

HIGHWAY WORK PROPOSAL

Wisconsin Department of Transportation
 DT1502 01/2020 s.66.0901(7) Wis. Stats

Proposal Number: **039**

<u>COUNTY</u>	<u>STATE PROJECT</u>	<u>FEDERAL</u>	<u>PROJECT DESCRIPTION</u>	<u>HIGHWAY</u>
Iron	9250-12-61	N/A	Mellen - Hurley; Ashland Co Line To Upson Lake Road	STH 077

This proposal, submitted by the undersigned bidder to the Wisconsin Department of Transportation, is in accordance with the advertised request for proposals. The bidder is to furnish and deliver all materials, and to perform all work for the improvement of the designated project in the time specified, in accordance with the appended Proposal Requirements and Conditions.

Proposal Guaranty Required: \$75,000.00 Payable to: Wisconsin Department of Transportation	Attach Proposal Guaranty on back of this PAGE.
Bid Submittal Date: February 14, 2023 Time (Local Time): 11:00 am	Firm Name, Address, City, State, Zip Code <div style="text-align: center;">SAMPLE NOT FOR BIDDING PURPOSES</div> This contract is exempt from federal oversight.
Contract Completion Time 50 Working Days	
Assigned Disadvantaged Business Enterprise Goal 0%	

This certifies that the undersigned bidder, duly sworn, is an authorized representative of the firm named above; that the bidder has examined and carefully prepared the bid from the plans, Highway Work Proposal, and all addenda, and has checked the same in detail before submitting this proposal or bid; and that the bidder or agents, officer, or employees have not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this proposal bid.

Do not sign, notarize, or submit this Highway Work Proposal when submitting an electronic bid on the Internet.

Subscribed and sworn to before me this date _____

 (Signature, Notary Public, State of Wisconsin)

 (Bidder Signature)

 (Print or Type Name, Notary Public, State Wisconsin)

 (Print or Type Bidder Name)

 (Date Commission Expires)

 (Bidder Title)

Notary Seal

Type of Work: For Department Use Only Grading, Base, Milling, Asphalt Pavement, Culvert Pipe, Culvert Pipe Liners, Guardrail, Pavement Markings.	
Notice of Award Dated	Date Guaranty Returned

**PLEASE ATTACH
PROPOSAL GUARANTY HERE**

PROPOSAL REQUIREMENTS AND CONDITIONS

The bidder, signing and submitting this proposal, agrees and declares as a condition thereof, to be bound by the following conditions and requirements.

If the bidder has a corporate relationship with the proposal design engineering company, the bidder declares that it did not obtain any facts, data, or other information related to this proposal from the design engineering company that was not available to all bidders.

The bidder declares that they have carefully examined the site of, and the proposal, plans, specifications and contract forms for the work contemplated, and it is assumed that the bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and quantities of work to be performed and materials to be furnished, and as to the requirements of the specifications, special provisions and contract. It is mutually agreed that submission of a proposal shall be considered conclusive evidence that the bidder has made such examination.

The bidder submits herewith a proposal guaranty in proper form and amount payable to the party as designated in the advertisement inviting proposals, to be retained by and become the property of the owner of the work in the event the undersigned shall fail to execute the contract and contract bond and return the same to the office of the engineer within fourteen (14) days after having been notified in writing to do so; otherwise to be returned.

The bidder declares that they understand that the estimate of quantities in the attached schedule is approximate only and that the attached quantities may be greater or less in accordance with the specifications.

The bidder agrees to perform the said work, for and in consideration of the payment of the amount becoming due on account of work performed, according to the unit prices bid in the following schedule, and to accept such amounts in full payment of said work.

The bidder declares that all of the said work will be performed at their own proper cost and expense, that they will furnish all necessary materials, labor, tools, machinery, apparatus, and other means of construction in the manner provided in the applicable specifications and the approved plans for the work together with all standard and special designs that may be designed on such plans, and the special provisions in the contract of which this proposal will become a part, if and when accepted. The bidder further agrees that the applicable specifications and all plans and working drawings are made a part hereof, as fully and completely as if attached hereto.

The bidder, if awarded the contract, agrees to begin the work not later than ten (10) days after the date of written notification from the engineer to do so, unless otherwise stipulated in the special provisions.

The bidder declares that if they are awarded the contract, they will execute the contract agreement and begin and complete the work within the time named herein, and they will file a good and sufficient surety bond for the amount of the contract for performance and also for the full amount of the contract for payment.

The bidder, if awarded the contract, shall pay all claims as required by Section 779.14, Statutes of Wisconsin, and shall be subject to and discharge all liabilities for injuries pursuant to Chapter 102 of the Statutes of Wisconsin, and all acts amendatory thereto. They shall further be responsible for any damages to property or injury to persons occurring through their own negligence or that of their employees or agents, incident to the performance of work under this contract, pursuant to the Standard Specifications for Road and Bridge Construction applicable to this contract.

In connection with the performance of work under this contract, the contractor agrees to comply with all applicable state and federal statutes relating to non-discrimination in employment. No otherwise qualified person shall be excluded from employment or otherwise be subject to discrimination in employment in any manner on the basis of age, race, religion, color, gender, national origin or ancestry, disability, arrest or conviction record (in keeping with s. 111.32), sexual orientation, marital status, membership in the military reserve, honesty testing, genetic testing, and outside use of lawful products. This provision shall include, but not be limited to the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation, and selection for training, including apprenticeship. The contractor further agrees to ensure equal opportunity in employment to all applicants and employees and to take affirmative action to attain a representative workforce.

The contractor agrees to post notices and posters setting forth the provisions of the nondiscrimination clause, in a conspicuous and easily accessible place, available for employees and applicants for employment.

If a state public official (section 19.42, Stats.) or an organization in which a state public official holds at least a 10% interest is a party to this agreement, this contract is voidable by the state unless appropriate disclosure is made to the State of Wisconsin Ethics Board.

BID PREPARATION

Preparing the Proposal Schedule of Items

A. General

- (1) Obtain bidding proposals as specified in section 102 of the standard specifications prior to 11:45 AM of the last business day preceding the letting. Submit bidding proposals using one of the following methods:
 1. Electronic bid on the internet.
 2. Electronic bid on a printout with accompanying diskette or CD ROM.
 3. Paper bid under a waiver of the electronic submittal requirements.
- (2) Bids submitted on a printout with accompanying diskette or CD ROM or paper bids submitted under a waiver of the electronic submittal requirements govern over bids submitted on the internet.
- (3) The department will provide bidding information through the department's web site at:

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

The contractor is responsible for reviewing this web site for general notices as well as information regarding proposals in each letting. The department will also post special notices of all addenda to each proposal through this web site no later than 4:00 PM local time on the Thursday before the letting. Check the department's web site after 5:00 PM local time on the Thursday before the letting to ensure all addenda have been accounted for before preparing the bid. When bidding using methods 1 and 2 above, check the Bid Express™ on-line bidding exchange at <http://www.bidx.com/> after 5:00 PM local time on the Thursday before the letting to ensure that the latest schedule of items Expedite file (*.ebs or *.00x) is used to submit the final bid.

- (4) Interested parties can subscribe to the Bid Express™ on-line bidding exchange by following the instructions provided at the www.bidx.com web site or by contacting:

Info Tech Inc.
5700 SW 34th Street, Suite 1235
Gainesville, FL 32608-5371
email: <mailto:customer.support@bidx.com>

- (5) The department will address equipment and process failures, if the bidder can demonstrate that those failures were beyond their control.
- (6) Contractors are responsible for checking on the issuance of addenda and for obtaining the addenda. Notice of issuance of addenda is posted on the department's web site at:

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

or by calling the department at (608) 266-1631. Addenda can ONLY be obtained from the department's web site listed above or by picking up the addenda at the Bureau of Highway Construction, 4th floor, 4822 Madison Yards Way, Madison, WI, during regular business hours.

- (7) Addenda posted after 5:00 PM on the Thursday before the letting will be emailed to the eligible bidders for that proposal. All eligible bidders shall acknowledge receipt of the addenda whether they are bidding on the proposal or not. Not acknowledging receipt may jeopardize the awarding of the project.

B. Submitting Electronic Bids

B.1 On the Internet

- (1) Do the following before submitting the bid:
 4. Have a properly executed annual bid bond on file with the department.
 5. Have a digital ID on file with and enabled by Info Tech Inc. Using this digital ID will constitute the bidder's signature for proper execution of the bidding proposal.
- (2) In lieu of preparing, delivering, and submitting the proposal as specified in 102.6 and 102.9 of the standard specifications, submit the proposal on the internet as follows:
 1. Download the latest schedule of items reflecting all addenda from the Bid Express™ web site.
 2. Use Expedite™ software to enter a unit price for every item in the schedule of items.
 3. Submit the bid according to the requirements of Expedite™ software and the Bid Express™ web site. Do not submit a bid on a printout with accompanying diskette or CD ROM or a paper bid. If the bidder does submit a bid on a printout with accompanying diskette or a paper bid in addition to the internet submittal, the department will disregard the internet bid.
 4. Submit the bid before the hour and date the Notice to Contractors designates.
 5. Do not sign, notarize, and return the bidding proposal described in 102.2 of the standard specifications.
- (3) The department will not consider the bid accepted until the hour and date the Notice to Contractors designates.

B.2 On a Printout with Accompanying Diskette or CD ROM

- (1) Download the latest schedule of items from the Wisconsin pages of the Bid Express web site reflecting the latest addenda posted on the department's web site at:
<https://wisconsin.gov/Pages/doing-bus/contractors/hcci/bid-let.aspx>
 Use Expedite™ software to prepare and print the schedule of items. Provide a valid amount for all price fields. Follow instructions and review the help screens provided on the Bid Express™ web site to assure that the schedule of items is prepared properly.

- (2) Staple an 8 1/2 by 11 inch printout of the Expedite™ generated schedule of items to the other proposal documents submitted to the department as a part of the bidder's sealed bid. As a separate submittal, not in the sealed bid envelope but due at the same time and place as the sealed bid, also provide the Expedite™ generated schedule of items on a 3 1/2 inch computer diskette or CD ROM. Label each diskette or CD ROM with the bidder's name, the 4 character department-assigned bidder identification code from the top of the bidding proposal, and a list of the proposal numbers included on that diskette or CD ROM as indicated in the following example:

Bidder Name

BN00

Proposals: 1, 12, 14, & 22

- (3) If bidding on more than one proposal in the letting, the bidder may include all proposals for that letting on one diskette or CD ROM. Include only submitted proposals with no incomplete or other files on the diskette or CD ROM.
- (4) The bidder-submitted printout of the Expedite™ generated schedule of items is the governing contract document and must conform to the requirements of section 102 of the standard specifications. If a printout needs to be altered, cross out the printed information with ink or typewriter and enter the new information and initial it in ink. If there is a discrepancy between the printout and the diskette or CD ROM, the department will analyze the bid using the printout information.

- (5) In addition to the reasons specified in section 102 of the standard specifications, proposals are irregular and the department may reject them for one or more of the following:
1. The check code printed on the bottom of the printout of the Expedite™ generated schedule of items is not the same on each page.
 2. The check code printed on the printout of the Expedite™ generated schedule of items is not the same as the check code for that proposal provided on the diskette or CD ROM.
 3. The diskette or CD ROM is not submitted at the time and place the department designates.

B Waiver of Electronic Submittal

- (1) The bidder may request a waiver of the electronic submittal requirements. Submit a written request for a waiver in lieu of bids submitted on the internet or on a printout with accompanying diskette or CD ROM. Use the waiver that was included with the paper bid document sent to the bidder or type up a waiver on the bidder's letterhead. The department will waive the electronic submittal requirements for a bidding entity (individual, partnership, joint venture, corporation, or limited liability company) for up to 4 individual proposals in a calendar year. The department may allow additional waivers for equipment malfunctions.
- (2) Submit a schedule of items on paper conforming to section 102 of the standard specifications. The department charges the bidder a \$75 administrative fee per proposal, payable at the time and place the department designates for receiving bids, to cover the costs of data entry. The department will accept a check or money order payable to: "Wisconsin, Dept. of Transportation."
- (3) In addition to the reasons specified in section 102 of the standard specifications, proposals are irregular and the department may reject them for one or more of the following:
 1. The bidder fails to provide the written request for waiver of the electronic submittal requirements.
 2. The bidder fails to pay the \$75 administrative fee before the time the department designates for the opening of bids unless the bidder requests on the waiver that they be billed for the \$75.
 3. The bidder exceeds 4 waivers of electronic submittal requirements within a calendar year.
- (4) In addition to the reasons specified in section 102 of the standard specifications, the department may refuse to issue bidding proposals for future contracts to a bidding entity that owes the department administrative fees for a waiver of electronic submittal requirements.

PROPOSAL BID BOND

DT1303 1/2006

Wisconsin Department of Transportation

Proposal Number	Project Number	Letting Date
Name of Principal		
Name of Surety	State in Which Surety is Organized	

We, the above-named Principal and the above-named Surety, are held and firmly bound unto the State of Wisconsin in the sum equal to the Proposal Guaranty for the total bid submitted for the payment to be made; we jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns. The condition of this obligation is that the Principal has submitted a bid proposal to the State of Wisconsin acting through the Department of Transportation for the improvement designated by the Proposal Number and Letting Date indicated above.

If the Principal is awarded the contract and, within the time and manner required by law after the prescribed forms are presented for signature, enters into a written contract in accordance with the bid, and files the bond with the Department of Transportation to guarantee faithful performance and payment for labor and materials, as required by law, or if the Department of Transportation shall reject all bids for the work described, then this obligation shall be null and void; otherwise, it shall be and remain in full force and effect. In the event of failure of the Principal to enter into the contract or give the specified bond, the Principal shall pay to the Department of Transportation **within 10 business days of demand** a total equal to the Proposal Guaranty as liquidated damages; the liability of the Surety continues for the full amount of the obligation as stated until the obligation is paid in full.

The Surety, for value received, agrees that the obligations of it and its bond shall not be impaired or affected by any extension of time within which the Department of Transportation may accept the bid; and the Surety does waive notice of any such extension.

IN WITNESS, the Principal and Surety have agreed and have signed by their proper officers and have caused their corporate seals to be affixed this date: **(DATE MUST BE ENTERED)**

PRINCIPAL

(Company Name) **(Affix Corporate Seal)**

(Signature and Title)

(Company Name)

(Signature and Title)

(Company Name)

(Signature and Title)

(Company Name)

(Signature and Title)

(Name of Surety) **(Affix Seal)**

(Signature of Attorney-in-Fact)

NOTARY FOR PRINCIPAL

NOTARY FOR SURETY

(Date)

(Date)

State of Wisconsin)
) ss.
_____ County)

State of Wisconsin)
) ss.
_____ County)

On the above date, this instrument was acknowledged before me by the named person(s).

On the above date, this instrument was acknowledged before me by the named person(s).

