spec 460.2.8.3.1.4 with the following to require and explain 3-way split testing, add ignition oven for QV tests, and define QV frequency.

(1) HTCP-certified department personnel will obtain random samples by directly supervising HTCP-certified contractor personnel sampling from trucks at the plant. Sample size must be adequate to run the appropriate required tests in addition to one set of duplicate tests that may be required for dispute resolution (i.e., retained). This requires sample sizes which accommodate a three-way split for all random sampling per subplot. All QC samples shall provide the following: QC, QC-split, and QC-retained. All QV samples shall provide the following: QV, QV-split, and QV-retained. The contractor will take possession and test the QC and QV-split portions. The engineer will observe the splitting and take possession of the samples intended for QV testing (i.e., QV and QC-split) and the retained portions. Additional sampling details are found in Appendix A.

(2) The department will verify product quality using the test methods enumerated here in 460.2.8.3.1.4(2), other engineer-approved methods, or other methods the industry and department HMA technical team recognizes. The department will identify test methods before construction starts and use only those methods during production of that material unless the engineer and contractor mutually agree otherwise.

(3) The department will perform all 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.

AC by ignition oven according to AASHTO T 308 (required, but informational only)

(4) The department will randomly test each design mixture at the minimum frequency of one test for each lot (Normal lot size is 3750 tons).

Delete standard spec 460.2.8.3.1.6

Replace standard spec 460.2.8.3.1.7 Dispute Resolution with the following Data Acceptance for Volumetrics to define statistical analysis and dispute resolution process:

460.2.8.3.1.7 Data Acceptance for Volumetrics

⁽¹⁾ Acceptance of test data for pay determination will be contingent upon test results from both the contractor (QC) and the department (QV). Statistical analysis will be conducted on maximum specific gravity (Gmm) and bulk specific gravity (Gmb) data. The analysis determines the appropriate Gmm and Gmb to be used to calculate air voids. If either Gmm or Gmb result in non-comparable data as described in 460.2.8.3.1.7(2), the subsequent testing will be performed for both parameters.

⁽²⁾ The engineer, upon completion of the lot, will compare the variances (F-test) and the means (t-test) of the verification test results with the quality control test results. If the F- and t-tests report comparable, the QC and QV data sets are determined to be statistically similar and QC data will be used to calculate air voids which in turn are used for PWL and pay adjustment calculations. If the F- and t-tests result in non-comparable data, proceed to the *dispute resolution* steps found below. Dispute resolution via further investigation is as follows:

^[1] The QV-retained portion of the split from the most recent lot in the analysis window (specifically the subplot which triggered the warning that variances or means do not compare) shall be referee tested by the bureau's AASHTO accredited laboratory and certified personnel. This referee test result will replace the QV data of the subplot.

^[2] A secondary statistical analysis shall be conducted inclusive of the referee test result. If the F- and t-tests now indicate that variances and means compare, no further testing is needed for the lot as QC data is determined to be appropriate to carry forward into subsequent calculations.

^[3] If, however, the secondary statistical analysis inclusive of the referee test result yields an F- or t-test indicating non-comparable variances or means, the QC-splits will be tested by the department's regional lab for the remaining 4 sublots of the lot which generated the warning. This data shall be used with the initial referee test result in subsequent calculations.

^[4] The contractor may choose to *dispute* the QC-split data collected on a lot basis. In this event, the QC-retained portion of each subplot shall be referee tested by the bureau's AASHTO accredited laboratory and certified personnel and the referee test results will supersede the regional results for the disputed lot. Dispute resolution testing shall include both Gmm and Gmb, i.e., not solely the individual parameter causing the warning.

^[5] If the referee testing results in an increased calculated pay factor, the department will absorb the cost of the additional referee testing.

^[6] If the additional referee testing of a disputed lot results in a lower calculated pay factor, the contractor pays for the additional referee testing.

^[7] The cost of referee testing is \$2000/lot.

⁽³⁾ The department will notify the contractor of the referee test results within 3 working days after receipt of the samples by the bureau's AASHTO accredited laboratory. The intent is to provide referee test results within approximately 7 calendar days from completion of the lot.

⁽⁴⁾ The department will determine mixture conformance and acceptability by analyzing referee test results, reviewing mixture project data, and inspecting the completed pavement all according to Standard Spec, this document, and accompanying Appendices.

⁽⁵⁾ Nonconforming mix (i.e., resulting in a PWL value less than 50 or not meeting the requirements of 460.2.8.2.1.7 as modified here within) may be subject to remove and replace, at the discretion of the engineer. Replacement may be conducted on a subplot basis. If an entire PWL subplot is removed and replaced, the test results of the newly placed material shall replace the original data for the subplot. Any remove and replace shall be performed at no additional cost to the department. If the engineer approves the nonconforming material to remain in place, it will be paid at 50% of the HMA Pavement contract price. (See the *About* worksheet of the WisDOT PWL Analysis Template for additional information regarding Dispute Resolution.)

Delete standard spec 460.2.8.3.1.8 Corrective Action.

C Construction

Replace standard spec 460.3.3.2 Pavement Density Determination with the following to define lot sizes and locations of density testing:

460.3.3.2 Pavement Density Determination

(1) The engineer will determine the target maximum density using department procedures described in [CMM 8-15](#). The engineer will determine density as soon as practicable after compaction and before placement of subsequent layers or before opening to traffic.

(2) Do not re-roll compacted mixtures with deficient density test results. Do not operate continuously below the specified minimum density. Stop production, identify the source of the problem, and make corrections to produce work meeting the specification requirements.

(3) A lot is defined as 7500 lane feet with sublots of 1500 lane feet (excluding shoulder, even if paved integrally) and placed within a single layer for each location and target maximum density category indicated in [table 460-3](#) of the HMA Pavement 3 LT 58-28 S 3.0% Va Regression Special; 4 LT 58-28 S 3.0% Va Regression Special; The contractor is required to complete 15 QC tests per complete lot (3 randomly per subplot) and the department will randomly conduct one (1) QV test per subplot. A partial quantity less than 1500 lane feet will be included with the previous subplot at the end of the project. Partial lots with less than three sublots shall be included into the previous lot. [Exclusions such as shoulders and appurtenances shall be tested in accordance with CMM 8-15. However, all acceptance testing of shoulders and appurtenances will be conducted by the department.]

(4) The three QC locations per subplot will represent the outside, middle, and inside of the paving lane (i.e., the lane width will be divided into thirds as shown in Appendix A and random numbers will be used to identify the specific transverse location within each third in accordance with CMM 8-15). Each location will be measured with two one-minute gauge readings oriented 180 degrees from one another, in the same footprint as detailed in Appendix A. Each location will be the average of the two readings. If the two readings exceed 1.0 lb/ft³ of one another, a third reading shall be conducted at either orientation. In this event, all three readings shall be averaged, discard the initial of the three readings which falls farthest from the average value and then average the remaining two values to represent the location for the gauge. Multiple locations are not to be averaged together.

(5) QV nuclear testing will consist of a randomly selected location per subplot. The QV is also comprised of two one-minute readings, averaged as described in (4) above.

(6) A certified nuclear density technician shall locate samples and perform the testing. The responsible certified technician shall ensure that sample location and testing is performed correctly, analyze test results, and provide density results to the contractor weekly, at the completion of each lot.

Replace standard spec 460.3.3.3 Waiving Density Testing with Acceptance of Density Data to define statistical analysis and dispute resolution:

460.3.3.3 Acceptance of Density Data

(1) Acceptance of test data for pay determination will be contingent upon test results from both the contractor (QC) and the department (QV).

(2) The engineer, upon completion of the lot, will compare the variances (F-test) and the means (t-test) of the verification test results with the quality control test results. If the F- and t-tests indicate variances and means compare, the QC and QV data sets are determined to be statistically similar and QC data will be used for PWL and pay adjustment calculations.

(3) If the F- and t-tests indicate variances and means compare, QC data is determined to be appropriate to carry forward into subsequent calculations. If the F- and t-tests indicate variances or means do not compare, the QV data will be used for subsequent calculations.

(4) The department will determine mixture density conformance and acceptability by analyzing test results, reviewing mixture project data, and inspecting the completed pavement all according to Standard Spec, [this document](#), and [accompanying Appendices](#).

(5) Nonconforming mix (i.e., resulting in a PWL value less than 50 or not meeting the requirements of 460.3.3.1) may be subject to remove and replace, at the discretion of the engineer. Replacement may be conducted on a subplot basis. If an entire PWL subplot is removed and replaced, the test results of the newly placed material shall replace the original data for the subplot. Any remove and

replace shall be performed at no additional cost to the department. If the engineer approves the nonconforming material to remain in place, it will be paid for at 50% of the HMA Pavement contract price.

D Measurement

The department will measure the HMA Pavement bid items acceptably completed by the ton as specified in standard spec 450.4 and as follows in standard spec 460.5 as modified here within.

E Payment

Replace standard spec 460.5.2 HMA Pavement with the following to add payment for PWL:

460.5.2 HMA Pavement

460.5.2.1 General

(1) Payment for HMA Pavement Type LT, MT, HT, and SMA mixes is full compensation for providing HMA mixture designs; for preparing foundation; for furnishing, preparing, hauling, mixing, placing, and compacting mixture; for QMP testing and aggregate source testing; for warm mix asphalt additives or processes; for stabilizer, hydrated lime and liquid antistripping agent, if required; and for all materials including asphaltic materials.

(2) If provided for in the plan quantities, the department will pay for a leveling layer, placed to correct irregularities in an existing paved surface before overlaying, under the pertinent paving bid item. Absent a plan quantity, the department will pay for a leveling layer as extra work.