(Signature, Notary Public, State of Wisconsin)

(Signature, Notary Public, State of Wisconsin)

(Print or Type Name, Notary Public, State of Wisconsin)

(Print or Type Name, Notary Public, State of Wisconsin)

(Date Commission Expires)

(Date Commission Expires)

Notary Seal

Notary Seal

IMPORTANT: A certified copy of Power of Attorney of the signatory agent must be attached to the bid bond.

CERTIFICATE OF ANNUAL BID BOND

DT1305 8/2003

Wisconsin Department of Transportation

Time Period Valid (From/To)
Name of Surety
Name of Contractor
Certificate Holder Wisconsin Department of Transportation

This is to certify that an annual bid bond issued by the above-named Surety is currently on file with the Wisconsin Department of Transportation.

This certificate is issued as a matter of information and conveys no rights upon the certificate holder and does not amend, extend or alter the coverage of the annual bid bond.

Cancellation: Should the above policy be cancelled before the expiration date, the issuing surety will give thirty (30) days written notice to the certificate holder indicated above.

(Signature of Authorized Contractor Representative)

(Date)

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS - PRIMARY COVERED TRANSACTIONS

Instructions for Certification

1. By signing and submitting this proposal, the prospective contractor is providing the certification set out below.
2. The inability of a person to provide the certification required below will not necessarily result in denial of participation in this covered transaction. The prospective contractor shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective contractor to furnish a certification or an explanation shall disqualify such person from participation in this transaction.
3. The certification in this clause is a material representation of fact upon which reliance was placed when the department determined to enter into this transaction. If it is later determined that the contractor knowingly rendered an erroneous certification in addition to other remedies available to the Federal Government the department may terminate this transaction for cause or default.
4. The prospective contractor shall provide immediate written notice to the department to whom this proposal is submitted if at any time the prospective contractor learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
5. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. You may contact the department to which this proposal is being submitted for assistance in obtaining a copy of those regulations.
6. The prospective contractor agrees by submitting this proposal that, should this contract be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department entering into this transaction.
7. The prospective contractor further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," which is included as an addendum to PR- 1273 - "Required Contract Provisions Federal Aid Construction Contracts," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
8. The contractor may rely upon a certification of a prospective subcontractor/materials supplier that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A contractor may decide the method and frequency by which it determines the eligibility of its principals. Each contractor may, but is not required to, check the Disapproval List (telephone # 608/266/1631).

9. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
10. Except for transactions authorized under paragraph 6 of these instructions, if a contractor in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department may terminate this transaction for cause or default.

Certification Regarding Debarment, Suspension, and Other Responsibility Matters - Primary Covered Transactions

1. The prospective contractor certifies to the best of its knowledge and belief, that it and its principals:
 - (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
 - (b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements or receiving stolen property;
 - (c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offense enumerated in paragraph (1)(b) of this certification; and
 - (d) Have not within a three-year period preceding this proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
2. Where the prospective contractor is unable to certify to any of the statements in this certification, such prospective contractor shall attach an explanation to this proposal.

Special Provisions

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STSP'S Revised June 28, 2022

SPECIAL PROVISIONS

1. General.

Perform the work under this construction contract for Project 9250-12-61, Mellen – Hurley, Ashland Co Line to Upson Lake Road, STH 77, Iron County, Wisconsin as the plans show and execute the work as specified in the State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction, 2023 Edition, as published by the department, and these special provisions.

If all or a portion of the plans and special provisions are developed in the SI metric system and the schedule of prices is developed in the US standard measure system, the department will pay for the work as bid in the US standard system.

100-005 (20220628)

2. Scope of Work.

The work under this contract shall consist of common excavation, culvert placement, culvert liner placement, guardrail placement, HMA pavement, base aggregate dense, epoxy pavement marking, erosion control, landscaping and finishing items, and all incidental items necessary to complete the work as shown on the plans and included in the proposal and contract.

104-005 (20090901)

3. Prosecution and Progress.

Begin work within ten calendar days after the engineer issues a written notice to do so.

Provide the time frame for construction of the project within the 2023 construction season to the engineer in writing within a month after executing the contract but at least 14 calendar days before the preconstruction conference. Assure that the time frame is consistent with the contract completion time. Upon approval, the engineer will issue the notice to proceed within 10 calendar days before the beginning of the approved time frame.

To revise the time frame, submit a written request to the engineer at least two weeks before the beginning of the intended time frame. The engineer will approve or deny that request based on the conditions cited in the request and its effect on the department's scheduled resources.

Fish Spawning

There shall be no instream disturbance of (1) Dunn Creek, (2) Javorsky Creek, (3) tributary to Tyler Forks, (4) Rouse Creek, and (5) Erickson Creek, at Station (1) Station 87+43, (2) Station 113+80, (3) Station 196+29, (4) Station 268+53, and (5) Station 336+66, as a result of construction activity under or for this contract, from September 15 to May 15 both dates inclusive, in order to avoid adverse impacts upon the spawning of trout.

Any change to this limitation will require submitting a written request by the contractor to the engineer, subsequent review and concurrence by the Department of Natural Resources in the request, and final approval by the engineer. The approval will include all conditions to the request as mutually agreed upon by WisDOT and DNR.

Northern Long-eared Bat (*Myotis septentrionalis*)

Northern long-eared bats (NLEB) have the potential to inhabit the project limits because they roost in trees, bridges and culverts. Roosts may not have been observed on this project, but conditions to support the species exist. The species and all active roosts are protected by the Federal Endangered Species Act. If an individual bat or active roost is encountered during construction operations, stop work and notify the engineer and the WisDOT Regional Environmental Coordinator (REC).

Ensure all operators, employees, and subcontractors working in areas of known or presumed bat habitat are aware of environmental commitments and avoidance and minimization measures (AMMs) to protect both bats and their habitat.

Direct temporary lighting, if used, away from wooded areas during the bat active season: April 1 to October 31, both dates inclusive.

The department has contracted with others to cut all required trees for this project prior to construction. Remove any downed trees and grub the stumps and any remaining vegetation within the identified grubbing limits.

If additional trees with a 3-inch or greater diameter at breast height (dbh) need to be removed, no tree clearing shall occur without prior approval from the engineer, following coordination with the WisDOT REC. Additional tree removal beyond the area originally specified will require consultation with the United States Fish and Wildlife Service (USFWS) and may require a bat presence/absence or visual emergence survey. Notify the engineer if additional clearing cannot be avoided to begin coordination with the WisDOT REC. The WisDOT REC will initiate consultation with the USFWS and determine if a survey is necessary.

Submit a schedule and description of clearing operations with the ECIP 14 days prior to any clearing operations. The department will determine, based on schedule and scope of work, what additional erosion control measures shall be implemented prior to the start of clearing operations, and list those additional measures in the approval letter for the ECIP.

Wood Turtle (*Glyptemys insculpta*)

Wood Turtle (*Glyptemys insculpta*) are known to inhabit the project corridor. It is reasonable to assume that Wood Turtle (*Glyptemys insculpta*) may be present at or near the project site during construction. Protect the perimeter of the areas to be disturbed with properly trenched-in silt fence before May 20 to discourage turtles from entering the work area. If turtles are found in the project area, stop construction work and promptly remove the turtles from the construction site to a safe location in the direction they were traveling.

Amphibian and reptile exclusion fencing protocols ("temporary small animal turnaround") shall be applied at locations where stream width equals or exceeds 5-feet (Javorskey creek Station 113+80, Tyler Forks creek Station 185+00, Rouse creek Station 268+53, Erickson creek Station 336+66, and unnamed stream Station 356+62). There shall be no instream work from October 1 to April 30 at these locations due to Wood Turtles.

ncr-108-020 (20181214)

Culvert Replacements

During culvert replacements, place gravel at the same level of the surface layer if left overnight to prevent dips in the travel surface. Place asphaltic surface before end of work week. Perform culvert replacements prior to mainline milling operations.

Milled Surfaces

A milled surface is prohibited during the time periods specified in this section and in the Holidays and Special Events article. Do not allow a milled surface open to through traffic to remain in place longer than 96 hours or during the periods included in the holidays and special events restrictions unless adverse weather prevents placement of the asphalt layer. Provide an even cross-section profile of each lane prior to reopening to traffic. An uneven profile within each lane is not allowed except within a flagging operation.

Flagging Restrictions

Cease or alter work operations in traffic delays become longer than 15 minutes. The engineer may suspend work operations according to standard spec 108.5 (limiting Operations) until contractor complies with 15-minute delay period. Continuation of operations will be considered Unauthorized Work per standard spec 105.3.2.3 and the department will not allow additional compensation or additional time due to such suspension of operation.

4. Traffic.

Construct project under traffic using a flagging operation, with one lane to remain open during construction. Open roadway to two lanes of unimpeded traffic in both directions at the end of the workday. Maintain access through the project during construction for emergency services, local traffic, residences and businesses located within the project limits. Maintain 15 feet available width during lane shifts.

Wisconsin Lane Closure System Advance Notification

Provide the following advance notification to the engineer for incorporation into the Wisconsin Lane Closure System (LCS).

TABLE 108-1 CLOSURE TYPE AND REQUIRED MINIMUM ADVANCE NOTIFICATION

Closure type with height, weight, or width restrictions (available width, all lanes in one direction < 16 feet)	MINIMUM NOTIFICATION
Lane and shoulder closures	7 calendar days
Full roadway closures	7 calendar days
Ramp closures	7 calendar days
Detours	7 calendar days
Closure type without height, weight, or width restrictions (available width, all lanes in one direction ≥ 16 feet)	MINIMUM NOTIFICATION
Lane and shoulder closures	3 business days
Ramp closures	3 business days
Modifying all closure types	3 business days

Discuss LCS completion dates and provide changes in the schedule to the engineer at weekly project meetings in order to manage closures nearing their completion date.

5. Holiday and Special Event Work Restrictions.

Do not perform work on, nor haul materials of any kind along or across any portion of the highway carrying STH 77 traffic, and entirely clear the traveled way and shoulders of such portions of the highway of equipment, barricades, signs, lights, and any other material that might impede the free flow of traffic during the following holiday and special event periods:

- From noon Friday, May 26, 2023, to 6:00 AM Tuesday, May 30, 2023 for Memorial Day;
- From noon Friday, June 30, 2023, to 6:00 AM Wednesday, July 5, 2023 for Independence Day;
- From noon Friday, August 11, 2023, to 6:00 AM Sunday, August 13, 2023 for Paavo Nurmi Marathon;
- From noon Friday, September 1, 2023, to 6:00 AM Tuesday, September 5, 2023 for Labor Day.

stp-107-005 (20210113)

6. Utilities.

This contract comes under the provision of Administrative Rule Trans 220.

The following utility owners have facilities within the construction limits, however no conflicts are anticipated:

- **Brightspeed** – Communication Line, buried fiber optics
- **Centurylink Telephone USA of Wisconsin** – Communications Line, buried fiber optics
- **Xcel Energy** – Electricity, overhead electric

Coordinate construction activities with a call to Diggers Hotline or a direct call to the utilities for the underground facilities in the area, as required per state statutes. Use caution to maintain the integrity of utilities.

stp-107-065 (20080501)

7. Information to Bidders, U.S. Army Corps of Engineers Section 404 Permit.

The department has obtained a U.S. Army Corps of Engineers Section 404 permit. Comply with the requirements of the permit in addition to requirements of the special provisions. A copy of the permit is available from the regional office by contacting Greer Lundquist at (715) 365-5758.

stp-107-054 (20210708)

8. Information to Bidders, WPDES General Construction Storm Water Discharge Permit.

The department has obtained coverage through the Wisconsin Department of Natural Resources to discharge storm water associated with land disturbing construction activities of this contract under the Wisconsin Pollutant Discharge Elimination System General Construction Storm Water Discharge Permit (WPDES Permit No. WI-S066796-1). A certificate of permit coverage is available from the regional office by contacting Nick Vos (design project manager) at (715) 365-5782. Post the permit in a conspicuous place at the construction site.

stp-107-056 (20180628)

9. Environmental Protection - Dewatering.

Add the following to standard spec 107.18:

If dewatering is required, treat the water to remove suspended sediments by filtration, settlement or other appropriate best management practice prior to discharge. Submit the proposed means and methods of dewatering for each required location for approval as part of the Erosion Control Implementation Plan (ECIP). Include details of how the intake will be managed to not cause an increase in the background level turbidity prior to treatment and any additional measures necessary to prevent sediments from reaching the project limits or wetlands and waterways.

Guidance on Dewatering can be found on the Wisconsin Department of Natural Resources website located in the Storm Water Construction Technical Standards, Dewatering Code #1061. This document can be found at the WisDNR website:

http://dnr.wi.gov/topic/stormwater/standards/const_standards.html

Work includes furnishing all materials, excavation, maintenance, cleaning, disposal of surplus material and removal of the dewatering system and is incidental to contract work.

ncr-107-025 (20160401)

10. Environmental Protection, Aquatic Exotic Species Control.

Exotic invasive organisms such as VHS, zebra mussels, purple loosestrife, and Eurasian water milfoil are becoming more prolific in Wisconsin and pose adverse effects to waters of the state. Wisconsin State Statutes 30.07, "Transportation of Aquatic Plants and Animals; Placement of Objects in Navigable Waters", details the state law that requires the removal of aquatic plants and zebra mussels each time equipment is put into state waters.

At construction sites that involve navigable water or wetlands, use the follow cleaning procedures to minimize the chance of exotic invasive species infestation. Use these procedures for all equipment that comes in contact with waters of the state and/or infested water or potentially infested water in other states.

Ensure that all equipment that has been in contact with waters of the state, or with infested or potentially infested waters, has been decontaminated for aquatic plant materials and zebra mussels before being used in other waters of the state. Before using equipment on this project, thoroughly disinfect all equipment that has come into contact with potentially infested waters. Guidelines from the Wisconsin Department of Natural Resources for disinfection are available at:

<http://dnr.wi.gov/topic/invasives/disinfection.html>

Use the following inspection and removal procedures:

1. Before leaving the contaminated site, wash machinery and ensure that the machinery is free of all soil and other substances that could possibly contain exotic invasive species;
2. Drain all water from boats, trailers, bilges, live wells, coolers, bait buckets, engine compartments, and any other area where water may be trapped;
3. Inspect boat hulls, propellers, trailers and other surfaces. Scrape off any attached mussels, remove any aquatic plant materials (fragments, stems, leaves, seeds, or roots), and dispose of removed mussels and plant materials in a garbage can before leaving the area or invested waters; and
4. Disinfect your boat, equipment and gear by either:
 - 4.1. Washing with ~212 F water (steam clean), or
 - 4.2. Drying thoroughly for five days after cleaning with soap and water and/or high pressure water, or
 - 4.3. Disinfecting with either 200 ppm (0.5 oz per gallon or 1 Tablespoon per gallon) Chlorine for 10-minute contact time or 1:100 solution (38 grams per gallon) of Virkon Aquatic for 20- to 30-minute contact time. Note: Virkon is not registered to kill zebra mussel veligers nor invertebrates like spiny water flea. Therefore, this disinfect should be used in conjunction with a hot water (>104° F) application.