460.5.2.2 Calculation of Pay Adjustment for HMA Pavement using PWL

(1) Pay adjustments will be calculated using a unit price of 65 dollars per ton of HMA pavement. The analysis template, including data, will be provided to the contractor by the department as soon as practicable upon completion of each lot. The department will pay for measured quantities of mix based on the unit price multiplied by the following pay adjustment calculated in accordance with the *Calculations* worksheet of the WisDOT PWL Analysis Template:

PAY FACTOR FOR HMA PAVEMENT AIR VOIDS & DENSITY	
<i>PERCENT WITHIN LIMITS</i>	<i>PAYMENT FACTOR, PF</i>
<i>(PWL)</i>	<i>(percent of contract price)</i>
> 90 to 100	$PF = ((PWL - 90) * 0.4) + 100$
≥ 50 to 90	$(PWL * 0.5) + 55$
<50	50% ^[1]

where PF is calculated per air voids and density, denoted PF_{air voids} & PF_{density}

^[1] Any material resulting in PWL value of 50 or less shall be removed and replaced unless the engineer allows for such material to remain in place. In the event the material remains in place, it will be paid at 50% of the above stated unit price of 65 dollars per ton of HMA pavement.

For air voids, PWL values will be calculated using lower and upper specification limits of 2.0 and 4.3 percent, respectively.. Lower specification limits for density shall be in accordance with Table 460-3. Pay adjustment will be determined on a lot basis and will be computed as shown in the following equation.

Pay Adjustment = (PF-100)/100 x (WP) x (tonnage) x (unit price)

The following weighted percentage (WP) values will be used for the corresponding parameter:

<u>Parameter</u>	<u>WP</u>
Air Voids	0.5
Density	0.5

Individual Pay Factors for each air voids ($PF_{\text{air voids}}$) and density (PF_{density}) will be determined. $PF_{\text{air voids}}$ will be multiplied by the total tonnage produced, and PF_{density} will be multiplied by the tonnage used to pave the mainline only (i.e., excluding shoulder) as calculated in accordance with CMM 8-15.

The department will pay incentive for air voids and density under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
460.2000	Incentive Density HMA Pavement	DOL
460.2010	Incentive Air Voids HMA Pavement	DOL

The department will administer disincentives under the Disincentive Density HMA Pavement and the Disincentive Air Voids HMA Pavement administrative items.

Note: PWL value determination is further detailed in the *Calculations* worksheet of the WisDOT PWL Analysis Template.

Appendix A

TEST Methods & Sampling for PWL QMP HMA Pavements

TEST Methods & Sampling for PWL QMP HMA Pavement.

The following procedures are included with the HMA Pavement Percent Within Limits Quality Management Program (PWL QMP) special provision:

- WisDOT Procedure for Nuclear Gauge/Core Correlation
- WisDOT Test Method for PWL QMP Density Measurements for Main Production
Sampling for WisDOT PWL QMP

WisDOT Procedure for Nuclear Gauge/Core Correlation

The engineer is responsible for identifying the two zones in which gauge/core correlation is to be performed. These two zones are to be randomly selected within each of two sublots of the 750 ton test strip. Test strip sublots 1 and 2 are identified as between 50-400 tons and 401-750 tons, respectively.

Required field tests include contractor quality control (QC) and department quality verification (QV) nuclear density gauge tests and pavement coring. Each zone shall consist of five (5) locations across the mat as identified in Figure 1. The following shall be determined at each of the five locations within both zones:

- two one-minute nuclear density gauge readings for QC team*
- two one-minute nuclear density gauge readings for QV team*
- one pavement core sample

*If the two readings performed with the same gauge by the same team are not within +/- 1.0 lb/ft³ of one another, a third reading shall be conducted. In this event, all three readings shall be averaged, discard the initial of the three readings which falls farthest from the average value and then average the remaining two values to represent the location for the gauge.

This appears as follows, in the field:

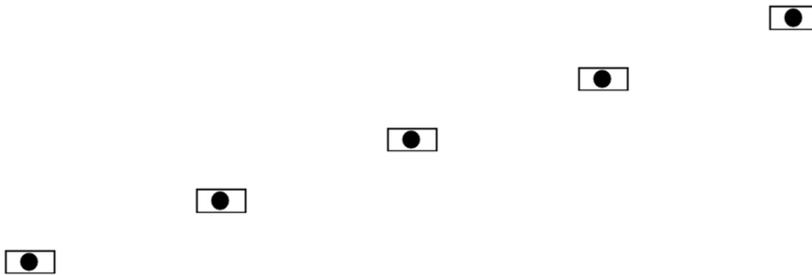


Figure 1: Nuclear/Core correlation locations depicted

Individual locations are represented by the symbol as seen in Figure 1 above. The symbol is two-part, comprised of the nuclear test locations and the location for coring the pavement, as distinguished here:



The nuclear site is the same for QC and QV readings for the test strip, i.e., the QC and QV teams are to take nuclear density gauge readings in the same footprint. Each of the QC and QV teams are to take two one-minute readings per nuclear site, with the gauge rotated 180 degrees between readings, as seen here:



Figure 2: Nuclear gauge orientation for (a) 1st one-minute reading and (b) 2nd one-minute reading

The core shall then be taken from the center of said footprint to be used to correlate each gauge with laboratory measured bulk specific gravities of the pavement cores. One core in good condition must be obtained from each of the 10 locations. If a second core is needed, it shall be obtained from within the same gauge footprint. The contractor is responsible for coring of the pavement. Coring and filling of core holes must be approved by the engineer. The QV team is responsible for the labeling and safe transport of the cores from the field to the QC laboratory. Core density testing shall be conducted by the contractor and witnessed by department personnel. The contractor is responsible for drying the cores following testing. The department shall take possession of cores following initial testing and shall be responsible for any verification testing.

Each core 100 or 150 mm (4 or 6 inches) in diameter will be taken at locations identified in Figure 1. [Appropriate core diameter shall be selected based on layer thickness and shall be decided at the prepave meeting and remain consistent for the duration of the project.] Each random core will be full thickness of the layer being placed. The contractor is responsible for thoroughly drying cores obtained from the mat in accordance with ASTM D 7227 prior to using specimens for in-place density determination in accordance with AASHTO T 166.

All core holes shall be filled with non-shrink grout or HMA. When using rapid hardening grout, all water shall be removed from the core holes prior to filling and the mortar or concrete shall be mixed in a separate container prior to placement in the hole. If HMA is used, fill all core holes with hot-mix matching that day's production mix type at that day's compaction temperature +/- 20F. The core holes shall be dry and coated with tack before filling, filled with a minimum of two layers (single layer allowed for pavement layers ≤ 2 inches in thickness), and compacted with a Marshall hammer or similar tamping device using approximately 50 blows per layer. The finished surface shall be flush with the pavement surface. Any deviation in the surface of the filled core holes greater than 1/4 inch at the time of final inspection will require removal of the fill material to the depth of the layer thickness and replacement.

The core densities collected from the 10 locations of the test strip and the QV results from the three split samples will be used to determine material acceptance and pay. The PWL value is calculated in accordance with the calculations worksheet in the WisDOT PWL Analysis Template.

A PWL value for air voids and density shall be calculated after completion of the testing. An acceptable test strip is defined as the individual PWL values for air voids and density are both above 75 or the average of the two are above 80. Full production may not continue until an acceptable test strip has been completed. If a PWL value on the test strip is below 50, the material is considered nonconforming and the test strip is

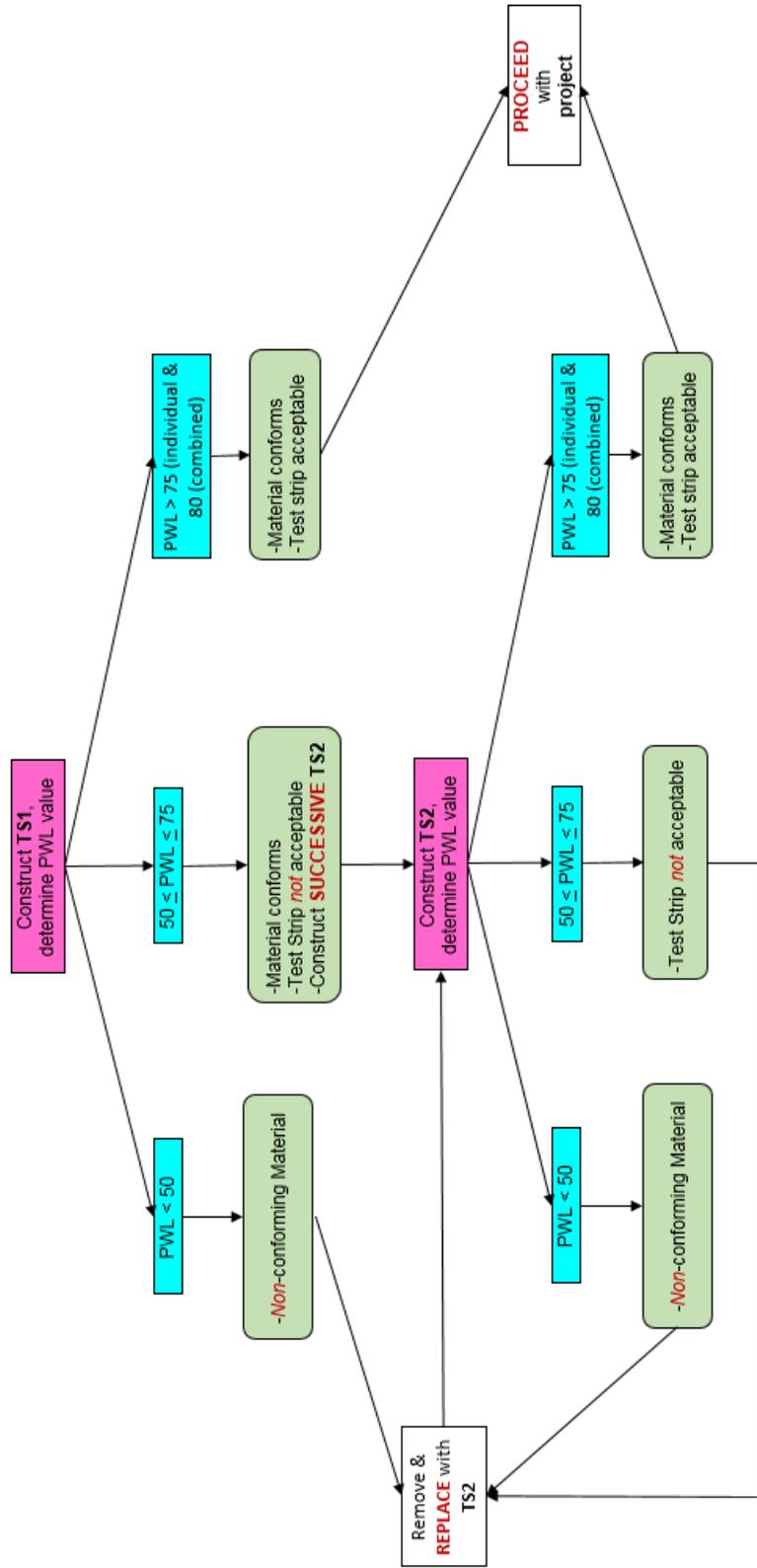
unacceptable. If the material is allowed to remain in place, a second test strip shall be constructed. If the material is determined to be removed and replaced, a new test strip will replace the previous one at no additional cost to the department. If a PWL value is between 50 and 75, the material is considered conforming, although a second test strip will need to be constructed. If the second test strip is not acceptable as defined above, it shall be removed and replaced. A maximum of two test strips may be left in place on the project. Additional guidance on test strip and material acceptance is found in Figure 3.

PWL Value	Test Strip & Material Acceptance
>75 (individual) & 80 (combined)	Material conforms, Test Strip is acceptable
$50 \leq \text{PWL} \leq 75$	Material conforms, Test Strip is not acceptable*
< 50	Material nonconforming, may be removed & replaced, Test Strip not acceptable*

* A maximum of two test strips may be left in place on the project.

All test reports shall be submitted to WisDOT upon completion, and approved before paving resumes. The department shall notify the contractor within as soon as practicable after completion of the test strip regarding approval to proceed with paving beyond the test strip.

Test Strip & Material Acceptance



FOOTNOTES:

TS1 = First Test Strip

TS2 = Second Test Strip

* A maximum of two test strips may be left in place on the project.

Figure 3: Flowchart for guidance of material and test strip acceptance for PWL

WisDOT Test Method for PWL QMP Density Measurements for Main Production

For nuclear density testing of the pavement beyond the test strip, QC tests will be completed at three locations per subplot, with a subplot defined as 1500 lane feet. The three locations will represent the outside, middle, and inside of the paving lane (i.e., the lane width will be divided into thirds as shown by the dashed longitudinal lines in Figure 3 and random numbers will be used to identify the specific transverse location within each third in accordance with CMM 8-15). Longitudinal locations within each subplot shall be determined with 3 independent random numbers. Each location will be measured with two one-minute gauge readings oriented 180 degrees from one another, in the same footprint as detailed above. Each location will be the average of the two readings. Multiple locations are not to be averaged together. QV nuclear testing will consist of randomly selected location per subplot. The QV is also comprised of two one-minute readings. This is depicted as follows, with QC test locations shown as solid lines and QV as dashed.

1 lot (7500 lane ft)

Figure 3: Locations of main lane HMA density testing (QC=solid lines, QV=dashed)

QC and QV nuclear density gauge readings will be statistically analyzed in accordance with the following section of this Appendix. (Note: For density data, if F- and t-tests pass, QC data will be used for the subsequent calculations of PWL value and pay determination. However, if an F- or t-test failure occur, the QV data will be used in subsequent calculations.)

Sampling for WisDOT PWL QMP

Delete CMM 8-36.4 Sampling Hot Mix Asphalt and replace with the following to update subplot tonnages:

Sampling Hot Mix Asphalt

At the beginning of each day the contractor determines the anticipated tonnage to be produced. The frequency of sampling (minimum number of required tests for the day's anticipated production) is defined by the PWL QMP SPV. A test sample is obtained randomly from each subplot.

Example 1

The approximate location of each sample within the prescribed sublots is determined by selecting random numbers using ASTM Method D-3665 or by using a calculator or computerized spreadsheet that has a random number generator. The random numbers selected are used in determining when a sample is to be taken and will be multiplied by the subplot tonnage. This number will then be added to the final tonnage of the previous subplot to yield the approximate cumulative tonnage of when each sample is to be taken.

To allow for plant start-up variability, the procedure calls for the first random sample to be taken at 50 tons or greater per production day (not intended to be taken in the first two truckloads). Random samples calculated for 0-50 ton should be taken in the next truck (51-75 ton).

Example 2

Required Sample	Sublot Sample Tonnage Range	Random No. ASTM D-3665	Sublot Sample Ton (Random No. x Sublot ton)	End of Previous. Range	Cumulative Sample Tonnage
1	50 - 750	0.572	RN x 750= 429	0	429
2	751 - 1500	0.353	RN x 750= 265	750	1015
3	1501 - 2250	0.656	RN x 750= 492	1500	1992
4	2251-3000	0.251	RN x 750= 188	2250	2438

This procedure is to be used for any number of samples per day.

If the day's production is less than the final randomly generated sample tonnage for that day, then the random sample is to be collected from the remaining portion of that subplot on a subsequent day of production. If the randomly generated sample is calculated to be within the first 0-50 tons of the subsequent day of production, it should be taken in the next truck. Add a random sample for any fraction of 750 tons at the end of the project. Lot size will consist of 3750 tons with sublots of 750 tons. Partial lots with less than three subplot tests shall be included into the previous lot.

It's intended that the plant operator not be advised ahead of time when samples are to be taken. If the plant operator is involved in recording a Pb (%AC) to match up with the mix sample tonnage, then notification need not be earlier than 60 minutes before the mix sample being taken.

If belt samples are used during troubleshooting, the blended aggregate will be obtained when the mixture production tonnage reaches approximately the sample tonnage. For plants with storage silos, this could be up to 60 minutes in advance of the mixture sample that's taken when the required tonnage is shipped from the plant.

Delete CMM 8-36.4.2.1 through 8-36.4.2.3 and replace with the following PWL (3-way) Split Sample Sizes

PWL (3-way) Split Sample Sizes

- Minimum sample sizes are referenced below and are guidance for meeting requirements for test completion.

Mixture NMAS	Sample Size
≤ 12.5mm (1/2")	105 lb
19.0mm - 25.0mm (3/4" – 1")	150 lb
≥ 37.5mm (1-1/2")	240 lb

- The total sample for larger NMAS (nominal maximum aggregate size) mixtures will be enough to provide the required minimum testing sample size as defined in Figure 3.

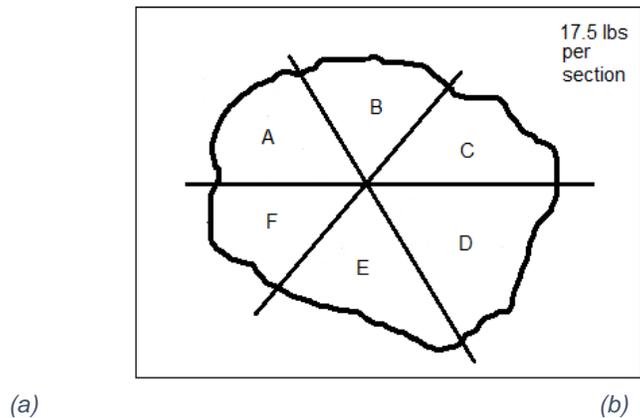
Delete 8-36.5.1.1 Step 1 and replace with the following Initial Splitting of Sample

Initial Splitting of Sample

For QC sample reduction the HMA sample in the containers is mixed and quartered. The quartering process should then proceed as follows:

- Collect the minimum sample size given in the *PWL Split Sample Size* section above. Split the sample into "Test" and "Retained" samples. Place entire sample on table, quickly re-mix and split to minimize temperature loss. Split the Test & Retained samples as shown on Figure 3. For 1/2" mixes start with at least a total of 105 lbs of HMA.

Figure 3 Superpave Sample for 105 lbs for three-way split for QC, QV, and retained samples



- ii. For a three-way split shown in Figure 3, *diagonal sections*, as indicated on the sketch, must be combined to form the QV sample (A+D), retained sample (B+E) and the QC test sample (C+F). The retained sample must be bagged, labeled, and stored in a safe dry place. The retained samples may be tested using the “rule of retained” (see “Definitions” section).
- iii. The QC & QV test samples are then further split for the specified tests. Continue the splitting process in *Further Reduction of Samples to Test Sizes* for the test materials until individual samples are in the oven.

Delete CMM 8-36.5.2 Use of Alternative Sampling / Quartering Devices (ex: Quartermaster) and replace with the following:

Use of Alternative Sampling / Quartering Devices (ex: Quartermaster)

Use of other devices to assist in the sampling and splitting procedures may be used with approval of the department. The Quartermaster is one such device. A picture of a Quartermaster device is shown in Figure 6.

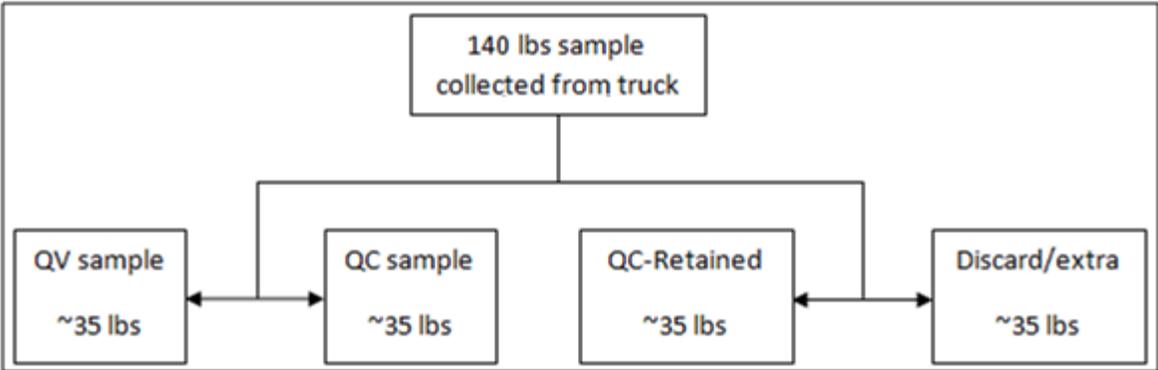
Figure 6 Quartermaster Quartering Device



Example 3

If a quartermaster is used to reduce a three-way split sample into the proper quantities, it is required to collect approximately 133% the minimum sample size shown in *PWL Split Sample Sizes* (e.g. 133% of 105 is

approximately 140 lbs), use the selected device to split, and discard the extra quadrant of material.