Complete the inspection and removal procedure before equipment is brought to the project site and before the equipment leaves the project site.

stp-107-055 (20130615)

11. Erosion Control Structures.

Within three calendar days after completing the excavation for a substructure unit, place riprap or other permanent erosion control items required by the contract or deemed necessary by the engineer around the unit at a minimum to a height equivalent to the calculated water elevation resulting from a storm that occurs on the average of once every two years (Q2) as shown on the plan, or as the engineer directs.

In the event that construction activity does not disturb the existing ground below the Q2 elevation, the above timing requirements for permanent erosion control shall be waived.

stp-107-070 (20191121)

12. Erosion Control.

Add the following to standard spec 107.20:

Perform construction operations in a timely and diligent manner, continuing all construction operations methodically from the initial topsoil stripping operation through the subsequent grading and finishing to minimize the period of exposure to erosion.

Replace topsoil on disturbed areas, including spot locations such as cross drains, driveways, guardrail and terminals, and intersections, immediately after grading is completed within those areas. Complete finishing operations, which includes seed, fertilizer, erosion mat, mulch, and any other permanent erosion control measures required, within seven calendar days after the placement of topsoil.

ncr-107-050 (20141015)

13. Construction Over or Adjacent to Navigable Waters.

The (1) Dunn Creek, (2) Javorsky Creek, (3) tributary to Tyler Forks, (4) Rouse Creek, and (5) Erickson Creek is classified as a state navigable waterway under standard spec 107.19.

stp-107-060 (20171130)

14. Notice to Contractor, Verification of Asbestos Inspection, No Asbestos Found.

Brandon Flaada sampled Structure C-26-922 for asbestos on December 14, 2021. These samples were tested on December 22, 2021 for asbestos by Bay West LLC. No regulated Asbestos Containing Material (RACM) was found on this structure and no asbestos was detected within the samples. A copy of this testing is available from Brandon Flaada, (218) 234-6010, brandonf@baywest.com.

15. Public Convenience and Safety.

Replace standard spec 107.8 (4) with the following:

Notify the following organizations and departments at least two business days before road closures, lane closures, or detours are put into effect:

- Iron County Sheriff's Department
- Wisconsin State Patrol
- Iron County Highway Department
- Town of Anderson (Upson)
- City of Hurley
- City of Hurley School District
- City of Hurley Post Office

The Iron County Sheriff's Department 911 dispatches all area police, fire, and ambulance services and will relay any notification given by the contractor.

ncr-107-005 (20200729)

16. Removing Apron Endwalls, Item 204.9060.S.

A Description

This special provision describes removing concrete and steel apron endwalls conforming to standard spec 204.

B (Vacant)

C (Vacant)

D Measurement

The department will measure Removing Apron Endwalls in units of each location, acceptably completed.

E Payment

Add the following to standard spec 204.5:

ITEM NUMBER	DESCRIPTION	UNIT
204.9060.S	Removing Apron Endwalls	EACH

stp-204-025 (20150630)

17. Temporary Lane Shift During Culvert Work, Item 208.1500.S.

A Description

This special provision describes the construction of a temporary lane shift to maintain traffic with a one-lane roadway around culvert work.

B (Vacant)

C Construction

Place fill and base aggregate dense as needed to maintain traffic through the lane shift.

Furnish materials and construct conforming to the following standard specs:

Common excavation, material removal, and disposal	205
Borrow.....	208
Base Aggregate Dense.....	305

Do pertinent construction staking according to standard spec 650 for the temporary lane shift.

Construct to appropriate widths and material thicknesses. Remove materials once the lane shift is no longer needed to maintain traffic.

D Measurement

The department will measure Temporary Lane Shift During Culvert Work as a single unit for each temporary roadway, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
208.1500.S	Temporary Lane Shift During Culvert Work	EACH

Payment is full compensation for placing, removing and disposal of fill material, including any base aggregate dense used for the driving surface, and associated construction staking.

The department will pay separately for traffic control and erosion control items.

stp-208-010 (20210708)

18. HMA Percent Within Limits (PWL) Test Strip Volumetrics, Item 460.0105.S; HMA Percent Within Limits (PWL) Test Strip Density Item 460.0110.S.

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 contracts constructed under HMA Percent Within Limits (PWL) QMP. A density test strip is required for each pavement layer placed over a specific, uniform underlying material, unless specified otherwise in the plans. Each contract is restricted to a single mix design per mix type per layer (e.g., upper layer and lower layer may have different mix type specified or may have the same mix type with different mix designs). Each mix design requires a separate test strip. Density and volumetrics testing will be conducted on the same test strip whenever possible.

Perform work according to standard spec 460 and as follows.

B Materials

Use materials conforming to HMA Pavement Percent Within Limits (PWL) QMP special provision.

C Construction

C.1 Test Strip

Submit the test strip start time and date to the department in writing at least 5 calendar days in advance of construction of the test strip. If the contractor fails to begin paving within 2 hours of the submitted start time, the test strip is delayed, and the department will assess the contractor \$2,000 for each instance according to Section E of this document. Alterations to the start time and date must be submitted to the department in writing a minimum of 24 hours prior to the start time. The contractor will not be liable for changes in start time related to adverse weather days as defined by standard spec 101.3 or equipment breakdown verified by the department.

On the first day of production for a test strip, produce approximately 750 tons of HMA. (Note: adjust tonnage to accommodate natural break points in the project.) Locate test strips in a section of the roadway to allow a representative rolling pattern (i.e., not a ramp or shoulder, etc.).

C.1.1 Sampling and Testing Intervals

C.1.1.1 Volumetrics

Laboratory testing will be conducted from a split sample yielding three components, with portions designated for QC (quality control), QV (quality verification), and retained.

During production for the test strip, obtain sufficient HMA mixture for three-part split samples from trucks prior to departure from the plant. Collect three split samples during the production of test strip material. Perform sampling from the truck box and three-part splitting of HMA according to CMM 836. These three samples will be randomly selected by the engineer from each *third* of the test strip tonnage (T), excluding the first 50 tons:

<u>Sample Number</u>	<u>Production Interval (tons)</u>
1	50 to 1/3 T
2	1/3 T to 2/3 T
3	2/3 T to T

C.1.1.2 Density

Required field tests include contractor QC and department QV nuclear density gauge tests and pavement coring at ten individual locations (five in each half of the test strip length) according to Appendix A: *Test Methods and Sampling for HMA PWL QMP Projects*. Both QV and QC teams shall have two nuclear density gauges present for correlation at the time the test strip is constructed. QC and QV teams may wish to scan with additional gauges at the locations detailed in Appendix A, as only gauges used during the test strip correlation phase will be allowed.

C.1.2 Field Tests

C.1.2.1 Density

For contracts that include STSP 460-020 QMP Density in addition to PWL, a gauge comparison according to CMM 815.7 shall be completed prior to the day of test strip construction. Daily standardization of gauges on reference blocks and a project reference site shall be performed according to CMM 815.8. A standard count shall be performed for each gauge on the material placed for the test strip, prior to any additional data collection. Nuclear gauge readings and pavement cores shall be used to determine nuclear gauge correlation according to Appendix A. The two to three 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 will be used to adjust raw density readings of the specific gauge and shall appear on the density data sheet along with gauge and project identification. An offset is specific to the mix and layer; therefore, a separate value shall be determined for each layer of each mix placed over a differing underlying material for the contract. This constitutes correlation of that individual gauge for the given layer. Two gauges per team are not required to be onsite daily after completion of the test strip. Any data collected without a correlated gauge will not be accepted.

The contractor is responsible for coring the pavement from the footprint of the density tests and filling core holes according to Appendix A. Coring and filling of pavement 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 laboratory testing and will be responsible for any verification testing at the discretion of the engineer.

The target maximum density to be used in determining core density is the average of the three volumetric/mix Gmm values from the test strip multiplied by 62.24 lb/ft³. In the event mix and density portions of the test strip procedure are separated, or if an additional density test strip is required, the mix portion must be conducted prior to density determination. The target maximum density to determine core densities shall then be the Gmm four-test running average (or three-test average from a PWL volumetric-only test strip) from the end of the previous day's production multiplied by 62.24 lb/ft³. If no PWL production QV volumetric test is to be taken in a density-only test strip, a non-random QV test will be taken according to 460.2.8.3.1.4 as modified in HMA Pavement Percent Within Limits (PWL) QMP and if

non-conforming to C.2.1 herein, follow corrective action outlined in 460.2.8.2.1.7(4) as modified in HMA Pavement Percent Within Limits (PWL) QMP.

Exclusions such as shoulders and appurtenances shall be tested and reported according to CMM 815. However, all acceptance testing of shoulders and appurtenances will be conducted by the department, and average lot (daily) densities must conform to standard spec Table 460-3. No density incentive or disincentive will be applied to shoulders or appurtenances. However, unacceptable shoulder material will be handled according to standard spec 460.3.3.1 and CMM 815.11.

C.1.3 Laboratory Tests

C.1.3.1 Volumetrics

Obtain random samples according to C.1.1.1 and Appendix A. Perform tests the same day as taking the sample.

Theoretical maximum specific gravities of each mixture sample will be obtained. Bulk specific gravities of both gyratory compacted samples and field cores shall be determined. The bulk specific gravity values determined from field cores shall be used to calculate a correction factor (i.e., offset) for each QC and QV nuclear density gauge. The correction factor will be used throughout the remainder of the layer.

C.2 Acceptance

C.2.1 Volumetrics

Produce mix conforming to the following limits based on individual QC and QV test results (tolerances based on most recent JMF):

ITEM	ACCEPTANCE 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 ^[1]	- 0.5
Air Voids	-1.5 & +2.0
VMA in percent ^[2]	- 1.0
Maximum specific gravity	+/- 0.024

^[1] Asphalt content more than -0.5% below the JMF will be referee tested by the department's AASHTO accredited laboratory and HTCP certified personnel using automated extraction.

^[2] VMA limits based on minimum requirement for mix design nominal maximum aggregate size in [table 460-1](#).

QV samples will be tested for Gmm, Gmb, and AC. Air voids and VMA will then be calculated using these test results.

Calculation of air voids shall use either the QC, QV, or retained split sample test results, as identified by conducting the paired t-test with the WisDOT PWL Test Strip Spreadsheet.

If QC and QV test results do not correlate as determined by the split sample comparison, the retained split sample will be tested by the department's AASHTO accredited laboratory and HTCP certified personnel as a referee test. Additional investigation shall be conducted to identify the source of the difference between QC and QV data. Referee data will be used to determine material conformance and pay.

C.2.2 Density

Compact all layers of test strip HMA mixture according to Table 460-3.

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 mix design. The offset is not to be entered into any nuclear density gauge as it will be applied by the department-furnished Field Density Worksheet.

C.2.3 Test Strip Approval and Material Conformance

All applicable laboratory and field testing associated with a test strip shall be completed prior to any additional mainline placement of the mix. All test reports shall be submitted to the department upon completion and approved before paving resumes. The department will notify the contractor within 24 hours from start of test strip regarding approval to proceed with paving unless an alternate time frame is agreed upon in writing with the department. The 24-hour approval time includes only working days as defined in standard spec 101.3.

The department will evaluate material conformance and make pay adjustments based on the PWL value of air voids and density for the test strip. The QC core densities and QC and QV mix results will be used to determine the PWL values as calculated according to Appendix A.

The PWL values for air voids and density shall be calculated after determining core densities. An approved test strip is defined as the individual PWL values for air voids and density both being equal to or greater than 75, mixture volumetric properties conforming to the limits specified in C.2.1, and an acceptable gauge-to-core correlation. Further clarification on PWL test strip approval and appropriate post-test strip actions are shown in the following table:

PWL TEST STRIP APPROVAL AND MATERIAL CONFORMANCE CRITERIA

PWL VALUE FOR AIR VOIDS AND DENSITY	TEST STRIP APPROVAL	MATERIAL CONFORMANCE	POST-TEST STRIP ACTION
Both PWL \geq 75	Approved ¹	Material paid for according to Section E	Proceed with Production
50 \leq Either PWL < 75	Not Approved	Material paid for according to Section E	Consult BTS to determine need for additional test strip
Either PWL < 50	Not Approved	Unacceptable material removed and replaced or paid for at 50% of the contract unit price according to Section E	Construct additional Volumetrics or Density test strip as necessary

¹ In addition to these PWL criteria, mixture volumetric properties must conform to the limits specified in C.2.1, split sample comparison must have a passing result and an acceptable gauge-to-core correlation must be completed.

A maximum of two test strips will be allowed to remain in place per pavement layer per contract. If material is removed, a new test strip shall replace the previous one at no additional cost to the department. If the contractor changes the mix design for a given mix type during a contract, no additional compensation will be paid by the department for the required additional test strip and the department will assess the contractor \$2,000 for the additional test strip according to Section E of this special provision. For simultaneously conducted density and volumetric test strip components, the following must be achieved:

- i. Passing/Resolution of Split Sample Comparison
- ii. Volumetrics/mix PWL value \geq 75
- iii. Density PWL value \geq 75
- iv. Acceptable correlation

If not conducted simultaneously, the mix portion of a test strip must accomplish (i) and (ii), while density must accomplish (iii) and (iv). If any applicable criteria are not achieved for a given test strip, the engineer, with authorization from the department's Bureau of Technical Services, will direct an additional test strip (or alternate plan approved by the department) be conducted to prove the criteria can be met prior to additional paving of that mix. For a density-only test strip, determination of mix conformance will be according to main production, i.e., HMA Pavement Percent Within Limits (PWL) QMP special provision.

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 correlation for a Test Strip. Material quantities shall be determined according to standard spec 450.4 and detailed here within.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH
460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH

These items are intended to compensate the contractor for the construction of the test strip for contracts paved under the HMA Pavement Percent Within Limits QMP article.

Payment for HMA Percent Within Limits (PWL) Test Strip Volumetrics is full compensation for volumetric sampling, splitting, and testing, and for the proper labeling, handling, and retention of the split samples.

Payment for HMA Percent Within Limits (PWL) Test Strip Density is full compensation for collecting and measuring of pavement cores, acceptably filling core holes, providing of nuclear gauges and operator(s), and all other work associated with completion of a core-to-gauge correlation, as directed by the engineer.

Acceptable HMA mixture placed on the project as part of a volumetric or density test strip will be compensated by the appropriate HMA Pavement bid item with any applicable pay adjustments. If a test strip is delayed as defined in C.1 of this document, the department will assess the contractor \$2,000 for each instance, under the HMA Delayed Test Strip administrative item. If an additional test strip is required because the initial test strip is not approved by the department or the mix design is changed by the contractor, the department will assess the contractor \$2,000 for each additional test strip (i.e. \$2,000 for each individual volumetrics or density test strip) under the HMA Additional Test Strip administrative item.

Pay adjustment will be calculated using 65 dollars per ton of HMA pavement. The department will pay for measured quantities of mix based on \$65/ton multiplied by the following pay adjustment:

PAY ADJUSTMENT FOR HMA PAVEMENT AIR VOIDS & DENSITY

<i>PERCENT WITHIN LIMITS (PWL)</i>	<i>PAYMENT FACTOR, PF (percent of \$65/ton)</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] Material resulting in PWL value less than 50 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 contract unit price 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 according to Table 460-3. Pay adjustment will be determined for an acceptably completed test strip and will be computed as shown in the following equation:

$$\text{Pay Adjustment} = (PF-100)/100 \times (WP) \times (\text{tonnage}) \times (\$65/\text{ton})^*$$

*Note: If Pay Factor <50, the contract unit price will be used in lieu of \$65/ton

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 (i.e., from truck tickets), and PF_{density} will be multiplied by the calculated tonnage used to pave the mainline only (i.e., traffic lane excluding shoulder) as determined according to Appendix A.

The department will pay incentive for air voids under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
460.2005	Incentive Density PWL 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.

stp-460-040 (20220107)

19. HMA Pavement Percent Within Limits (PWL) QMP.

A Description

This special provision describes percent within limits (PWL) pay determination, providing and maintaining a contractor Quality Control (QC) Program, department Quality Verification (QV) 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 test results conducted according to the Quality Management Program (QMP) as specified in standard spec 460, except as modified below.

B Materials

Conform to the requirements of standard spec 450, 455, and 460 except where superseded by this special provision. The department will allow only one mix design for each HMA mixture type per layer required for the contract, 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 according to HMA Pavement Percent Within Limits (PWL) QMP Test Strip Volumetrics and HMA Pavement Percent Within Limits (PWL) QMP Test Strip Density articles at no additional cost to the department. *Replace standard spec 460.2.8.2.1.3.1 Contracts with 5000 Tons of Mixture or Greater with the following:*

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 this special provision and further defined in Appendix A: *Test Methods & Sampling for HMA PWL QMP Projects*. Obtain HMA mixture samples from trucks at the plant. For the subplot in which a QV sample is collected, discard the QC sample and test a split of the QV sample.

(3) Perform sampling from the truck box and three-part splitting of HMA samples according to CMM 836. 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 yield three splits for all random sampling per subplot. All QC samples shall provide the following: QC, QV, and Retained. The contractor shall take possession and test the QC portions. The department will observe the splitting and take possession of the samples intended for QV testing (i.e., QV portion from each sample) and the Retained portions. Additional sampling details are found in Appendix A. Label samples according to CMM 836. Additional handling instructions for retained samples are found in CMM 836.

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

- Blended aggregate gradations according to AASHTO T 30.
- Asphalt content (AC) in percent determined by ignition oven method according to AASHTO T 308 as modified in CMM 836.6.3.6, chemical extraction according to AASHTO T 164 Method A or B, or automated extraction according to ASTM D8159 as modified in CMM 836.6.3.1.
- Bulk specific gravity (Gmb) of the compacted mixture according to AASHTO T 166 as modified in CMM 836.6.5.

- Maximum specific gravity (G_{mm}) according to AASHTO T 209 as modified in CMM 836.6.6.
- Air voids (V_a) by calculation according to AASHTO T 269.
- Voids in Mineral Aggregate (VMA) by calculation according to AASHTO R35.

⁽⁵⁾ Lot size shall consist of 3750 tons with sublots of 750 tons. Test each design mixture at a frequency of 1 test per 750 tons of mixture type produced and placed as part of the contract. Add a random sample for any fraction of 750 tons at the end of production for a specific mixture design. Partial lots with less than three subplot tests will be included into the previous lot for data analysis and pay adjustment. Volumetric lots will include all tonnage of mixture type under specified bid item unless otherwise specified in the plan.

⁽⁶⁾ Conduct field tensile strength ratio tests, without freeze-thaw conditioning cycles, on each qualifying mixture according to CMM 836.6.14. Test each full 50,000-ton production increment, or fraction of an increment, after the first 5,000 tons of production. Perform required increment testing in the first week of production of that increment. If field tensile strength ratio values are below the spec limit, 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:

460.2.8.2.1.7 Corrective Action

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

ITEM	ACTION LIMITS	ACCEPTANCE 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	
AC in percent	-0.3	-0.5
V _a		- 1.5 & +2.0
VMA in percent	- 0.5	-1.0

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

⁽²⁾ QV samples will be tested for G_{mm}, G_{mb}, and AC. Air voids and VMA will then be calculated using these test results.

⁽³⁾ Notify the engineer if any individual test result falls outside the action limits, investigate the cause and take corrective action to return to within action limits. If two consecutive test results fall outside the action limits, stop production. Production may not resume until approved by the engineer. Additional QV samples may be collected upon resuming production, at the discretion of the engineer.

⁽⁴⁾ For any additional non-random tests outside the random number testing conducted for volumetrics, the data collected will not be entered into PWL calculations. Additional QV tests must meet acceptance limits or be subject to production stop. If the department's non-random test does not conform to the acceptance limits, the retained sample will be tested by the BTS lab. If the BTS results also do not meet the acceptance limits, the material will be considered unacceptable as described in (5) below.

(5) Remove and replace unacceptable material at no additional expense to the department. Unacceptable material is defined as any individual QC or QV tests results outside the acceptance limits or a PWL value < 50. For AC in percent, unacceptable material is defined as any individual QV test result outside of the acceptance limit. The engineer may allow such material to remain in place with a price reduction. The department will pay for such HMA Pavement allowed to remain in place at 50 percent of the contract unit price.

Replace standard spec 460.2.8.3.1.2 Personnel Requirements with the following:

460.2.8.3.1.2 Personnel Requirements

(1) The department will provide at least one HTCP-certified Transportation Materials Sampling (TMS) Technician, to observe QV sampling of HMA mixtures.

(2) Under departmental observation, a contractor TMS technician shall collect and split samples.

(3) A department HTCP-certified Hot Mix Asphalt, Technician I, Production Tester (HMA-IPT) technician will ensure that all sampling is performed correctly and conduct testing, analyze test results, and report resulting data.

(4) The department will make an organizational chart available to the contractor before mixture production begins. The organizational 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 Department Verification Testing Requirements with the following:

460.2.8.3.1.4 Department Verification Testing Requirements

(1) HTCP-certified department personnel will obtain QV 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 yield three splits for all random sampling per subplot. All QV samples shall furnish the following: QC, QV, and Retained. The department will observe the splitting and take possession of the samples intended for QV testing (i.e., QV portion from each sample) and the Retained portions. The department will take possession of retained samples accumulated to date each day QV samples are collected. The department will retain samples until surpassing the analysis window of up to 5 lots, as defined in standard spec 460.2.8.3.1.7(2) of this special provision. Additional sampling details are found in Appendix A.

(2) The department will verify product quality using the test methods specified here in standard spec 460.2.8.3.1.4(3). 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 T 166 as modified in CMM 836.6.5.
- Maximum specific gravity (Gmm) according to AASHTO T 209 as modified in CMM 836.6.6.
- Air voids (Va) by calculation according to AASHTO T 269.
- Voids in Mineral Aggregate (VMA) by calculation according to AASHTO R 35.
- Asphalt Content (AC) in percent determined by ignition oven method according to AASHTO T308 as modified in CMM 836.6.3.6, chemical extraction according to AASHTO T 164 Method A or B, or automated extraction according to ASTM D8159 as modified in CMM 836.6.3.1.

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

Delete standard spec 460.2.8.3.1.6.

Replace standard spec 460.2.8.3.1.7 Dispute Resolution with the following:

460.2.8.3.1.7 Data Analysis for Volumetrics

(1) Analysis of test data for pay determination will be contingent upon QC and QV test results. Statistical analysis will be conducted on Gmm and Gmb test results for calculation of Va. If either Gmm or Gmb analysis results in non-comparable data as described in 460.2.8.3.1.7(2), subsequent testing will be performed for both parameters as detailed in the following paragraph.

(2) The engineer, upon completion of the first 3 lots, will compare the variances (F-test) and the means (t-test) of the QV test results with the QC test results. Additional comparisons incorporating the first 3 lots of data will be performed following completion of the 4th and 5th lots (i.e., lots 1-3, 1-4, and 1-5). A rolling window of 5 lots will be used to conduct F & t comparison for the remainder of the contract (i.e., lots 2-6, then lots 3-7, etc.), reporting comparison results for each individual lot. Analysis will use a set alpha value of 0.025. If the F- and t-tests report comparable data, the QC and QV data sets are determined to be statistically similar and QC data will be used to calculate the Va used in PWL and pay adjustment calculations. If the F- and t-tests result in non-comparable data, proceed to the *dispute resolution* steps found below. Note: if both QC and QV Va PWL result in a pay adjustment of 102% or greater, dispute resolution testing will not be conducted. Dispute resolution via further investigation is as follows:

[1] The Retained portion of the split from the lot in the analysis window with a QV test result furthest from the QV mean (not necessarily the subplot identifying that variances or means do not compare) will be referee tested for Gmm, Gmb, and Asphalt Content by the bureau's AASHTO accredited laboratory and certified personnel. All previous lots within the analysis window are subject to referee testing and regional lab testing as deemed necessary. Referee test results will replace the QV data of the subplot(s).

[2] Statistical analysis will be conducted with referee test results replacing QV results.

- i. If the F- and t-tests indicate variances and means compare, no further testing is required for the lot and QC data will be used for PWL and pay factor/adjustment calculations.
- ii. If the F- and t-tests indicate non-comparable variances or means, the Retained portion of the random QC sample will be tested for Gmm, Gmb, and Asphalt Content by the department's regional lab for the remaining 4 sublots of the lot which the F- and t-tests indicate non-comparable datasets. The department's regional lab and the referee test results will be used for PWL and pay factor/adjustment calculations. Upon the second instance of non-comparable variance or means and for every instance thereafter, the department will assess a pay reduction for the additional testing of the remaining 4 sublots at \$2,000/lot under the HMA Regional Lab Testing administrative item.

[3] The contractor may choose to dispute the regional test results on a lot basis. In this event, the retained portion of each subplot will be referee tested by the department's AASHTO accredited laboratory and certified personnel. The referee Gmm and Gmb test results will supersede the regional lab results for the disputed lot.

- i. If referee testing results in an increased calculated pay factor, the department will pay for the cost of the additional referee testing.
- ii. If referee testing of a disputed lot results in an equal or lower calculated pay factor, the department will assess a pay reduction for the additional referee testing at \$2,000/lot under the Referee Testing administrative item.

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

(4) The department will determine mixture conformance and acceptability by analyzing referee test results, reviewing mixture data, and inspecting the completed pavement according to the standard spec, this special provision, and accompanying Appendix A.

⁽⁵⁾ Unacceptable material (i.e., resulting in a PWL value less than 50 or individual QC or QV test results not meeting the Acceptance Requirements of 460.2.8.2.1.7 as modified herein) will be referee tested by the bureau's AASHTO accredited laboratory and certified personnel and those test results used for analysis. Such material may be subject to remove and replace, at the discretion of the engineer. If the engineer allows the material to remain in place, it will be paid at 50% of the HMA Pavement contract unit price. Replacement or pay adjustment will be conducted on a subplot basis. If an entire PWL subplot is removed and replaced, the test results of the newly placed material will replace the original data for the subplot. Any remove and replace shall be performed at no additional cost to the department. Testing of replaced material must include a minimum of one QV result. [Note: If the removed and replaced material does not result in replacement of original QV data, an additional QV test will be conducted and under such circumstances will be entered into the HMA PWL Production spreadsheet for data analysis and pay determination.] The quantity of material paid at 50% the contract unit price will be deducted from PWL pay adjustments, along with accompanying data of this material.

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:

460.3.3.2 Pavement Density Determination

- ⁽¹⁾ The engineer will determine the target maximum density using department procedures described in CMM 815. 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. The contractor is required to complete three tests randomly per subplot and the department will randomly conduct one QV test per subplot. A partial quantity less than 750 lane feet will be included with the previous subplot. Partial lots with less than three sublots will be included in the previous lot for data analysis/acceptance and pay, by the engineer. If density lots/sublots are determined prior to construction of the test strip, any random locations within the test strip shall be omitted. Exclusions such as shoulders and appurtenances shall be tested and recorded according to CMM 815. However, all acceptance testing of shoulders and appurtenances will be conducted by the department, and average lot (daily) densities must conform to standard spec Table 460-3. No density incentive or disincentive will be applied to shoulders or appurtenances. Offsets will not be applied to nuclear density gauge readings for shoulders or appurtenances. Unacceptable shoulder material will be handled according to standard spec 460.3.3.1 and CMM 815.11.
- ⁽⁴⁾ The three QC locations per subplot represent the outside, middle, and inside of the paving lane. The QC density testing procedures are detailed in Appendix A.
- ⁽⁵⁾ QV nuclear testing will consist of one randomly selected location per subplot. The QV density testing procedures will be the same as the QC procedure at each testing location and are also detailed in Appendix A.
- ⁽⁶⁾ An HTCP-certified nuclear density technician (NUCDENSITYTEC-I) shall identify random locations and perform the testing for both the contractor and department. 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, or at the completion of each lot.
- ⁽⁷⁾ For any additional tests outside the random number testing conducted for density, the data collected will not be entered into PWL calculations. However, additional QV testing must meet the tolerances for material conformance as specified in the standard specification and this special provision. If additional density data identifies unacceptable material, proceed as specified in CMM 815.11.

Replace standard spec 460.3.3.3 Waiving Density Testing with Acceptance of Density Data with the following:

460.3.3.3 Analysis of Density Data

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

(2) As random density locations are paved, the data will be recorded in the HMA PWL Production Spreadsheet for analysis in chronological order. The engineer, upon completion of the first 3 lots, will compare the variances (F-test) and the means (t-test) of the QV test results with the QC test results. A rolling window of 3 lots will be used to conduct F & t comparison for the remainder of the contract (i.e., lots 2-4, then lots 3-5, etc.), reporting comparison results for each individual lot. Analysis will use a set alpha value of 0.025.

- i. 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.
- ii. If the F- and t-tests indicate variances or means do not compare, the QV data will be used for subsequent calculations.

(3) The department will determine mixture density conformance and acceptability by analyzing test results, reviewing mixture data, and inspecting the completed pavement according to standard spec, this special provision, and accompanying Appendix A.

(4) Density resulting in a PWL value less than 50 or not meeting the requirements of 460.3.3.1 (any individual density test result falling more than 3.0 percent below the minimum required target maximum density as specified in standard spec Table 460-3) is unacceptable and may be subject to remove and replace at no additional cost to the department, at the discretion of the engineer.

- i. 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 will replace the original data for the subplot.
- ii. Testing of replaced material must include a minimum of one QV result. [Note: If the removed and replaced material does not result in replacement of original QV data, an additional QV test must be conducted and under such circumstances will be entered into the data analysis and pay determination.]
- iii. If the engineer allows such material to remain in place, it will be paid for at 50% of the HMA Pavement contract unit price. The extent of unacceptable material will be addressed as specified in CMM 815.11. The quantity of material paid at 50% the contract unit price will be deducted from PWL pay adjustments, along with accompanying data of this material.

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 in this special provision.