55. HMA Percent Within Limits (PWL) Test Strip, Item SPV.0060.12.

A Description

This special provision describes the Hot Mix Asphalt (HMA) density and volumetric testing tolerances required for an HMA test strip. An HMA test strip is required for projects constructed under HMA Percent Within Limits QMP. A test strip is required for each pavement layer. Each project is restricted to a single mix design for each mix type required (e.g., upper layer and lower layer may have different mix type specified).

B (Vacant)

C Construction

C.1 Test Strip

Notify the department at least 48 hours in advance of construction of the test strip. On the first day of production of each new mix design requiring a test strip, produce approximately 750 ton of HMA and cease production until the required testing is completed. Test strips shall be located in a section of the roadway to allow a representative (i.e. not a ramp or shoulder, etc.) rolling pattern.

C.1.1 Sampling and Testing Intervals

Laboratory testing will be conducted from a three-way split sample, with portions designated for QC, QV, and retained. Required field tests include contractor quality control (QC) and department quality verification (QV) nuclear density gauge tests and pavement coring.

During production for the test strip, HMA mixture samples shall be obtained from trucks prior to departure from the plant. Three four-way split samples shall be collected during the production of test strip material. Sampling and splitting shall be in accordance with Appendix C: *Sampling for WisDOT PWL QMP*. These three samples shall be randomly selected from the following production intervals and will be identified by the engineer:

<u>Sample Number</u>	<u>Production Interval (tons)</u>
<u>1</u>	<u>50-250</u>
<u>2</u>	<u>251-500</u>
<u>3</u>	<u>501-750</u>

The engineer will identify two zones in which gauge/core correlation is to be performed. These two zones will be randomly selected within each of two density sublots of the 750 ton test strip. Test strip sublots 1 and 2 are identified as between 50-400 tons and 401-750 tons, respectively. Each zone shall consist of five locations across the mat as identified in Appendix A. The following shall be determined at each of the five locations within both zones:

- two one-minute nuclear density gauge readings for QC team*
- two one-minute nuclear density gauge readings for QV team*
- pavement core sample

*If the two readings exceed 1.0 lb/ft³ of one another, a third reading shall be conducted at either orientation. In this event, all three readings shall be averaged, discard the initial of the three readings which falls farthest from the average value and then average the remaining two values to represent the location for the gauge.

Both the QV and QC teams shall have two nuclear density gauges present for correlation at the time the test strip is constructed. The above testing shall be conducted in accordance with Appendix A: *Test Methods & Sampling for PWL QMP HMA Pavements*. All test reports shall be submitted to the department upon completion, and approved before paving resumes.

C.1.1.1 Field Tests

Daily standardization of gauges on reference blocks and a reference site shall be performed in accordance with CMM 8-15. Nuclear gauge readings and pavement cores shall be used to determine nuclear gauge correlation in accordance with Appendix A. The two readings per location per gauge shall be averaged. The readings for the five locations across the mat for each of two zones shall be provided to the engineer. The engineer will analyze the readings of each gauge relative to the densities of the cores taken at each location. The engineer will determine the average difference between the nuclear gauge density readings and the measured core densities to be used as a constant offset value. This offset is to be used to adjust raw density readings for the specific gauge for the remainder of the project and shall appear on the density data sheet along with gauge and project identification. An offset is specific to the mix and layer, and therefore a separate value shall be determined for each layer of each mix of the project. This constitutes correlation of that individual gauge. Each team must have two gauges correlated at the time of the test strip. Any data collected by a team without an acceptable gauge (i.e., correlated during test strip) will not be accepted.

The contractor is responsible for coring of the pavement. Coring and filling of core holes must be approved by the engineer. The QV team is responsible for the labeling and safe transport of the cores from the field to the QC laboratory. Testing of cores shall be conducted by the contractor and witnessed by department personnel. The contractor is responsible for drying the cores following testing. The department will take possession of cores following initial testing and will be responsible for any verification testing.

Each core 100 or 150 mm (4 or 6 inches) in diameter shall be taken at locations identified in Section C.1.1 [Appropriate core diameter shall be selected based on layer thickness and shall be decided at the pre-pave meeting and remain consistent for the duration of the project.] Each random core shall be full thickness of the layer being placed. Thoroughly dry cores obtained from the mat in accordance with ASTM D 7227 prior to using specimens for in-place density determination in accordance with AASHTO T 166.

Fill all core holes with non-shrink grout or HMA. When using rapid hardening mortar or concrete, remove all water from the core holes prior to filling. Mix the mortar or concrete in a separate container prior to placement in the hole. If HMA is used, fill all core holes with hot-mix matching that day's production mix type at that day's compaction temperature +/- 20F. The core holes shall be dry and coated with tack before filling, filled with a minimum of two layers (single layer allowed for pavement layers \leq 2 inches in thickness), and compacted with a Marshall hammer or similar tamping device using approximately 50 blows per layer. The finished surface shall be flush with the pavement surface. Any deviation in the surface of the filled core holes greater than 1/4 inch at the time of final inspection will require removal of the fill material to the depth of the layer thickness and replacement.

All laboratory and field testing associated with the test strip shall be completed the same day as paving of the test strip. All test reports shall be submitted to the department upon completion, and approved before paving resumes. The department will notify the contractor by the end of the day regarding approval to proceed with paving beyond the test strip.

C.1.1.2 Laboratory Tests

Material shall be collected from trucks at the plant according to the frequency described in section C.1.1 above. Sample sizes shall be consistent with the minimums for a three-way split as shown below:

Mixture NMAS	Sample Size
≤ 12.5mm (1/2")	105 lb
19.0mm - 25.0mm (3/4" – 1")	150 lb
≥ 37.5mm (1-1/2")	240 lb

Bulk specific gravities shall be determined for cores in accordance with AASHTO T 166. The bulk specific gravity values determined from field cores shall be used to calculate a correction factor (i.e., offset) for the QC and QV nuclear density gauges to be used throughout the remainder of the project. QC and QV teams may wish to scan with additional gauges at the locations detailed in C.1.1 above, as only gauges used during the test strip correlation phase will be allowed on the remainder of the project.

C.2 Acceptance

Conform to the following limits based on individual QC and QV test results (tolerances based on initial JMF/mix design):

ITEM	CONFORMANCE LIMITS
Percent passing given sieve:	
37.5-mm	+/- 8.0
25.0-mm	+/- 8.0
19.0-mm	+/- 7.5
12.5-mm	+/- 7.5
9.5-mm	+/- 7.5
2.36-mm	+/- 7.0
75-µm	+/- 3.0
Asphaltic content in percent	- 0.5
Air Voids	-1.0 & +2.0
VMA in percent ^[1]	- 1.0
Maximum specific gravity	+/- 0.024

^[1] VMA limits based on minimum requirement for mix design nominal maximum aggregate size in [table 460-1](#).

QV test results will be determined for air voids and VMA, Gmm, and Gmb, and AC Content.

Compact all layers of test strip HMA mixture to the applicable density shown in the following table:

LAYER	MIXTURE TYPE	
	LT & MT	HT
LOWER	93.0 ^[1]	93.0 ^[2]
UPPER	93.0	93.0

^[1] Minimum reduced by 2.0 percent for a lower layer constructed directly on crushed aggregate or recycled base courses.

^[2] Minimum reduced by 1.0 percent for lower layer constructed directly on crushed aggregate or recycled base courses.

Differences between the QC and QV split sample test results are acceptably identified by conducting a paired t-test in accordance with the WisDOT PWL Analysis Template.

If QC and QV test results do not correlate as determined by the paired t-test, the retained split sample will be tested by the bureau's AASHTO accredited laboratory and certified personnel as a referee test. Any referee test results will be used for subsequent calculations and material acceptance. Additional investigation shall be conducted to identify the source of the difference between QC and QV data. QV or referee data will be used to determine material acceptance and pay.

Nuclear density gauges are acceptable for use on the project only if correlation is completed for that gauge during the time of the test strip and the department issues documentation of acceptance stating the correlation offset value specific to the gauge and the mix design. The documentation must accompany the gauge any time the gauge appears on the project and the department may confirm at any time that the offset value being used matches that documented.

The core densities collected from the 10 locations of the test strip and the QV results from the three split samples will be used to determine material acceptance and pay. The PWL value is calculated in accordance with Appendix A.

A PWL value for air voids and density shall be calculated after completion of the testing. An acceptable test strip is defined as the individual PWL values for air voids and density are both above 75 or the average of the two are above 80. Full production may not continue until an acceptable test strip has been completed. If a PWL value on the test strip is below 50, the material is considered nonconforming and the test strip is unacceptable. If the material is allowed to remain in place, a second test strip shall be constructed. If the material is determined to be removed and replaced, a new test strip will replace the previous one at no additional cost to the department. If a PWL value is between 50 and 75, the material is considered conforming, although a second test strip will need to be constructed. If the second test strip is not acceptable as defined above, it shall be removed and replaced. A maximum of two test strips may be left in place on the project. Additional guidance on test strip and material acceptance is found in Appendix A.

PWL Value	Test Strip & Material Acceptance
>75 (individual) & 80 (combined)	Material conforms, Test Strip is acceptable
50 < PWL < 75	Material conforms, Test Strip is not acceptable*
< 50	Material nonconforming, may be removed & replaced, Test Strip not acceptable*

* A maximum of two test strips may be left in place on the project.

D Measurement

The department will measure HMA Percent Within Limits (PWL) Test Strip as each unit of work, acceptably completed as passing the required air void, VMA, asphalt content, gradation, and density tests for a Test Strip only. Material quantities shall be determined in accordance with standard spec 450.4 and detailed here within.

E Payment

The department will pay for HMA Percent Within Limits (PWL) Test Strip work at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.12	HMA Percent Within Limits (PWL) Test Strip	EACH

Payment for HMA Percent Within Limits (PWL) Test Strip is full compensation for providing HMA mixture designs; for preparing foundation; for volumetric and density testing and aggregate source

testing; for asphalt binder from recycled sources, and for warm mix asphalt additives or processes. Acceptable HMA mixture placed on the project as part of the test strip will be compensated by the appropriate HMA Pavement bid item.