E Payment

Replace standard spec 460.5.2 HMA Pavement with the following:

460.5.2 HMA Pavement

460.5.2.1 General

(1) Payment for HMA Pavement Type LT, MT, and HT mixes is full compensation for providing HMA mixture designs; for preparing foundation; for furnishing, preparing, hauling, mixing, placing, and compacting mixture; for HMA PWL 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 65 dollars per ton of HMA pavement. The HMA PWL Production Spreadsheet, including data, will be made available 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 this price multiplied by the following pay adjustment calculated according to the HMA PWL Production Spreadsheet:

PAY FACTOR FOR HMA PAVEMENT AIR VOIDS & DENSITY

<i>PERCENT WITHIN LIMITS</i> (PWL)	<i>PAYMENT FACTOR, PF</i> (percent of \$65/ton)
≥ 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 less than 50 shall be removed and replaced unless the engineer allows such material to remain in place. In the event the material remains in place, it will be paid at 50% of the contract unit price 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 according to standard spec Table 460-3. Pay adjustment will be determined on a lot basis and will be computed as shown in the following equation.

$$\text{Pay Adjustment} = (\text{PF}-100)/100 \times (\text{WP}) \times (\text{tonnage}) \times (\$65/\text{ton})^*$$

*Note: If Pay Factor <50, the contract unit price will be used in lieu of \$65/ton

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 placed (i.e., from truck tickets), and PF_{density} will be multiplied by the calculated tonnage used to pave the mainline only (i.e., travel lane excluding shoulder) as determined according to Appendix A.

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

ITEM NUMBER	DESCRIPTION	UNIT
460.2005	Incentive Density PWL 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.

The department will administer a disincentive under the Disincentive HMA Binder Content administrative item for each individual QV test result indicating asphalt binder content below the Action Limit in 460.2.8.2.1.7 presented herein. The department will adjust pay per subplot of mix at 65 dollars per ton of HMA pavement multiplied by the following pay adjustment calculated according to the HMA PWL Production Spreadsheet:

<u>AC Binder Relative to JMF</u>	<u>Pay Adjustment / Sublot</u>
-0.4% to -0.5%	75%
More than -0.5%	50%

^[1] Any material resulting in an asphalt binder content more than 0.3% below the JMF AC content will be referee tested by the department's AASHTO accredited laboratory and HTCP certified personnel using automated extraction according to ASTM D8159 as modified in CMM 836.6.3.1.

^[2] Any material resulting in an asphalt binder content more than 0.5% below the JMF AC content shall be removed and replaced unless the engineer allows such material to remain in place. In the event the material remains in place, it will be paid at 50% of the contract unit price of HMA pavement.

Note: PWL value determination is further detailed in the PWL Production Spreadsheet Instructions located in the *Project Info & Instructions* tab of the HMA PWL Production spreadsheet.

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20. Appendix A.

Test Methods & Sampling for HMA PWL QMP Projects.

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

- WisDOT Procedure for Nuclear Gauge/Core Correlation – Test Strip
- WisDOT Test Method for HMA PWL QMP Density Measurements for Main Production
- Sampling for WisDOT HMA PWL QMP
- Calculation of PWL Mainline Tonnage Example

WisDOT Procedure for Nuclear Gauge/Core Correlation – Test Strip

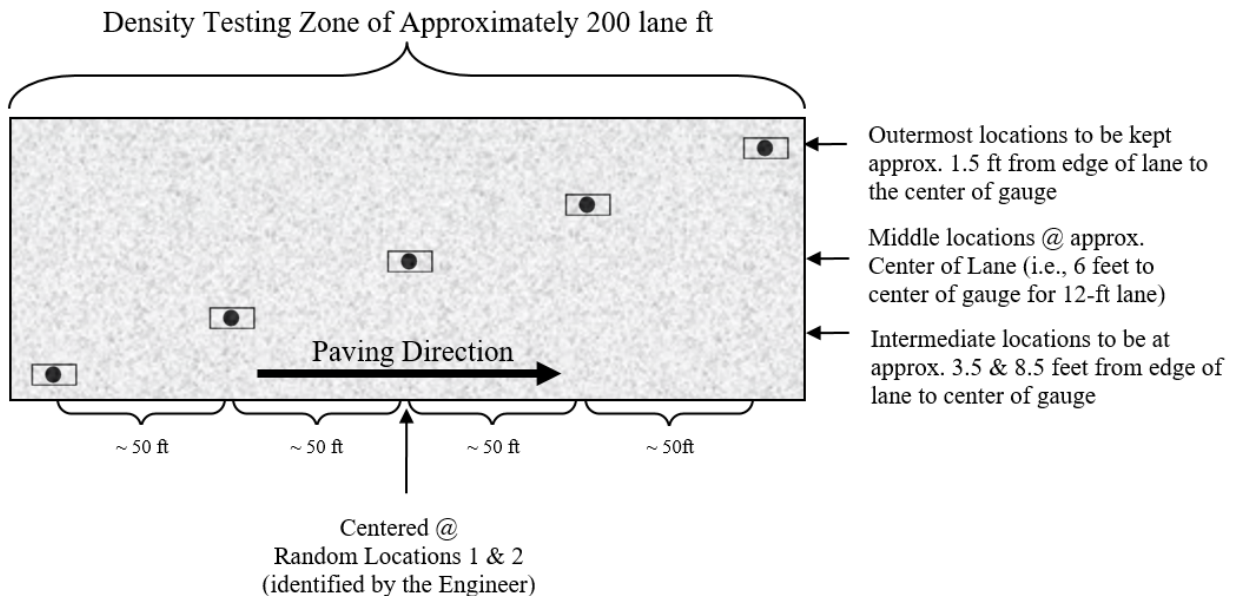



Figure 1: Nuclear/Core Correlation Location Layout

The engineer will identify two zones in which gauge/core correlation is to be performed. These two zones will be randomly selected within each *half* of the test strip length. (Note: Density zones shall not overlap and must have a minimum of 100 feet between the two zones; therefore, random numbers may be shifted (evenly) in order to meet these criteria.) Each zone shall consist of five 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*
- pavement core sample

*If the two readings exceed 1.0 pcf of one another, a third reading is conducted in the same orientation as the first reading. In this event, all three readings are averaged, the individual test reading of the three which falls farthest from the average value is discarded, and the average of the remaining two values is used to represent the location for the gauge.

The zones are supposed to be undisclosed to the contractor/roller operators. The engineer will not lay out density/core test sites until rolling is completed and the cold/finish roller is beyond the entirety of the zone. Sites are staggered across the 12-foot travel lane, and do not include shoulders. The outermost locations should be 1.5-feet from the center of the gauge to the edge of lane. [NOTE: This staggered layout is only applicable to the test strip. All mainline density locations after test strip should have a longitudinal- as well as transverse-random number to determine location as detailed in the *WisDOT Test Method for HMA PWL QMP Density Measurements for Main Production* section of this document.]

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 a minimum of 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

Photos should be taken of each of the 10 core/gauge locations of the test strip. This should include gauge readings (pcf) and a labelled core within the gauge footprint. If a third reading is needed, all three readings should be recorded and documented. Only raw readings in pcf should be written on the pavement during the test strip, with a corresponding gauge ID/SN (generalized as QC-1 through QV-2 in the following Figure) in the following format:



Figure 3: Layout of raw gauge readings as recorded on pavement

Each core will then be taken from the center of the gauge footprint and will 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 core is damaged at the time of extracting from the pavement, a replacement core should be taken immediately adjacent to the damaged core, i.e., from the same footprint. If a core is damaged during transport, it should be recorded as damaged and excluded from the correlation. Coring after traffic is on the pavement should be avoided. 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 will 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 is responsible for any verification testing.

Each core 100 or 150 mm (4 or 6 inches) in diameter will be taken at locations as identified in Figure 1. Each random core will be full thickness of the layer being placed. The contractor is responsible for thoroughly drying cores obtained from the mat according to AASHTO R79 as modified by CMM 836.6.10 prior to using specimens for in-place density determination according to AASHTO T 166 as modified by CMM 836.6.5.

Cores must be taken before the pavement is open to traffic. Cores are cut under department/project staff observation. Relabel each core immediately after extruding or ensure that labels applied to pavement prior to cutting remain legible. The layer interface should also be marked immediately following extrusion. Cores should be cut at this interface, using a wet saw, to allow for density measurement of only the most recently placed layer. Cores should be protected from excessive temperatures such as direct sunlight. Also, there should be department custody (both in transport and storage) for the cores until they are tested, whether that be immediately after the test strip or subsequent day if agreed upon between department and contractor. Use of concrete cylinder molds works well to transport cores. Cores should be placed upside down (flat surface to bottom of cylinder mold) in the molds, one core per mold, cylinder molds stored upright, and ideally transported in a cooler. Avoid any stacking of pavement cores.

Fill all core holes with non-shrink rapid-hardening grout, mortar, or concrete, or with HMA. When using grout, 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 the same day's production mix type at same day compaction temperature +/- 20 F. The core holes shall be dry and coated with tack before filling, filled with a top layer no thicker than 2.25 inches, lower layers not to exceed 4 inches, 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.

WisDOT Test Method for HMA 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 according to CMM 815). Longitudinal locations within each subplot shall be determined with 3 independent random numbers. The PWL Density measurements do not include the shoulder and other appurtenances. Such areas are tested by the department and are not

eligible for density incentive or disincentive. Each location will be measured with two one-minute gauge readings oriented 180 degrees from one another, in the same footprint as detailed in Figure 2 above. Each location requires a minimum of two readings per gauge. The density gauge orientation for the first test will be with the source rod towards the direction of paving. QV nuclear testing will consist of one randomly selected location per subplot. The QV is also comprised of two one-minute readings oriented 180 degrees from one another. For both QC and QV test locations, if the two readings exceed 1.0 pcf of one another, a third reading is conducted in the same orientation as the first reading. In this event, all three readings are averaged, the individual test reading of the three which falls farthest from the average value is discarded, and the average of the remaining two values is used to represent the location for the gauge. The subplot density testing layout is depicted in Figure 4, with QC test locations shown as solid lines and QV as dashed.

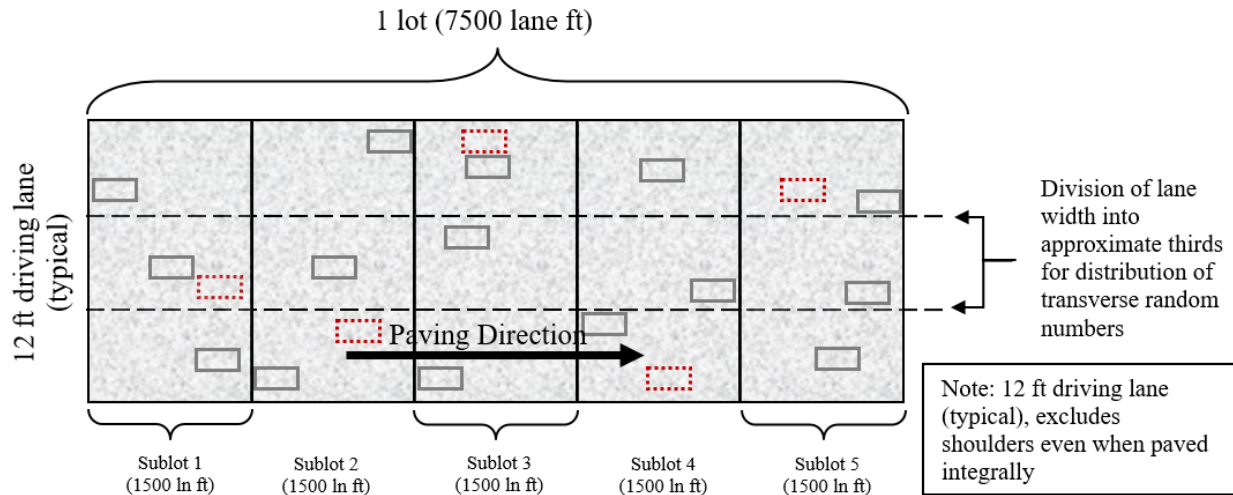


Figure 4: Locations of main lane HMA density testing (QC=solid lines, QV=dashed)

Raw nuclear density data must be shared by both parties at the end of each shift. Paving may be delayed if the raw data is not shared in a timely manner. QC and QV nuclear density gauge readings will be statistically analyzed according to Section 460.3.3.3 of the HMA PWL QMP SPV. (Note: For density data, if F- and t-tests compare, QC data will be used for the subsequent calculations of PWL value and pay determination. However, if an F- or t-test does not compare, the QV data will be used in subsequent calculations.)

Investigative cores will be allowed on the approaching side of traffic outside of the footprint locations. Results must be shared with the department.

The QV density technician is expected to be onsite within 1 hour of the start of paving operations and should remain on-site until all paving is completed. Perform footprint testing as soon as both the QC and QV nuclear density technician are onsite and a minimum of once per day to ensure the gauges are not drifting apart during a project. Footprint testing compares the density readings of two gauges at the same testing location and can be done at any randomly selected location on the project. Both teams are encouraged to conduct footprint testing as often as they feel necessary. Footprint testing does not need to be performed at the same time. At project start-up, the QV should footprint the first 10 QC locations. Individual density tests less than 0.5% above the lower limit should be communicated to the other party and be footprint tested. Each gauge conducts 2 to 3 1-minute tests according to CMM 815 and the final results from each gauge are compared for the location. If the difference between the QC and QV gauges exceeds 1.0 pcf (0.7 percent) for an average of 10 locations, investigate the cause, check gauge moisture and density standards and perform additional footprint testing. If the cause of the difference between gauge readings cannot be identified, the regional HMA Coordinator will consult the RSO, the regional PWL representative and the BTS HMA unit to determine necessary actions. If it is agreed that there is a gauge comparison issue, perform one of the following two options:

New Gauge Combination

- All 4 gauges used on the test strip must footprint 10 locations on the pavement. Pavement placed on a previous day may be used.
- The results of the footprint testing will be analyzed to see if a better combination of acceptable gauges is available.
- If a better combination is found, those gauges should be used moving forward.
- If a better combination cannot be found, a new gauge correlation must be performed. (see below).

Re-correlation of Gauges

- Follow all test strip procedures regarding correlating gauges except the following:
 - The 10 locations can be QC or QV random locations.
 - The locations used may have been paved on a previous day.
- Retesting with gauges must be done immediately prior to coring.
- New gauge offsets will be used for that day's paving and subsequent paving days. New gauge offsets will not be used to recalculate density results from prior days.

Density Dispute Resolution Procedure

Density results may be disputed by the contractor on a lot by lot basis if one of the following criteria is met:

- The lot average for either QC or QV is below the lower specification limit.
- The lot average for QC is different from the lot average for QV by more than 0.5%.

In lieu of using density gauges for acceptance of the lot, the lot will be cored in the QV locations. The results of the cores from the entire lot will be entered in the spreadsheet and used for payment. If the pay factor increases, the contractor will only receive the additional difference in payment for the disputed lot. If the pay factor does not increase, the department will assess the contractor \$2,000 for the costs of additional testing.

Notify the engineer in writing before dispute resolution coring. Immediately prior to coring, QC and QV will test the locations with nuclear density gauges.