This item is intended to compensate the contractor for the construction of the test strip for projects paved under the HMA Pavement Percent Within Limits QMP article.

Pay adjustments will be calculated using a unit price of 65 dollars per ton of HMA pavement. The department will pay for measured quantities of mix based on the unit price multiplied by the following pay adjustment calculated in accordance with Appendix A:

PAY ADJUSTMENT FOR HMA PAVEMENT AIR VOIDS & DENSITY	
<i>PERCENT WITHIN LIMITS</i>	<i>PAYMENT FACTOR, PF</i>
<i>(PWL)</i>	<i>(percent of contract price)</i>
> 90 to 100	$PF = ((PWL - 90) * 0.4) + 100$
≥ 50 to 90	$(PWL * 0.5) + 55$
<50	50% ^[1]

where,

PF is calculated per air voids and density, denoted PF_{air voids} & PF_{density}

^[1] Any material resulting in PWL value of 50 or less shall be removed and replaced, unless the engineer allows for such material to remain in place. In the event the material remains in place, it will be paid at 50% of the above stated unit price of 65 dollars per ton of HMA pavement.

For air voids, PWL values will be calculated using lower and upper specification limits of 2.0 and 4.3 percent, respectively. Lower specification limits for density will be in accordance with Table 460-3. Pay adjustment will be determined for an acceptably completed test strip and will be computed as shown in the following equation.

$$\text{Pay Adjustment} = (PF - 100) / 100 \times (WP) \times (\text{tonnage}) \times (\text{unit price})$$

The following weighted percentage (WP) values will be used for the corresponding parameter:

<u>Parameter</u>	<u>WP</u>
Air Voids	0.5
Density	0.5

Individual Pay Factors for each air voids (PF_{air voids}) and density (PF_{density}) will be determined. PF_{air voids} will be multiplied by the total tonnage produced, and PF_{density} will be multiplied by the tonnage used to pave the mainline only (i.e., excluding shoulder) as calculated in accordance with CMM 8-15.

The department will pay incentive for air voids and density under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
460.2000	Incentive Density HMA Pavement	DOL
460.2010	Incentive Air Voids HMA Pavement	DOL

The department will administer disincentives under the Disincentive Density HMA Pavement and the Disincentive Air Voids HMA Pavement administrative items.

Schedule of Items

Attached, dated October 31, 2016, are the revised Schedule of Items. All pages of the Schedule of Items are being replaced.

Plan Sheets

The following 8½ x 11-inch sheets are attached and made part of the plans for this proposal:
Revised: 293 and 301.

END OF ADDENDUM

211.0100

PREPARE FOUNDATION FOR ASPHALTIC PAVING (3360-09-72)

STATION	STATION	LOCATION	(LS)
920+17.93	- 1507+14.48	MAINLINE	1
TOTAL			1

465.0110

ASPHALTIC SURFACE PATCHING

STATION	STATION	LOCATION	(TON)
UNDISTRIBUTED	-		50
TOTAL			50

616.0700.S

FENCE SAFETY

STATION	STATION	LOCATION	(LF)
UNDISTRIBUTED	-		100
TOTAL			100

ADJUSTING MANHOLE COVERS 611.8120.S 690.0150 SPV.0060.11

STRUCTURE NUMBER	STATION	OFFSET	COVER PLATES TEMPORARY (EACH)	SAWING ASPHALT (LF)	ADJUSTING MANHOLE COVERS SPECIAL (EACH)
1201.0	963+25	6.0' RT	1	24	1
1208.0	964+00	6.0' RT	1	24	1
1202.0	965+20	6.0' RT	1	24	1
1203.0	966+25	6.0' RT	1	24	1
1204.0	967+50	6.0' RT	1	24	1
1205.0	969+00	6.0' RT	1	24	1
1206.0	970+50	6.0' RT	1	24	1
1207.0	973+50	6.0' RT	1	24	1
1601.0	1028+00	6.0' LT	1	24	1
1602.0	1031+00	6.0' LT	1	24	1
1603.0	1032+00	6.0' LT	1	24	1
1604.0	1034+00	6.0' LT	1	24	1
1605.0	1036+00	6.0' LT	1	24	1
1606.0	1039+00	6.0' LT	1	24	1
1701.0	120+50	19.5' RT	1	24	1
1801.1	1316+55	16.5' RT	1	24	1
1801.0	1316+65	6.0' RT	1	24	1
1802.0	1320+00	6.0' RT	1	24	1
1803.0	1322+00	6.0' RT	1	24	1
1804.0	1325+05	6.0' RT	1	24	1
2301.0	1396+42	38.7' RT	1	24	1
2401.0	1396+34.5	51.6' RT	1	24	1
2601.1	CTH Q		1	24	1
TOTALS				23*	23

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

SPV.0060.12

HMA PERCENT WITHIN LIMITS (PWL) TEST STRIP

STATION	STATION	LOCATION	(EACH)	COMMENT
963+00	- 1507+14.48	LOWER LAYER MAINLINE RESURFACE SECTION	1	VARIOUS LOCATIONS
963+00	- 1507+14.48	LOWER LAYER MAINLINE RECONSTRUCT SECTION	1	
963+00	- 1507+14.48	UPPER LAYER MAINLINE	1	
TOTAL			3	

SPV.0165.01

WALL MODULAR BLOCK GRAVITY LFRD

STATION	STATION	LOCATION	(SF)
1446+25	- 1448+00	MAINLINE, LT	613
TOTAL			613

Addendum No. 01
ID 3360-09-72
Revised Sheet 301
October 31, 2016

PROJECT NO: 3360-09-72

HWY: STH 175

COUNTY: WASHINGTON

MISCELLANEOUS QUANTITIES

SHEET: 301

FILENAME:

PLOTBY:

PLOTNAME:

PLOTSCALE: 1:1



Proposal Schedule of Items

Proposal ID: 20161108030

Project(s): 3360-09-72

SECTION: 0001 Roadway Items

Alt Set ID: Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0010	201.0105 Clearing	87.000 STA	_____.	_____.
0020	201.0120 Clearing	81.000 ID	_____.	_____.
0030	201.0205 Grubbing	87.000 STA	_____.	_____.
0040	201.0220 Grubbing	81.000 ID	_____.	_____.
0050	203.0100 Removing Small Pipe Culverts	30.000 EACH	_____.	_____.
0060	203.0200 Removing Old Structure (station) 01. 994+25	LS	LUMP SUM	_____.
0070	203.0200 Removing Old Structure (station) 02. 1004+43	LS	LUMP SUM	_____.
0080	203.0200 Removing Old Structure (station) 03. 1279+85	LS	LUMP SUM	_____.
0090	203.0200 Removing Old Structure (station) 04. 1337+68	LS	LUMP SUM	_____.
0100	203.0200 Removing Old Structure (station) 05. 1396+48	LS	LUMP SUM	_____.
0110	203.0500.S Removing Old Structure Over Waterway (station) 01. 961+02	LS	LUMP SUM	_____.
0120	204.0100 Removing Pavement	22,567.000 SY	_____.	_____.
0130	204.0115 Removing Asphaltic Surface Butt Joints	2,560.000 SY	_____.	_____.
0140	204.0125 Removing Asphaltic Surface Milling	15,484.000 TON	_____.	_____.
0150	204.0150 Removing Curb & Gutter	2,505.000 LF	_____.	_____.



Proposal Schedule of Items

Proposal ID: 20161108030

Project(s): 3360-09-72

SECTION: 0001 Roadway Items

Alt Set ID:

Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0160	204.0155 Removing Concrete Sidewalk	32.000 SY	_____.	_____.
0170	204.0165 Removing Guardrail	7,289.000 LF	_____.	_____.
0180	204.0180 Removing Delineators and Markers	97.000 EACH	_____.	_____.
0190	204.0195 Removing Concrete Bases	7.000 EACH	_____.	_____.
0200	204.0220 Removing Inlets	7.000 EACH	_____.	_____.
0210	204.0245 Removing Storm Sewer (size) 01. 10-inch	8.000 LF	_____.	_____.
0220	204.0245 Removing Storm Sewer (size) 02. 15-inch	104.000 LF	_____.	_____.
0230	204.0245 Removing Storm Sewer (size) 03. 18-inch	73.000 LF	_____.	_____.
0240	204.0280 Sealing Pipes	2.000 EACH	_____.	_____.
0250	205.0100 Excavation Common	63,937.000 CY	_____.	_____.
0260	205.0200 Excavation Rock	866.000 CY	_____.	_____.
0270	205.0501.S Excavation, Hauling, and Disposal of Petroleum Contaminated Soil	1,470.000 TON	_____.	_____.
0280	206.2000 Excavation for Structures Culverts (structure) 01.C-66-106	LS	LUMP SUM	_____.
0290	206.3000 Excavation for Structures Retaining Walls (structure) 01. R-66-37	LS	LUMP SUM	_____.
0300	206.3000 Excavation for Structures Retaining Walls (structure) 02. R-66-38	LS	LUMP SUM	_____.



Proposal Schedule of Items

Proposal ID: 20161108030

Project(s): 3360-09-72

SECTION: 0001 Roadway Items

Alt Set ID:

Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0310	210.0100 Backfill Structure	1,225.000 CY	_____.	_____.
0320	211.0100 Prepare Foundation for Asphaltic Paving (project) 01.3360-09-72	LS	LUMP SUM	_____.
0330	211.0400 Prepare Foundation for Asphaltic Shoulders	622.000 STA	_____.	_____.
0340	213.0100 Finishing Roadway (project) 01. 3360-09-72	1.000 EACH	_____.	_____.
0350	214.0100 Obliterating Old Road	1.000 STA	_____.	_____.
0360	305.0110 Base Aggregate Dense 3/4-Inch	4,583.000 TON	_____.	_____.
0370	305.0120 Base Aggregate Dense 1 1/4-Inch	69,763.000 TON	_____.	_____.
0380	311.0110 Breaker Run	14,000.000 TON	_____.	_____.
0390	311.0115 Breaker Run	150.000 CY	_____.	_____.
0400	390.0201 Base Patching Asphaltic	470.000 TON	_____.	_____.
0410	405.0100 Coloring Concrete WisDOT Red	86.000 CY	_____.	_____.
0420	416.0170 Concrete Driveway 7-Inch	723.000 SY	_____.	_____.
0430	416.0508 Concrete Roundabout Truck Apron 8-Inch	387.000 SY	_____.	_____.
0440	416.1010 Concrete Surface Drains	4.000 CY	_____.	_____.
0450	440.4410 Incentive IRI Ride	18,000.000 DOL	1.00000	18,000.00
0460	455.0605 Tack Coat	17,287.000 GAL	_____.	_____.



Proposal Schedule of Items

Proposal ID: 20161108030

Project(s): 3360-09-72

SECTION: 0001 Roadway Items

Alt Set ID: Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0470	460.2000 Incentive Density HMA Pavement	34,620.000 DOL	1.00000	34,620.00
0480	465.0105 Asphaltic Surface	127.000 TON	_____	_____
0490	465.0110 Asphaltic Surface Patching	50.000 TON	_____	_____
0500	465.0120 Asphaltic Surface Driveways and Field Entrances	448.000 TON	_____	_____
0510	465.0125 Asphaltic Surface Temporary	189.000 TON	_____	_____
0520	465.0315 Asphaltic Flumes	260.000 SY	_____	_____
0530	465.0475 Asphalt Center Line Rumble Strips 2-Lane Rural	15,940.000 LF	_____	_____
0540	504.0100 Concrete Masonry Culverts	210.000 CY	_____	_____
0550	504.0500 Concrete Masonry Retaining Walls	519.000 CY	_____	_____
0560	505.0400 Bar Steel Reinforcement HS Structures	33,290.000 LB	_____	_____
0570	506.0605 Structural Steel HS	201,640.000 LB	_____	_____
0580	507.0200 Treated Lumber and Timber	59.700 MBM	_____	_____
0590	516.0500 Rubberized Membrane Waterproofing	26.000 SY	_____	_____
0600	517.0600 Painting Epoxy System (structure) 01. R-66-37	LS	LUMP SUM	_____
0610	517.0600 Painting Epoxy System (structure) 02. R-66-38	LS	LUMP SUM	_____
0620	520.8000 Concrete Collars for Pipe	4.000 EACH	_____	_____



Proposal Schedule of Items

Proposal ID: 20161108030

Project(s): 3360-09-72

SECTION: 0001 Roadway Items

Alt Set ID: Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0630	521.0115 Culvert Pipe Corrugated Steel 15-Inch	152.000 LF	_____.	_____.
0640	521.0118 Culvert Pipe Corrugated Steel 18-Inch	391.000 LF	_____.	_____.
0650	521.0124 Culvert Pipe Corrugated Steel 24-Inch	72.000 LF	_____.	_____.
0660	521.1015 Apron Endwalls for Culvert Pipe Steel 15-Inch	10.000 EACH	_____.	_____.
0670	521.1018 Apron Endwalls for Culvert Pipe Steel 18-Inch	14.000 EACH	_____.	_____.
0680	521.1024 Apron Endwalls for Culvert Pipe Steel 24-Inch	3.000 EACH	_____.	_____.
0690	522.0136 Culvert Pipe Reinforced Concrete Class III 36-Inch	74.000 LF	_____.	_____.
0700	522.0315 Culvert Pipe Reinforced Concrete Class IV 15-Inch	44.000 LF	_____.	_____.
0710	522.0324 Culvert Pipe Reinforced Concrete Class IV 24-Inch	114.000 LF	_____.	_____.
0720	522.0342 Culvert Pipe Reinforced Concrete Class IV 42-Inch	144.000 LF	_____.	_____.
0730	522.1012 Apron Endwalls for Culvert Pipe Reinforced Concrete 12-Inch	1.000 EACH	_____.	_____.
0740	522.1015 Apron Endwalls for Culvert Pipe Reinforced Concrete 15-Inch	5.000 EACH	_____.	_____.
0750	522.1018 Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	5.000 EACH	_____.	_____.
0760	522.1024 Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	7.000 EACH	_____.	_____.



Proposal Schedule of Items

Proposal ID: 20161108030

Project(s): 3360-09-72

SECTION: 0001 Roadway Items

Alt Set ID: Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0770	522.1027 Apron Endwalls for Culvert Pipe Reinforced Concrete 27-Inch	1.000 EACH	_____.	_____.
0780	522.1030 Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch	1.000 EACH	_____.	_____.
0790	522.1036 Apron Endwalls for Culvert Pipe Reinforced Concrete 36-Inch	2.000 EACH	_____.	_____.
0800	522.1042 Apron Endwalls for Culvert Pipe Reinforced Concrete 42-Inch	5.000 EACH	_____.	_____.
0810	523.0158 Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-III 58x91-Inch	126.000 LF	_____.	_____.
0820	523.0414 Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 14x23-Inch	35.000 LF	_____.	_____.
0830	523.0419 Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 19x30-Inch	170.000 LF	_____.	_____.
0840	523.0424 Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 24x38-Inch	54.000 LF	_____.	_____.
0850	523.0514 Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 14x23-Inch	6.000 EACH	_____.	_____.
0860	523.0519 Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 19x30-Inch	5.000 EACH	_____.	_____.
0870	523.0524 Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 24x38-Inch	2.000 EACH	_____.	_____.



Proposal Schedule of Items

Proposal ID: 20161108030

Project(s): 3360-09-72

SECTION: 0001 Roadway Items

Alt Set ID: Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0880	523.0558 Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 58x91-Inch	2.000 EACH	_____	_____
0890	527.0325 Pipe Arch Structural Plate 10-FT Span	92.000 LF	_____	_____
0900	601.0405 Concrete Curb & Gutter 18-Inch Type A	175.000 LF	_____	_____
0910	601.0411 Concrete Curb & Gutter 30-Inch Type D	5,175.000 LF	_____	_____
0920	601.0557 Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	15,925.000 LF	_____	_____
0930	601.0582 Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type T	190.000 LF	_____	_____
0940	602.0410 Concrete Sidewalk 5-Inch	22,825.000 SF	_____	_____
0950	602.0420 Concrete Sidewalk 7-Inch	530.000 SF	_____	_____
0960	602.0505 Curb Ramp Detectable Warning Field Yellow	224.000 SF	_____	_____
0970	602.1500 Concrete Steps	24.000 SF	_____	_____
0980	606.0100 Riprap Light	80.000 CY	_____	_____
0990	606.0200 Riprap Medium	335.000 CY	_____	_____
1000	606.0300 Riprap Heavy	45.000 CY	_____	_____
1010	606.0600 Grouted Riprap Medium	12.000 CY	_____	_____
1020	607.5000 Storm Sewer Rock Excavation	400.000 CY	_____	_____



Proposal Schedule of Items

Proposal ID: 20161108030

Project(s): 3360-09-72

SECTION: 0001 Roadway Items

Alt Set ID:

Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
1030	608.0315 Storm Sewer Pipe Reinforced Concrete Class III 15-Inch	1,032.000 LF	_____.	_____.
1040	608.0318 Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	209.000 LF	_____.	_____.
1050	608.0324 Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	2,187.000 LF	_____.	_____.
1060	608.0330 Storm Sewer Pipe Reinforced Concrete Class III 30-Inch	26.000 LF	_____.	_____.
1070	608.0412 Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch	77.000 LF	_____.	_____.
1080	608.0415 Storm Sewer Pipe Reinforced Concrete Class IV 15-Inch	710.000 LF	_____.	_____.
1090	608.0418 Storm Sewer Pipe Reinforced Concrete Class IV 18-Inch	580.000 LF	_____.	_____.
1100	608.0424 Storm Sewer Pipe Reinforced Concrete Class IV 24-Inch	765.000 LF	_____.	_____.
1110	608.0427 Storm Sewer Pipe Reinforced Concrete Class IV 27-Inch	300.000 LF	_____.	_____.
1120	608.0430 Storm Sewer Pipe Reinforced Concrete Class IV 30-Inch	120.000 LF	_____.	_____.
1130	608.0436 Storm Sewer Pipe Reinforced Concrete Class IV 36-Inch	75.000 LF	_____.	_____.
1140	608.0442 Storm Sewer Pipe Reinforced Concrete Class IV 42-Inch	53.000 LF	_____.	_____.
1150	610.0414 Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 14x23-Inch	258.000 LF	_____.	_____.



Proposal Schedule of Items

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Project(s): 3360-09-72

SECTION: 0001 Roadway Items

Alt Set ID:

Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
1160	611.0420 Reconstructing Manholes	1.000 EACH	_____.	_____.
1170	611.0430 Reconstructing Inlets	1.000 EACH	_____.	_____.
1180	611.0530 Manhole Covers Type J	21.000 EACH	_____.	_____.
1190	611.0624 Inlet Covers Type H	6.000 EACH	_____.	_____.
1200	611.0627 Inlet Covers Type HM	41.000 EACH	_____.	_____.
1210	611.0642 Inlet Covers Type MS	18.000 EACH	_____.	_____.
1220	611.0652 Inlet Covers Type T	2.000 EACH	_____.	_____.
1230	611.2004 Manholes 4-FT Diameter	2.000 EACH	_____.	_____.
1240	611.2005 Manholes 5-FT Diameter	1.000 EACH	_____.	_____.
1250	611.2006 Manholes 6-FT Diameter	19.000 EACH	_____.	_____.
1260	611.2008 Manholes 8-FT Diameter	1.000 EACH	_____.	_____.
1270	611.3004 Inlets 4-FT Diameter	22.000 EACH	_____.	_____.
1280	611.3230 Inlets 2x3-FT	25.000 EACH	_____.	_____.
1290	611.3901 Inlets Median 1 Grate	2.000 EACH	_____.	_____.
1300	611.3902 Inlets Median 2 Grate	8.000 EACH	_____.	_____.
1310	611.8110 Adjusting Manhole Covers	2.000 EACH	_____.	_____.
1320	611.8120.S Cover Plates Temporary	25.000 EACH	_____.	_____.