Under the direct observation of the engineer, cut 100 or 150 mm (4 or 6 inch) diameter cores. Cores will be cut by the next day after completion of the lot, except if the next day is not a working day, then they shall be cut within 48 hours of placement. Prepare cores and determine density according to AASHTO T166 as modified in CMM 836.6.5. Dry cores after testing. Fill core holes according to Appendix A and obtain engineer approval before opening to traffic. The department will maintain custody of cores throughout the entire sampling and testing process. The department will label cores, transport cores to testing facilities, witness testing, store dried cores, and provide subsequent verification testing. If a core is damaged at the time of coring, immediately take a replacement core 1 foot ahead of the existing testing location in the direction of traffic at the same offset as the damaged core. If a core is damaged during transport, record it as damaged and notify the engineer immediately.

Sampling for WisDOT HMA PWL QMP Production

Sampling of HMA mix for QC, QV and Retained samples shall conform to CMM 836 except as modified here.

Delete CMM 836.4 Sampling Hot Mix Asphalt and replace with the following to update subplot tonnages:

Sampling Hot Mix Asphalt

At the beginning of the contract, the contractor determines the anticipated tonnage to be produced. The frequency of sampling is 1 per 750 tons (subplot) for QC and Retained Samples and 1 per 3750 tons (lot or 5 sublots) for QV as defined by the HMA PWL QMP SPV. A test sample is obtained randomly from each

sublot. Each random sample shall be collected at the plant according to CMM 836.4.1 and 836.4.2. The contractor must submit the random numbers for all mix sampling to the department before production begins.

Example 1

Expected production for a contract is 12,400 tons. The number of required samples is determined based on this expected production (per HMA PWL QMP SPV) and is determined by the random sample calculation.

- Sample 1 – from 50 to 750 tons
- Sample 2 – from 751 to 1500 tons
- Sample 3 – from 1501 to 2250 tons
- Sample 4 – from 2251 to 3000 tons
- Sample X –
- Sample 16 – from 11,251 to 12,000 tons
- Sample 17 – from 12,001 to 12,400 tons

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).

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

If the production is less than the final randomly generated sample tonnage, then the random sample is to be collected from the remaining portion of that subplot 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 contract. Lot size will consist of 3750 tons with sublots of 750 tons. Partial lots with less than three subplot tests will be included into the previous lot, by the engineer.

It is intended that the plant operator not be advised ahead of time when samples are to be 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.

QC, QV, and retained samples shall be collected for all test strip and production mixture testing using a three-part splitting procedure according to CMM 836.5.2.

Calculation of PWL Mainline Tonnage Example

A mill and overlay project in being constructed with a 12-foot travel lane and an integrally paved 3-foot shoulder. The layer thickness is 2 inches for the full width of paving. Calculate the tonnage in each subplot eligible for density incentive or disincentive.

Solution:

$$\frac{1500 \text{ ft} \times 12 \text{ ft}}{9 \text{ sf/sy}} \times \frac{2 \text{ in} \times 112 \text{ lb/sy/in}}{2000 \text{ lb/ton}} = 224 \text{ tons}$$

stp-460-055 (20220107)

21. HMA Pavement Longitudinal Joint Density.

A Description

This special provision incorporates longitudinal joint density requirements into the contract and describes the data collection, acceptance, and procedure used for determination of pay adjustments for HMA pavement longitudinal joint density. Pay adjustments will be made on a linear foot basis, as applicable per pavement layer and paving lane. Applicable longitudinal joints are defined as those between any two or more traffic lanes including full-width passing lanes, turn lanes, or auxiliary lanes more than 1,500 lane feet, and those lanes must also include the 460.2005 Incentive Density PWL HMA Pavement bid item. This excludes any joint with one side defined as a shoulder and ramp lanes of any length. If echelon paving is required in the contract, the longitudinal joint density specification shall not apply for those joints. Longitudinal joints placed during a test strip will be tested for information only to help ensure the roller pattern will provide adequate longitudinal joint density during production. Longitudinal joint density test results collected during a test strip are not eligible for pay adjustment.

Pay is determined according to standard spec 460, HMA Pavement Percent Within Limits QMP special provisions, and as modified within.

B Materials

Compact all applicable HMA longitudinal joints to the appropriate density based on the layer, confinement, and mixture type shown in Table B-1.

TABLE B-1 MINIMUM REQUIRED LONGITUDINAL JOINT DENSITY

Layer	Percent of Target Maximum Density			
	Unconfined		Confined	
	LT and MT	HT	LT and MT	HT
Lower (on crushed/recycled base)	88	89	89.5	90.5
Lower (on Concrete/HMA)	90	90	91.5	91.5
Upper	90	90	91.5	91.5

C Construction

Add the following to standard spec 460.3.3.2:

- (5) Establish companion density locations at each applicable joint. Each companion location shares longitudinal stationing with a QC or QV density location within each subplot and is located transversely with the center of the gauge 6-inches from the final joint edge of the paving area. Sublot and lot numbering remains the same as mainline densities, however, in addition to conventional naming, joint identification must clearly indicate "M" for inside/median side of lane or "O" for outside shoulder side of lane, as well as "U" for an unconfined joint or "C" for a confined joint (e.g., XXXXX-MC or XXXXX-OU).
- (6) Each joint will be measured, reported, and accepted under methods, testing times, and procedures consistent with the program employed for mainline density, i.e., PWL.
- (7) For single nuclear density test results greater than 3.0% below specified minimums per Table B-1 herein, perform the following:
 - a) Testing at 50-foot increments both ahead and behind the unacceptable site
 - b) Continued 50-foot incremental testing until test values indicate higher than or equal to -3.0 percent from target joint density.
 - c) Materials within the incremental testing indicating lower than -3.0 percent from target joint density are defined as unacceptable and will be handled with remedial action as defined in the payment section of this document.
 - d) The remaining subplot average (exclusive of unacceptable material) will be determined by the first forward and backward 50-foot incremental tests that reach the criteria of higher than or equal to -3.0 percent from target joint density.

Note: If the 50-foot testing extends into a previously accepted subplot, remedial action is required up to and inclusive of such material; however, the results of remedial action must not be used to recalculate the previously accepted subplot density. When this occurs, the lane feet of any unacceptable material will be deducted from the subplot in which it is located, and the previously accepted subplot density will be used to calculate pay for the remainder of the subplot.

- (8) Joint density measurements will be kept separate from all other density measurements and entered as an individual data set into Atwood Systems.
- (9) Placement and removal of excess material outside of the final joint edge, to increase joint density at the longitudinal joint nuclear testing location, will be done at the contractor's discretion and cost. This excess material and related labor will be considered waste and will not be paid for by the department. Joints with excess material placed outside of the final joint edge to increase joint density or where a notched wedge is used will be considered unconfined joints.
- (10) When not required by the contract, echelon paving may be performed at the contractor's discretion to increase longitudinal joint density and still remain eligible to earn incentive. The additional costs incurred related to echelon paving will not be paid for by the department. If lanes are paved in echelon, the contractor may choose to use a longitudinal vertical joint or notched wedge longitudinal joint as described in [SDD 13c19](#). Lanes paved in echelon shall be considered confined on both sides of the joint regardless of the selected joint design. The joint between echelon paved lanes shall be placed at the centerline or along lane lines.
- (11) When performing inlay paving below the elevation of the adjacent lane, the longitudinal joint along the adjacent lane to be paved shall be considered unconfined. Inlay paving operations will limit payment for additional material to 2 inches wider than the final paving lane width at the centerline.

D Measurement

- (1) The department will measure each side of applicable longitudinal joints, as defined in Section A of this special provision, by the linear foot of pavement acceptably placed. Measurement will be conducted independently for the inside or median side and for the outside or shoulder side of paving lanes with two applicable longitudinal joints. Each paving layer will be measured independently at the time the mat is placed.

E Payment

Add the following as 460.5.2.4 Pay Adjustment for HMA Pavement Longitudinal Joint Density:

- (1) The department will administer longitudinal joint density adjustments under the Incentive Density HMA Pavement Longitudinal Joints and Disincentive Density HMA Pavement Longitudinal Joints items. The department will adjust pay based on density relative to the specified targets in Section B of this special provision, and linear foot of the HMA Pavement bid item for that subplot as follows:

PAY ADJUSTMENT FOR HMA PAVEMENT LONGITUDINAL JOINT DENSITY

PERCENT SUBLLOT DENSITY	PAY ADJUSTMENT PER LINEAR FOOT
ABOVE/BELOW SPECIFIED MINIMUM	
Equal to or greater than +1.0 confined, +2.0 unconfined	\$0.40
From 0.0 to +0.9 confined, 0.0 to +1.9 unconfined	\$0
From -0.1 to -1.0	\$(0.20)
From -1.1 to -2.0	\$(0.40)
From -2.1 to -3.0	\$(0.80)
More than -3.0	<i>REMEDIAL ACTION^[1]</i>

^[1] Remedial action must be approved by the engineer and agreed upon at the time of the pre-pave meeting and may include partial sublots as determined and defined in 460.3.3.2(7) of this document. If unacceptable material is removed and replaced per guidance by the engineer, the removal and replacement will be for the full lane width of the side of which the joint was constructed with unacceptable material.

- (2) The department will not assess joint density disincentives for pavement placed in cold weather because of a department-caused delay as specified in [standard spec 450.5.2\(3\)](#).

- (3) The department will not pay incentive on the longitudinal joint density if the traffic lane is in disincentive. A disincentive may be applied for each mainline lane and all joint densities if both qualify for a pay reduction.

The department will pay incentive for longitudinal joint density under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL

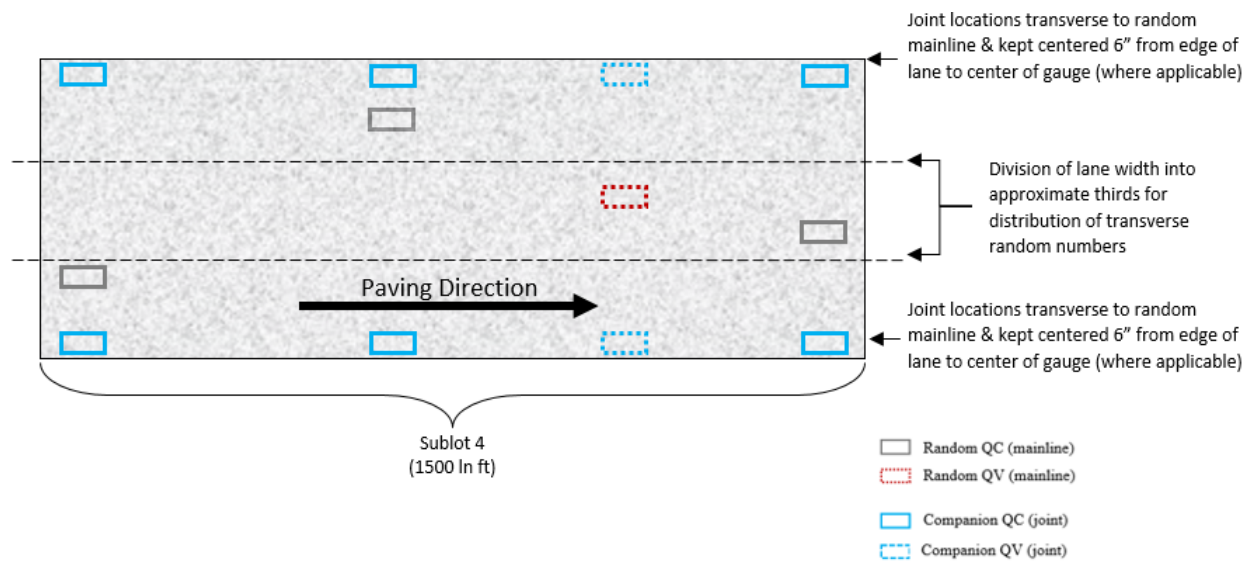
The department will administer disincentives under the Disincentive Density HMA Pavement Longitudinal Joints administrative item.

Appendix

WisDOT Longitudinal Joint – Nuclear Gauge Density Layout

Each QC and QV density location must have a companion density location at any applicable joint. This companion location must share longitudinal stationing with each QC or QV density location and be located transversely with the center of the gauge 6-inches from the edge of the paving area.

For HMA Pavement Percent Within Limits QMP projects, this appears as follows:



Further Explanation of **PAY ADJUSTMENT FOR HMA PAVEMENT LONGITUDINAL JOINT DENSITY** Table

	Confined				Pay Adjust
	Lower Layer (On Base)		Upper Layer		
	LT/MT	HT	LT/MT	HT	
Mainline Target (SS 460-3)	91.0	92.0	93.0	93.0	-
Confined Target (mainline - 1.5)	89.5	90.5	91.5	91.5	-
Equal to or greater than +1.0	≥ 90.5	≥ 91.5	≥ 92.5	≥ 92.5	\$0.40
From 0.0 to +0.9	90.4 - 89.5	91.4 - 90.5	92.4 - 91.5	92.4 - 91.5	\$0
From -0.1 to -1.0	89.4 - 88.5	90.4 - 89.5	91.4 - 90.5	91.4 - 90.5	(\$0.20)
From -1.1 to -2.0	88.4 - 87.5	89.4 - 88.5	90.4 - 89.5	90.4 - 89.5	(\$0.40)
From -2.1 to -3.0	87.4 - 86.5	88.4 - 87.5	89.4 - 88.5	89.4 - 88.5	(\$0.80)
More than -3.0	< 86.5	< 87.5	< 88.5	< 88.5	REMEDIAL ACTION

	Unconfined				Pay Adjust
	Lower Layer (On Base)		Upper Layer		
	LT/MT	HT	LT/MT	HT	
Mainline Target (SS 460-3)	91.0	92.0	93.0	93.0	-
Unconfined Target (Mainline -3.0)	88.0	89.0	90.0	90.0	-
Equal to or greater than +2.0	> 90.0	≥ 91.0	≥ 92.0	> 92.0	\$0.40
From 0.0 to +1.9	89.9 - 88.0	90.9 - 89.0	91.9 - 90.0	91.9 - 90.0	\$0
From -0.1 to -1.0	87.9 - 87.0	88.9 - 88.0	89.9 - 89.0	89.9 - 89.0	(\$0.20)
From -1.1 to -2.0	86.9 - 86.0	87.9 - 87.0	88.9 - 88.0	88.9 - 88.0	(\$0.40)
From -2.1 to -3.0	85.9 - 85.0	86.9 - 86.0	87.9 - 87.0	87.9 - 87.0	(\$0.80)
More than -3.0	< 85.0	< 86.0	< 87.0	< 87.0	REMEDIAL ACTION

stp-460-075 (20210113)

22. Asphaltic Surface.

Replace standard spec 465.2 (1) with the following:

Under the Asphaltic Surface bid item submit a mix design. Furnish asphaltic mixture meeting the requirements specified for HMA Pavement Type HMA 4 LT 58-28 S under standard spec 460.2; except the engineer will not require the contractor to conform to the quality management program specified under standard spec 460.2.8.

ncr-465-005 (20160401)

23. Pipe Culverts.

Replace standard spec 520.3.3(5) with the following:

Provide joint ties at all joints of circular or horizontal elliptical concrete culvert pipes and concrete cattle pass installations, including endwalls. Ties are not required between culverts and concrete masonry endwalls unless shown on plan.

ncr-520-005 (20180319)

24. Culvert Pipe Liners, 24-Inch, Item 520.9700.S; Culvert Pipe Liners, 30-Inch, Item 520.9700.S; Cleaning Culvert Pipes for Liner Verification, Item 520.9750.S.

A Description

This special provision describes providing, verifying, and pressure grouting culvert pipe liners for circular culverts.

B Materials

B.1 General

Provide flow calculations at the preconstruction conference. Use contractor-proposed liner properties, the Manning's coefficients listed on the department's approved products list, and base calculations on existing culvert sizes and liner sizes the plans show. Ensure that pipes when lined have a capacity within ±5% of the original full flow capacity of the pipe.

B.2 Flexible Pipe Liner

Use liners with a Manning's coefficient value published on the department's approved products list. Upon delivery provide manufacturer certificates of compliance certifying that the liners conform to the following:

Pipe Type	ASTM Designation	ASTM D3350 Resin
High Density Polyethylene (HDPE)		
Profile Wall Pipe	F894	345463C
Solid Wall Pipe	F714	345463C
Polyvinylchloride (PVC)	F949	---

B.3 Grout

B.3.1 Cement

Furnish cement meeting the requirements of standard spec 501.2.4.1 for Type I or II Portland Cement.

B.3.2 Fly Ash

Furnish Class C or F Fly Ash meeting the requirements of standard spec 501.2.4.2.2.

B.3.3 Sand

Furnish natural sand meeting the fine aggregate requirements of standard spec 501.2.7.2 and the size requirements of standard spec 501.2.7 except the percent passing the number 200 sieve shall be 0-5 percent by weight.

B.3.4 Water

Furnish water meeting the requirements of standard spec 501.2.6.

B.3.5 Mix Design

Use the basic proportions of dry materials per cubic yard of grout as follows:

- Cement 100 pounds
- Fly Ash 400 pounds
- Fine Aggregate 2600 pounds

Air entraining and chemical admixtures to control fluidity of the grout are allowable. Ten days before placement, furnish to the engineer a design mix detailing all components and their proportions in the mix.

B.3.6 Cellular Grout

Alternatively, the contractor may use, or if the manufacturer recommends, an engineer-approved commercial cellular concrete grout conforming to the following:

Cement	ASTM C150	Type I or II
Density	ASTM C495 (no oven drying)	50 pcf min
Compressive Strength	ASTM C495	300 psi @ 28 day min 100 psi in 24 hours
Shrinkage	ASTM	1% by volume
Flow	ASTM C939	35 sec max

C Construction

C.1 General

As soon as possible after contract execution, survey existing culvert pipes to determine which culverts need cleaning in order to verify the required liner diameter and length. Notify the engineer before cleaning to confirm payment under the Cleaning Culvert Pipes for Liner Verification bid item.

Coordinate with the engineer to field verify culvert diameter and length, shape, material, and condition before ordering the liners.

Obtain easements if necessary for installing long sections of pipe.

C.2 Excavating and Cleaning

Before inserting the liner, clean and dry the pipe. Excavate and pump as required to remove debris and other materials that would interfere with the placement or support of the inserted liner. Dispose of and replace unserviceable endwalls as the engineer directs.

C.3 Flow Diversion

Maintain drainage at and through worksite during construction according to standard spec 107.20, 205 and 520. Use existing culvert pipes, existing drainage channels, temporary culvert pipes, or temporary drainage channels to maintain existing surface and pipe drainage. Provide, operate, and maintain pumps to bypass flow or dewater during construction as necessary. Unless otherwise approved by the engineer, dewater by bypassing or diverting flow during bulkheading and grouting operations. Provide a plan for controlling flow and dewatering (including sediment treatment as required) as part of the project EQIP.

C.4 Placing Liners

Unload liners using slings and boom-type trucks or equivalents. Do not use chains or wire rope to handle liners and do not dump liners from the trucks when unloading.

Install liners such that the alignment and invert lie true to the lines, grades, and elevations in the plan. In absence of plan details, install liners horizontally to provide even annular space between the host pipe and sides of the liner. Install liners vertically with the invert as close to the host pipe invert as possible.

Obtain additional easements, if necessary, for installing long sections of liner.

Connect joints and install the liner per the manufacturer's recommendations and this part.

C.5 Pressure Grouting

Furnish a written plan for grouting the annular space between the host pipe and culvert pipe liner to the engineer for acceptance. Furnish the grouting plan prior to or at the project preconstruction conference so that it can be reviewed and discussed. At a minimum, the grouting plan shall consist of the following:

- Intended grout mix(es)
- Testing methods and frequency
- Pumping equipment and pressure regulation
- Intended grout staging
- Grout monitoring
- Bracing/floatation control

Include a description of staging in the grouting plan. Based on the length and slope of the host culvert, multiple stages may be required to minimize external loads on the culvert pipe liner. Develop the staging plan with the manufacturer based on the recommended maximum loading for the culvert pipe liner, and the condition of the host culvert. Unless approved by the manufacturer, in no case shall a single lift of grout exceed 1/3rd the pipe external diameter at any point in the pour.

After the liner is in place, fill the area between the original culvert and the liner completely with grout per the accepted grouting plan. Block, grout in lifts, or otherwise secure liners to prevent floatation or deformation of the liner while grouting. Grout ports can be fabricated to allow placement of anti-floatation bracing or spacers.

Use a grout plant that is capable of accurately measuring, proportioning, mixing, and discharging by volume and at discharge pressures the liner manufacturer recommends. Do not exceed manufacturer-specified maximum pressures. Place grout in lifts to prevent exceeding maximum allowable pressures and to prevent floatation.

Use grout and witness ports to vent grouting and monitoring grouting progress. Plug ports as necessary as grout reaches them.

Do not remove any bracing inside of the liner until the grouting process is complete.

C.6 Assembly, Floatation, and Deflection Mitigation

Damage or misalignment due to assembly, floatation or deformation during grouting, or otherwise resulting from workmanship will be mitigated at the contractor's expense.

C.7 Site Restoration

Replace pipe sections damaged or collapsed during installation or grouting operations. Restore the grade to its original or improved cross section. Dispose of waste material.

D Measurement

The department will measure the Culvert Pipe Liners bid items by the linear foot measured in place for each culvert location, acceptably completed.

The department will measure Cleaning Culvert Pipes for Liner Verification as each culvert, acceptably cleaned. The department will only measure culverts the engineer approves for payment.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
520.9700.S	Culvert Pipe Liners 24-Inch	LF
520.9700.S	Culvert Pipe Liners 30-Inch	LF
520.9750.S	Cleaning Culvert Pipes for Liner Verification	EACH

Payment for the Culvert Pipe Liners bid items is full compensation for providing pipe liners; obtaining easements; for excavation; for pumping to bypass flow, to clean pipes, for liner insertion or for grouting; for shoring and dewatering; for cleaning the existing pipe before liner installation; for pressure grouting; for replacing contractor-damaged pipe and endwalls; and for restoring the grade and disposing of waste materials.

The department will pay the contractor \$150 per cubic yard for grout required in excess of 110 percent of the theoretical quantity required to fill the space between the inside diameter of the existing pipe and the outside diameter of the liner.

Payment for Cleaning Culvert Pipes for Liner Verification is full compensation for cleaning required to verify liner length and diameter; for excavation; for pumping to bypass flow, to dewater, or to remove debris; and for disposing of waste material.

The department will pay separately for replacing unserviceable endwalls not rendered unserviceable by contractor operations under the appropriate contract endwall bid item, or absent the appropriate item as extra work.

stp-520-015 (20220107)

25. Field Facilities

Add the following to standard spec 642.3:

Set up the field office within seven days after notice from the engineer.

Provide a parking area large enough to park a minimum of six cars directly adjacent to the field office. The parking area and approach to the field office shall be well drained and consist of a crushed base aggregate or an existing paved surface and shall be ready for use within seven days after the field office is set up.

ncr-642-005 (20160406)

26. Traffic Control.

Add the following to standard spec 643.3.1:

Lighting devices shall be covered or rendered inoperative when not in use.

Provide the engineer and law enforcement (police, sheriff and State Patrol) the current telephone number(s) that the contractor, or their representative, can be contacted at, at all times, in the event a safety hazard develops. Repair, replace, or restore the damaged or disturbed traffic control devices within two hours from the time notified or made aware of the damaged or disturbed traffic control devices.

Promptly replace all state-owned signs that are removed by the contractor due to interference with construction operations. At no time may stop signs be removed or moved without flag persons present.

Add the following to standard spec 104.6.1.2.2:

Provide a dedicated person or alternate method to guide traffic travelling alongside or near moving operations such as milling, paving, and shouldering.

ncr-643-005 (20190703)

27. Medium Riprap Grouted Special, Item SPV.0090.01.

A Description

This special provision describes the placement of grouted riprap along C-26-922 (Tyler Forks culvert).

B Materials

Existing riprap may be reused or disposed off right-of-way.

Furnish heavy riprap and riprap grout per standard spec 606.2.

C Construction

Remove existing rip rap, excavate and shape the underlying material as needed to the grades the plan shows. Construct Medium Riprap Grouted Special according to standard spec 606.3. Existing riprap may be reused.

Dispose of all unsuitable material according to standard spec 205.3.12.

D Measurement

The department will measure Medium Riprap Grouted Special by length in linear feet along reference line, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.01	Medium Riprap Grouted Special	LF

Payment is full compensation for all excavation, grading, shaping, and compacting; disposal of surplus material; furnishing and placing riprap; and for providing, placing, and curing mortar.

28. Travel Corridor Stone, Item SPV.0195.01.

A Description

This special provision describes furnishing and placing material to fill voids in heavy riprap.

B Materials

Furnish #2 coarse concrete aggregate according to requirements of standard spec 501.

C Construction

Place the material after heavy riprap has been completed. Place material such that voids in the finished surface are 3 inches or less in any dimension.

D Measurement

The department will measure Travel Corridor Stone by the ton, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0195.01	Travel Corridor Stone	TON

Payment is full compensation for providing, placing, and shaping the material.

- 29. Temporary Water Diversion – Station 87+43, Item SPV.0060.01;
Temporary Water Diversion – Station 113+80, Item SPV.0060.02;
Temporary Water Diversion – Station 196+29, Item SPV.0060.03;
Temporary Water Diversion – Station 268+53, Item SPV.0060.04;
Temporary Water Diversion – Station 336+66, Item SPV.0060.05.**

A Description

This special provision describes providing delivering, installing, and maintaining flow of the waterway around the construction area and as herein provided.

B Materials

Furnish material subject to approval with the Erosion Control Implementation Plan prior to use in order to temporarily divert stream flow according to the pertinent sections of the standard specifications.

Furnish polyethylene sheeting and sand bags conforming to standard spec 628.

Furnish clean stone conforming to standard spec 501. The soundness, wear, and alkali silica reactivity requirements are deleted from this material.

C Construction

Complete construction according to the pertinent sections of the standard specifications and as approved in the Erosion Control Implementation Plan. Both methods of diversion, temporary culvert or bypass pumping are subject to approval with the Erosion Control Implementation Plan.

Maintain flow at all times and minimize erosion into the existing stream using appropriate erosion control measures. Check and evaluate temporary water diversion at regular intervals to ensure temporary water diversion is functioning adequately and not creating any erosion. Ensure all portions of the temporary water diversion meet the 2-year recurrence interval stream discharge. The 2-year recurrence interval stream discharges are as follows:

Station 87+43 – 19 cubic feet per second

Station 113+80 – 73 cubic feet per second

Station 196+29 – 12 cubic feet per second

Station 268+53 – 66 cubic feet per second

Station 336+66 – 25 cubic feet per second

For any dewatering activities impermeable barriers shall be used both upstream and downstream of water flow diversion. The downstream impermeable barriers shall be removed first and then the upstream impermeable barriers can be removed.

C.1 Pipe Construction

If a pipe is used, provide a pipe that will pass the flow rate listed in this specification. Channels leading into and out of the pipe, shall be lined with polyethylene sheeting.

Silt fence shall be replaced immediately following backfill of temporary bypass pipe. All disturbed areas outside of silt fence limits shall be immediately restored.

Remove the temporary bypass pipe and all its components and fill with the original excavated material and compact that material after structure construction. Restore flow to the stream.

C.2 By-Pass Pumping

Comply with standard spec 107.18.

If by-pass pumping is used, manage intake to not cause an increase in the background level turbidity during pumping. The pumping rate capabilities must meet or exceed the flow rates listed in this specification. Energy dissipation is required on the discharge end.

For by-pass pumping that will extend beyond one working day, the work zone must be managed and protected should the pump fail or be shut down due to unacceptable water quality or storm water flows exceed the pumping rate of equipment.

After setup of the by-pass pumping operation, the contractor shall demonstrate that the means and methods will pump the water at an acceptable water quality before starting work that necessitates the by-pass pumping.

No pumping activities shall occur during the weekends.

D Measurement

The department will measure Temporary Water Diversion at each individual location, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.01	Temporary Water Diversion – Station 87+43	EACH
SPV.0060.02	Temporary Water Diversion – Station 113+80	EACH
SPV.0060.03	Temporary Water Diversion – Station 196+29	EACH
SPV.0060.04	Temporary Water Diversion – Station 268+53	EACH
SPV.0060.05	Temporary Water Diversion – Station 336+66	EACH

Payment is full compensation for installing and removing temporary bypass, including excavation, backfill, cofferdams, pumps, and all required materials for chosen diversion method; for restoring the alignment and flow to the natural or relocated stream.

Finishing items such as silt fence, topsoil, seed, fertilizer, and erosion mat will be paid for under separate bid items.

ADDITIONAL SPECIAL PROVISION 4

This special provision does not limit the right of the department, prime contractor, or subcontractors at any tier to withhold payment for work not acceptably completed or work subject to an unresolved contract dispute.

Payment to First-Tier Subcontractors

Within 10 calendar days of receiving a progress payment for work completed by a subcontractor, pay the subcontractor for that work. The prime contractor may withhold payment to a subcontractor if, within 10 calendar days of receipt of that progress payment, the prime contractor provides written notification to the subcontractor and the department documenting "just cause" for withholding payment.

The prime contractor is not allowed to withhold retainage from payments due subcontractors.

Payment to Lower-Tier Subcontractors

Ensure that subcontracting agreements at all tiers provide prompt payment rights to lower-tier subcontractors that parallel those granted first-tier subcontractors in this provision.

Acceptance and Final Payment

Within 30 calendar days of receiving the semi-final estimate from the department, submit written certification that subcontractors at all tiers are paid in full for acceptably completed work.

Additional Special Provision 6

ASP 6 - Modifications to the standard specifications

Make the following revisions to the standard specifications:

416.2.4 Concrete Pavement Repair and Replacement

Replace the entire text with the following effective with the November 2022 letting:

- (1) Except as specified in 416.3.6 for inlaid rumble strips, use grade C concrete as specified in 501.
- (2) The engineer will allow the contractor to open to construction and public traffic when the concrete reaches 2000 psi.