Proposal Schedule of Items

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Project(s): 3360-09-72

SECTION: 0001 Roadway Items

Alt Set ID:

Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
1330	611.9800.S Pipe Grates	2.000 EACH	_____	_____
1340	612.0104 Pipe Underdrain 4-Inch	45.000 LF	_____	_____
1350	612.0106 Pipe Underdrain 6-Inch	1,410.000 LF	_____	_____
1360	612.0206 Pipe Underdrain Unperforated 6-Inch	100.000 LF	_____	_____
1370	612.0406 Pipe Underdrain Wrapped 6-Inch	305.000 LF	_____	_____
1380	612.0700 Drain Tile Exploration	50.500 LF	_____	_____
1390	612.0804 Apron Endwalls for Underdrain Reinforced Concrete 4-Inch	3.000 EACH	_____	_____
1400	614.0010 Barrier System Grading Shaping Finishing	18.000 EACH	_____	_____
1410	614.0396 Guardrail Mow Strip Asphalt	931.000 SY	_____	_____
1420	614.0700 Sand Barrels Arrays	4.000 EACH	_____	_____
1430	614.2300 MGS Guardrail 3	5,050.000 LF	_____	_____
1440	614.2340 MGS Guardrail 3 L	650.000 LF	_____	_____
1450	614.2610 MGS Guardrail Terminal EAT	36.000 EACH	_____	_____
1460	616.0700.S Fence Safety	100.000 LF	_____	_____
1470	618.0100 Maintenance And Repair of Haul Roads (project) 01. 3360-09-72	1.000 EACH	_____	_____
1480	619.1000 Mobilization	1.000 EACH	_____	_____



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SECTION: 0001 Roadway Items

Alt Set ID:

Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
1490	620.0300 Concrete Median Sloped Nose	542.000 SF	_____.	_____.
1500	623.0200 Dust Control Surface Treatment	215,600.000 SY	_____.	_____.
1510	624.0100 Water	250.000 MGAL	_____.	_____.
1520	625.0500 Salvaged Topsoil	60,035.000 SY	_____.	_____.
1530	627.0200 Mulching	93,800.000 SY	_____.	_____.
1540	628.1104 Erosion Bales	2,000.000 EACH	_____.	_____.
1550	628.1504 Silt Fence	22,330.000 LF	_____.	_____.
1560	628.1520 Silt Fence Maintenance	44,660.000 LF	_____.	_____.
1570	628.1905 Mobilizations Erosion Control	10.000 EACH	_____.	_____.
1580	628.1910 Mobilizations Emergency Erosion Control	6.000 EACH	_____.	_____.
1590	628.2004 Erosion Mat Class I Type B	21,800.000 SY	_____.	_____.
1600	628.2008 Erosion Mat Urban Class I Type B	5,000.000 SY	_____.	_____.
1610	628.7005 Inlet Protection Type A	61.000 EACH	_____.	_____.
1620	628.7010 Inlet Protection Type B	10.000 EACH	_____.	_____.
1630	628.7015 Inlet Protection Type C	50.000 EACH	_____.	_____.
1640	628.7504 Temporary Ditch Checks	610.000 LF	_____.	_____.
1650	628.7555 Culvert Pipe Checks	74.000 EACH	_____.	_____.



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SECTION: 0001 Roadway Items

Alt Set ID:

Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
1660	628.7570 Rock Bags	300.000 EACH	_____	_____
1670	629.0210 Fertilizer Type B	77.000 CWT	_____	_____
1680	630.0130 Seeding Mixture No. 30	1,350.000 LB	_____	_____
1690	630.0140 Seeding Mixture No. 40	430.000 LB	_____	_____
1700	631.0300 Sod Water	450.000 MGAL	_____	_____
1710	631.1000 Sod Lawn	20,000.000 SY	_____	_____
1720	633.5200 Markers Culvert End	63.000 EACH	_____	_____
1730	634.0614 Posts Wood 4x6-Inch X 14-FT	101.000 EACH	_____	_____
1740	634.0616 Posts Wood 4x6-Inch X 16-FT	160.000 EACH	_____	_____
1750	634.0618 Posts Wood 4x6-Inch X 18-FT	18.000 EACH	_____	_____
1760	634.0622 Posts Wood 4x6-Inch X 22-FT	3.000 EACH	_____	_____
1770	634.0812 Posts Tubular Steel 2x2-Inch X 12-FT	10.000 EACH	_____	_____
1780	634.0814 Posts Tubular Steel 2x2-Inch X 14-FT	11.000 EACH	_____	_____
1790	634.0816 Posts Tubular Steel 2x2-Inch X 16-FT	3.000 EACH	_____	_____
1800	636.0050.S Foundation Drilling (diameter) 01. 30-Inch	715.000 LF	_____	_____
1810	636.0050.S Foundation Drilling (diameter) 02. 36-Inch	1,480.000 LF	_____	_____
1820	637.1220 Signs Type I Reflective SH	172.000 SF	_____	_____



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Project(s): 3360-09-72

SECTION: 0001 Roadway Items

Alt Set ID:

Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
1830	637.2210 Signs Type II Reflective H	1,644.490 SF	_____.	_____.
1840	637.2230 Signs Type II Reflective F	640.250 SF	_____.	_____.
1850	638.2102 Moving Signs Type II	25.000 EACH	_____.	_____.
1860	638.2602 Removing Signs Type II	222.000 EACH	_____.	_____.
1870	638.3000 Removing Small Sign Supports	236.000 EACH	_____.	_____.
1880	641.8100 Overhead Sign Support (structure) 01. S-66-609	LS	LUMP SUM	_____.
1890	641.8100 Overhead Sign Support (structure) 02. S-66-610	LS	LUMP SUM	_____.
1900	641.8100 Overhead Sign Support (structure) 03. S-66-242	LS	LUMP SUM	_____.
1910	642.5401 Field Office Type D	1.000 EACH	_____.	_____.
1920	643.0100 Traffic Control (project) 01. 3360-09-72	1.000 EACH	_____.	_____.
1930	643.0300 Traffic Control Drums	6,723.000 DAY	_____.	_____.
1940	643.0410 Traffic Control Barricades Type II	73.000 DAY	_____.	_____.
1950	643.0420 Traffic Control Barricades Type III	13,165.000 DAY	_____.	_____.
1960	643.0500 Traffic Control Flexible Tubular Marker Posts	143.000 EACH	_____.	_____.
1970	643.0600 Traffic Control Flexible Tubular Marker Bases	143.000 EACH	_____.	_____.
1980	643.0705 Traffic Control Warning Lights Type A	19,624.000 DAY	_____.	_____.



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SECTION: 0001 Roadway Items

Alt Set ID: Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
1990	643.0715 Traffic Control Warning Lights Type C	1,428.000 DAY	_____.	_____.
2000	643.0800 Traffic Control Arrow Boards	58.000 DAY	_____.	_____.
2010	643.0900 Traffic Control Signs	23,918.000 DAY	_____.	_____.
2020	643.0910 Traffic Control Covering Signs Type I	8.000 EACH	_____.	_____.
2030	643.0920 Traffic Control Covering Signs Type II	36.000 EACH	_____.	_____.
2040	643.1050 Traffic Control Signs PCMS	98.000 DAY	_____.	_____.
2050	643.2000 Traffic Control Detour (project) 01.3360-09-72	1.000 EACH	_____.	_____.
2060	643.3000 Traffic Control Detour Signs	76,155.000 DAY	_____.	_____.
2070	645.0105 Geotextile Type C	410.000 SY	_____.	_____.
2080	645.0111 Geotextile Type DF Schedule A	785.000 SY	_____.	_____.
2090	645.0120 Geotextile Type HR	1,215.000 SY	_____.	_____.
2100	645.0130 Geotextile Type R	342.000 SY	_____.	_____.
2110	646.0106 Pavement Marking Epoxy 4-Inch	36,995.000 LF	_____.	_____.
2120	646.0600 Removing Pavement Markings	4,250.000 LF	_____.	_____.
2130	646.0881.S Pavement Marking Grooved Wet Reflective Tape 4-Inch	170.000 LF	_____.	_____.
2140	646.2304.S Pavement Marking Grooved Wet Reflective Epoxy 4-Inch	138,796.000 LF	_____.	_____.



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SECTION: 0001 Roadway Items

Alt Set ID:

Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
2150	647.0456 Pavement Marking Curb Epoxy	138.000 LF	_____.	_____.
2160	647.0606 Pavement Marking Island Nose Epoxy	6.000 EACH	_____.	_____.
2170	647.0726 Pavement Marking Diagonal Epoxy 12-Inch	377.000 LF	_____.	_____.
2180	647.0955 Removing Pavement Markings Arrows	5.000 EACH	_____.	_____.
2190	647.0965 Removing Pavement Markings Words	3.000 EACH	_____.	_____.
2200	648.0100 Locating No-Passing Zones	9.000 MI	_____.	_____.
2210	649.0400 Temporary Pavement Marking Removable Tape 4-Inch	4,802.000 LF	_____.	_____.
2220	649.0402 Temporary Pavement Marking Paint 4-Inch	47,140.000 LF	_____.	_____.
2230	649.0900 Temporary Pavement Marking Stop Line 12-Inch	96.000 LF	_____.	_____.
2240	650.4000 Construction Staking Storm Sewer	81.000 EACH	_____.	_____.
2250	650.4500 Construction Staking Subgrade	23,200.000 LF	_____.	_____.
2260	650.5000 Construction Staking Base	23,200.000 LF	_____.	_____.
2270	650.5500 Construction Staking Curb Gutter and Curb & Gutter	22,748.000 LF	_____.	_____.
2280	650.6000 Construction Staking Pipe Culverts	24.000 EACH	_____.	_____.
2290	650.6500 Construction Staking Structure Layout (structure) 01. C-66-106	LS	LUMP SUM	_____.



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SECTION: 0001 Roadway Items

Alt Set ID:

Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
2300	650.6500 Construction Staking Structure Layout (structure) 02. R-66-36	LS	LUMP SUM	_____.
2310	650.6500 Construction Staking Structure Layout (structure) 03. R-66-37	LS	LUMP SUM	_____.
2320	650.6500 Construction Staking Structure Layout (structure) 04. R-66-38	LS	LUMP SUM	_____.
2330	650.6500 Construction Staking Structure Layout (structure) 05. S-66-609	LS	LUMP SUM	_____.
2340	650.6500 Construction Staking Structure Layout (structure) 06. S-66-610	LS	LUMP SUM	_____.
2350	650.6500 Construction Staking Structure Layout (structure) 07.0S-66-242	LS	LUMP SUM	_____.
2360	650.8000 Construction Staking Resurfacing Reference	37,599.000 LF	_____.	_____.
2370	650.8500 Construction Staking Electrical Installations (project) 01. 3360-09-72	LS	LUMP SUM	_____.
2380	650.9910 Construction Staking Supplemental Control (project) 01. 3360-09-72	LS	LUMP SUM	_____.
2390	650.9920 Construction Staking Slope Stakes	23,200.000 LF	_____.	_____.
2400	652.0225 Conduit Rigid Nonmetallic Schedule 40 2-Inch	2,229.000 LF	_____.	_____.
2410	652.0235 Conduit Rigid Nonmetallic Schedule 40 3-Inch	315.000 LF	_____.	_____.
2420	653.0140 Pull Boxes Steel 24x42-Inch	10.000 EACH	_____.	_____.
2430	653.0905 Removing Pull Boxes	13.000 EACH	_____.	_____.



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SECTION: 0001 Roadway Items

Alt Set ID: Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
2440	654.0101 Concrete Bases Type 1	2.000 EACH	_____.	_____.
2450	654.0105 Concrete Bases Type 5	15.000 EACH	_____.	_____.
2460	654.0224 Concrete Control Cabinet Bases Type L24	1.000 EACH	_____.	_____.
2470	655.0220 Cable Traffic Signal 4-14 AWG	356.000 LF	_____.	_____.
2480	655.0515 Electrical Wire Traffic Signals 10 AWG	393.000 LF	_____.	_____.
2490	655.0610 Electrical Wire Lighting 12 AWG	2,091.000 LF	_____.	_____.
2500	655.0615 Electrical Wire Lighting 10 AWG	500.000 LF	_____.	_____.
2510	655.0625 Electrical Wire Lighting 6 AWG	9,330.000 LF	_____.	_____.
2520	655.0640 Electrical Wire Lighting 1 AWG	18.000 LF	_____.	_____.
2530	656.0200 Electrical Service Meter Breaker Pedestal (location) 01. 3360-09-72	LS	LUMP SUM	_____.
2540	657.0100 Pedestal Bases	2.000 EACH	_____.	_____.
2550	657.0255 Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	15.000 EACH	_____.	_____.
2560	657.0322 Poles Type 5-Aluminum	15.000 EACH	_____.	_____.
2570	657.0420 Traffic Signal Standards Aluminum 13-FT	1.000 EACH	_____.	_____.
2580	657.0430 Traffic Signal Standards Aluminum 10-FT	1.000 EACH	_____.	_____.



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SECTION: 0001 Roadway Items

Alt Set ID: Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
2590	657.0610 Luminaire Arms Single Member 4 1/2-Inch Clamp 6-FT	7.000 EACH	_____.	_____.
2600	657.0715 Luminaire Arms Truss Type 4 1/2-Inch Clamp 15-FT	8.000 EACH	_____.	_____.
2610	658.0103 Traffic Signal Face 1-12 Inch Vertical	2.000 EACH	_____.	_____.
2620	658.0210 Backplates Signal Face 1 Section 12-Inch	2.000 EACH	_____.	_____.
2630	658.0600 Led Modules 12-Inch Red Ball	2.000 EACH	_____.	_____.
2640	658.5069 Signal Mounting Hardware (location) 01. STH 175 & Pioneer Rd	LS	LUMP SUM	_____.
2650	659.1125 Luminaires Utility LED C	15.000 EACH	_____.	_____.
2660	659.2124 Lighting Control Cabinets 120/240 24-Inch	1.000 EACH	_____.	_____.
2670	690.0150 Sawing Asphalt	22,004.000 LF	_____.	_____.
2680	690.0250 Sawing Concrete	810.000 LF	_____.	_____.
2690	ASP.1T0A On-the-Job Training Apprentice at \$5.00/HR	2,300.000 HRS	5.00000	11,500.00
2700	ASP.1T0G On-the-Job Training Graduate at \$5.00/HR	4,200.000 HRS	5.00000	21,000.00
2710	SPV.0060 Special 01. MGS Guardrail Terminal EAT TL-2	2.000 EACH	_____.	_____.
2720	SPV.0060 Special 02. Mitered Ends for Pipe Arch 10-Ft Span	2.000 EACH	_____.	_____.



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SECTION: 0001 Roadway Items

Alt Set ID: Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
2730	SPV.0060 Special 03. Pavement Marking Grooved Preformed Thermoplastic Arrows Type 1	1.000 EACH	_____.	_____.
2740	SPV.0060 Special 04. Pavement Marking Grooved Preformed Thermoplastic Arrows Type 2	46.000 EACH	_____.	_____.
2750	SPV.0060 Special 05. Pavement Marking Grooved Preformed Thermoplastic Arrows Type 2R	1.000 EACH	_____.	_____.
2760	SPV.0060 Special 06. Pavement Marking Grooved Preformed Thermoplastic Arrows Type 3	6.000 EACH	_____.	_____.
2770	SPV.0060 Special 07. Pavement Marking Grooved Preformed Thermoplastic Arrows Type3R	3.000 EACH	_____.	_____.
2780	SPV.0060 Special 08. Pavement Marking Grooved Preformed Thermoplastic Words	31.000 EACH	_____.	_____.
2790	SPV.0060 Special 09. Pavement Marking Grooved Preformed Thermoplastic Yield Line 18- Inch	4.000 EACH	_____.	_____.
2800	SPV.0060 Special 10. Section Corner Monuments Special	4.000 EACH	_____.	_____.
2810	SPV.0060 Special 11. Adjusting Manhole Covers Special	23.000 EACH	_____.	_____.
2820	SPV.0075 Special 01. Construction Staking Miscellaneous	130.000 HRS	_____.	_____.
2830	SPV.0090 Special 01. Ditching, Shaping and Finishing	410.000 LF	_____.	_____.
2840	SPV.0090 Special 02. Concrete Curb & Gutter 6- Inch Sloped 24-Inch Type D	924.000 LF	_____.	_____.
2850	SPV.0090 Special 03. Fence Chain Link Vinyl Coated 4-FT	1,685.000 LF	_____.	_____.



Proposal Schedule of Items

Proposal ID: 20161108030

Project(s): 3360-09-72

SECTION: 0001 Roadway Items

Alt Set ID: Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
2860	SPV.0090 Special 04. Pavement Marking Grooved Preformed Plastic Tape 4-Inch	8,688.000 LF	_____.	_____.
2870	SPV.0090 Special 05. Pavement Marking Grooved Preformed Plastic Tape 8-Inch	6,342.000 LF	_____.	_____.
2880	SPV.0090 Special 06. Pavement Marking Grooved Preformed Thermoplastic Crosswalk 24-Inch	408.000 LF	_____.	_____.
2890	SPV.0090 Special 07. Pavement Marking Grooved Preformed Thermoplastic Stop Bar 18-Inch	885.000 LF	_____.	_____.
2900	SPV.0090 Special 08. Pavement Marking Grooved Preformed Thermoplastic 8-Inch	60.000 LF	_____.	_____.
2910	SPV.0090 Special 09. Concrete Curb and Gutter 30-Inch Type D HES	600.000 LF	_____.	_____.
2920	SPV.0090 Special 10. Concrete Curb and Gutter 4-Inch Sloped 36-Inch Type T HES	95.000 LF	_____.	_____.
2930	SPV.0105 Special 01. Lighting System Integrator	LS	LUMP SUM	_____.
2940	SPV.0105 Special 02. Lighting System Survey	LS	LUMP SUM	_____.
2950	SPV.0105 Special 03. Transport & Install Flasher Control Box STH 175 & Pioneer Rd	LS	LUMP SUM	_____.
2960	SPV.0105 Special 04. Remove Traffic Signals STH 175 & Pioneer Rd	LS	LUMP SUM	_____.
2970	SPV.0105 Special 05. Remove Traffic Signals STH 175 & Lannon Rd	LS	LUMP SUM	_____.
2980	SPV.0105 Special 06. Remove Loop Detector Wire & Lead In Cable STH 175 & Lannon Rd	LS	LUMP SUM	_____.



Proposal Schedule of Items

Proposal ID: 20161108030

Project(s): 3360-09-72

SECTION: 0001 Roadway Items

Alt Set ID: Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
2990	SPV.0105 Special 07. Temporary Water Diversion Willow Creek	LS	LUMP SUM	_____.
3000	SPV.0105 Special 08. Temporary Water Diversion Little Cedar Creek	LS	LUMP SUM	_____.
3010	SPV.0165 Special 01. Wall Modular Block Gravity LRFD	1,938.000 SF	_____.	_____.
3020	SPV.0170 Special 01. Preperation of Foundation for Asphaltic Shoulders Special	3.000 STA	_____.	_____.
3030	SPV.0195 Special 01. HMA Pavement 3 LT 58-28 S 3.0% VA Regression Special	30,989.000 TON	_____.	_____.
3040	SPV.0195 Special 02. HMA Pavement 4 LT 58-28 S 3.0% VA Regression Special	20,333.000 TON	_____.	_____.
3050	SPV.0195 Special 03. HMA Pavement 3 MT 58-28 S 3.0% VA Regression Special	1,882.000 TON	_____.	_____.
3060	SPV.0195 Special 04. HMA Pavement 4 MT 58-28 S 3.0% VA Regression Special	878.000 TON	_____.	_____.
3070	460.2010 Incentive Air Voids HMA Pavement	29,920.000 DOL	1.00000	29,920.00
3080	SPV.0060 Special 12. HMA Percent Within Limits (PWL) Test Strip	3.000 EACH	_____.	_____.
Section: 0001			Total:	_____.
			Total Bid:	_____.