416.2.5 Special High Early Strength Concrete Pavement Repair and Replacement

416.2.5.1 Composition and Proportioning of Concrete

Replace paragraph one with the following effective with the November 2022 letting:

- (1) For the concrete mixture, use a minimum of 846 pounds of cementitious material per cubic yard of concrete. The engineer will allow the contractor to open to construction and public traffic when the concrete reaches 2000 psi. The contractor may add one or a combination of admixtures to the ingredients or to the mixture in order to obtain the required minimum strength and required air content. Do not retemper the concrete mixture.

455.2.4.3 Emulsified Asphalts

Replace paragraph one with the following effective with the November 2022 letting:

- (1) Furnish material conforming, before dilution, to the following:
 - Anionic emulsified asphalts^[1]..... AASHTO M140
 - Cationic emulsified asphalts^[1] AASHTO M208
 - Polymer-modified cationic emulsified asphalts AASHTO M316
- ^[1] Non-tracking emulsified asphalts shall conform to TABLE 455-1 for the type and grade specified.

TABLE 455-1 Requirements for Non-Tracking Emulsified Asphalt

PRODUCT	ANTT	CNTT
Saybolt Viscosity at 77°F (25°C), (AASHTO T 59), SFS	15-100	15-100
Paddle Viscosity at 77°F (25°C), (AASHTO T 382), cPs ^[1]	30-200	30-200
Storage Stability Test, 24 hr, (AASHTO T 59), %	1 max	1 max
Residue by Distillation, 500 ± 10 °F (260 ± 5 °C), or Residue by Evaporation, 325 ± 5 °F (163 ± 3 °C), (AASHTO T 59), %	50 min	50 min
Sieve Test, No. 20 (850 µm), (AASHTO T 59), %	0.3	0.3
Penetration at 77°F (25°C), 100 g, 5 sec, (AASHTO T 49), dmm	10-40	10-40
Ash Content, (AASHTO T 111), %	1 max	1 max
Solubility in Trichlorethylene Test, (AASHTO T 44) ^[2]	97.5% min	97.5% min

^[1] Paddle Viscosity (AASHTO T 382) may be run in lieu of Saybolt Viscosity (AASHTO T 59).
^[2] The solubility in Trichlorethylene test (AASHTO T 44) may be run in lieu of Ash Content (AASHTO T 111).

455.2.5 Tack Coat

Replace paragraph one with the following effective with the November 2022 letting:

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

710.5.7 Corrective Action

710.5.7.1 Optimized Aggregate Gradations

Replace paragraph one with the following effective with the November 2022 letting:

- (1) If the contractor's 4-point running average or a department test result of the volumetric percent retained exceeds the tarantula curve limits by less than or equal to 1.0 percent on a single sieve size, notify the other party immediately and do one of the following:
 - Perform corrective action documented in the QC plan or as the engineer approves. Continue with the following:
 1. Document and provide corrective action results to the engineer as soon as they are available.
 2. Department will conduct two tests within the next business day after corrective action is complete.
 - If blended aggregate gradations are within the tarantula curve limits by the second department test:
 - Continue with concrete production.
 - Include a break in the 4-point running average.
 - For Class I Pavements: The department will discontinue reduced frequency testing and will test at a frequency of 1 test per placement day. Once 5 consecutive samples are passing at the 1 test per placement day frequency, the reduced frequency testing will be reapplied.
 - If blended aggregate gradations are not within the tarantula curve limits by the second department test and the contract requires an optimized aggregate gradation mix under 501.2.7.4.2.1(2), stop concrete production and submit a new optimized aggregate gradation mix design.
 - If blended aggregate gradations are not within the tarantula curve limits by the second department test and the contract does not require an optimized aggregate gradation mix under 501.2.7.4.2.1(2), stop concrete production and submit either a new optimized aggregate gradation mix design or a combined aggregate gradation mix design.
 - Submit a new optimized aggregate gradation mix design and perform the following:
 1. Restart control charts for the new mix design.
 2. Amend contractor Quality Control Plan

715.5 Payment

Replace the entire text with the following effective with the November 2022 letting:

715.5.1 General

- (1) The department will pay incentive for concrete strength under the following bid items:

<u>ITEM NUMBER</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
715.0502	Incentive Strength Concrete Structures	DOL
715.0603	Incentive Strength Concrete Barrier	DOL
715.0715	Incentive Flexural Strength Concrete Pavement	DOL
715.0720	Incentive Compressive Strength Concrete Pavement	DOL

- (2) Incentive payment may be more or less than the amount the schedule of items shows.
- (3) The department will administer disincentives for strength under the Disincentive Strength Concrete Structures, Disincentive Strength Concrete Barrier, Disincentive Flexural Strength Concrete Pavement, and Disincentive Compressive Strength Concrete Pavement, administrative items.
- (4) The department will adjust pay for each lot using PWL of the 28-day subplot average strengths for that lot. The department will measure PWL relative to strength lower specification limits as follows:
 - Compressive strength of 3700 psi for pavements.
 - Flexural strength of 650 psi for pavements.
 - Compressive strength of 4000 psi for structures and barrier.
- (5) The department will not pay a strength incentive for concrete that is nonconforming in another specified property, for ancillary concrete accepted based on tests of class I concrete, or for high early strength concrete unless placed in pavement gaps as allowed under 715.3.1.2.2.
- (6) Submit test results to the department electronically using MRS software. The department will verify contractor data before determining pay adjustments.
- (7) All coring and testing costs under 715.3.2.2 including filling core holes and providing traffic control during coring are incidental to the contract.

715.5.2 Pavements

715.5.2.1 Compressive

- (1) The department will adjust pay for each lot using equation “QMP 3.01” as follows:

Percent within Limits (PWL)	Pay Adjustment (dollars per square yard)
>= 95 to 100	$(0.1 \times \text{PWL}) - 9.5$
>= 85 to < 95	0
>= 30 to < 85	$(1.5/55 \times \text{PWL}) - 127.5/55$
< 30	-1.50

- (2) The department will not pay incentive if the lot standard deviation is greater than 400 psi compressive.
- (3) For lots with a full battery of QC tests at less than 4 locations, there is no incentive, but the department will assess a disincentive based on the individual subplot average strengths. The department will reduce pay for sublots with an average strength below 3700 psi compressive by \$1.50 per square yard.
- (4) For integral shoulder pavement and pavement gaps accepted using tests from the adjacent travel lane, the department will adjust pay using strength results of the travel lane for integrally placed concrete shoulders and pavement gaps regardless of mix design and placement method, included in a lane-foot lot.

715.5.2.2 Flexural

- (1) The department will adjust pay for each lot using equation “QMP 6.02” as follows:

Percent within Limits (PWL)	Pay Adjustment (dollars per square yard)
>= 95 to 100	$(0.2 \times \text{PWL}) - 19$
>= 85 to < 95	0
>= 50 to < 85	$(2.0/35 \times \text{PWL}) - 170/35$
< 50	-2.00

- (2) The department will not pay incentive if the lot standard deviation is greater than 60 psi flexural.
- (3) For lots with a full battery of QC tests at less than 4 locations, there is no incentive, but the department will assess a disincentive based on the individual subplot average strengths. The department will reduce pay for sublots with an average strength below 650 psi flexural by \$2.00 per square yard.
- (4) For integral shoulder pavement and pavement gaps accepted using tests from the adjacent travel lane, the department will adjust pay using strength results of the travel lane for integrally placed concrete shoulders and pavement gaps regardless of mix design and placement method, included in a lane-foot lot.

715.5.3 Structures and Cast-in-Place Barrier

- (1) The department will adjust pay for each lot using equation “QMP 2.01” as follows:

Percent within Limits (PWL)	Pay Adjustment (dollars per square yard)
>= 99 to 100	10
>= 90 to < 99	0
>= 50 to < 90	$(7/8 \times \text{PWL}) - 78.75$
< 50	-35

- (2) The department will not pay incentive if the lot standard deviation is greater than 350 psi.
- (3) For lots with less than 4 sublots, there is no incentive, but the department will assess a disincentive based on the individual subplot average strengths. The department will reduce pay for sublots with an average strength below 4000 psi by \$35 per cubic yard.

ADDITIONAL SPECIAL PROVISION 7

A. Reporting 1st Tier and DBE Payments During Construction

1. Comply with reporting requirements specified in the department's Civil Rights Compliance, Contractor's User Manual, Sublets and Payments.
2. Report payments to all DBE firms within 10 calendar days of receipt of a progress payment by the department or a contractor for work performed, materials furnished, or materials stockpiled by a DBE firm. Report the payment as specified in A(1) for all work satisfactorily performed and for all materials furnished or stockpiled.
3. Report payments to all first tier subcontractor relationships within 10 calendar days of receipt of a progress payment by the department for work performed. Report the payment as specified in A(1) for all work satisfactorily performed.
4. All tiers shall report payments as necessary to comply with the DBE payment requirement as specified in A(2).
5. DBE firms must enter all payments to DBE and non-DBE firms regardless of tier.
6. Require all first tier relationships, DBE firms and all other tier relationships necessary to comply with the DBE payment requirement in receipt of a progress payment by contractor to acknowledge receipt of payment as specified in A(1), (2), (3) and (4).
7. All agreements made by a contractor shall include the provisions in A(1), (2), (3), (4), (5), and (6), and shall be binding on all first tier subcontractor relationships, all contractors and subcontractors utilizing DBE firms on the project, and all payments from DBE firms.

B. Costs for conforming to this special provision are incidental to the contract.

NOTE: CRCS Prime Contractor payment is currently not automated and will need to be manually loaded into the Civil Rights Compliance System. Copies of prime contractor payments received (check or ACH) will have to be forwarded to paul.ndon@dot.wi.gov within 5 days of payment receipt to be logged manually.

***Additionally, for information on Subcontractor Sublet assignments, Subcontractor Payments and Payment Tracking, please refer to the CRCS Payment and Sublets manual at:

<https://wisconsindot.gov/Documents/doing-bus/civil-rights/labornwage/crcs-payments-sublets-manual.pdf>

ADDITIONAL SPECIAL PROVISION 9

Electronic Certified Payroll or Labor Data Submittal

- (1) Use the department's Civil Rights Compliance System (CRCS) to electronically submit certified payroll reports for contracts with federal funds and labor data for contracts with state funds only. Details are available online through the department's highway construction contractor information (HCCI) site on the Labor, Wages, and EEO Information page at:
<https://wisconsindot.gov/Pages/doing-bus/civil-rights/labornwage/default.aspx>
- (2) Ensure that all tiers of subcontractors, including all trucking firms, either submit their weekly certified payroll reports (contracts with federal funds) or labor data (contracts with state funds only) electronically through CRCS. These payrolls or labor data are due within seven calendar days following the close of the payroll period. Every firm providing physical labor towards completing the project is a subcontractor under this special provision.
- (3) Upon receipt of contract execution, promptly make all affected firms aware of the requirements under this special provision and arrange for them to receive CRCS training as they are about to begin their submittals. The department will provide training either in a classroom setting at one of our regional offices or by telephone. Contact Paul Ndon at (414) 438-4584 to schedule the training.
- (4) The department will reject all paper submittals for information required under this special provision. All costs for conforming to this special provision are incidental to the contract.
- (5) Firms wishing to export payroll/labor data from their computer system into CRCS should have their payroll coordinator contact Paul Ndon at paul.ndon@dot.wi.gov. Not every contractor's payroll system is capable of producing export files. For details, see Section 4.8 CPR Auto Submit (Data Mapping) on pages 49-50; 66-71 of the CRCS Payroll Manual at:
<https://wisconsindot.gov/Documents/doing-bus/civil-rights/labornwage/crcs-payroll-manual.pdf>

NON-DISCRIMINATION PROVISIONS

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. Compliance with Regulations: The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, Federal Highway Administration, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. Non-discrimination: The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.

3. Solicitations for Subcontracts, Including Procurements of Materials and Equipment: In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.

4. Information and Reports: The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the Federal Highway Administration to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or the Federal Highway Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

5. Sanctions for Noncompliance: In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:

- a. Withholding payments to the contractor under the contract until the contractor complies; and/or
- b. Cancelling, terminating, or suspending a contract, in whole or in part.

6. Incorporation of Provisions: The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

Pertinent Non-Discrimination Authorities:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures Non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of Limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

BUY AMERICA PROVISION

Buy America (as documented in M-22-11 from the Office of Management and Budget: <https://www.whitehouse.gov/wp-content/uploads/2022/04/M-22-11.pdf>) shall be domestic products and permanently incorporated in this project as classified in the following three categories, and as noted in the Construction and Materials Manual (CMM):

1. Iron and Steel

All iron and steel manufacturing and coating processes (from smelting forward in the manufacturing process) must have occurred within the United States. Coating includes epoxy coating, galvanizing, painting and any other coating that protects or enhances the value of a material subject to the requirements of Buy America.

The exemption of the iron and steel manufacturing and coating processes Buy America requirement is the minimal use of foreign materials if the total cost of such material permanently incorporated in the product does not exceed one-tenth of one percent (1/10 of 1%) of the total contract cost or \$2,500.00, whichever is greater. For purposes of this paragraph, the cost is that shown to be the value of the subject products as they are delivered to the project.

2. Manufactured Product

All manufactured products (as defined in CMM 228.5) are covered under a previous waiver from 1983, and are currently exempt from Buy America.

3. Construction Material

All construction materials (as defined in OMB M-22-11 and as referenced in CMM 228.5) must comply with Buy America. No exemptions (0.0%) are allowed.

The contractor shall take actions and provide documentation conforming to CMM 228.5 to ensure compliance with this Buy America provision.

<https://wisconsindot.gov/rdwy/cmm/cm-02-28.pdf>

Upon completion of the project, certify to the engineer, in writing using department form DT4567 that all iron and steel, manufactured products, and construction materials conform to this Buy America provision.

Form DT4567 is available at: <https://wisconsindot.gov/Documents/formdocs/dt4567.docx>

Attach a list of iron or steel exemptions and their associated costs to the certification form.



Proposal Schedule of Items

Proposal ID: 20230214039 Project(s): 9250-12-61

Federal ID(s): N/A

SECTION: 0001

Contract Items

Alt Set ID:

Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0002	203.0100 Removing Small Pipe Culverts	19.000 EACH	_____.	_____.
0004	204.0110 Removing Asphaltic Surface	65.000 SY	_____.	_____.
0006	204.0115 Removing Asphaltic Surface Butt Joints	99.000 SY	_____.	_____.
0008	204.0120 Removing Asphaltic Surface Milling	125,750.000 SY	_____.	_____.
0010	204.0165 Removing Guardrail	407.000 LF	_____.	_____.
0012	204.9060.S Removing (item description) 01. Apron Endwalls	2.000 EACH	_____.	_____.
0014	205.0100 Excavation Common	11,200.000 CY	_____.	_____.
0016	208.0100 Borrow	597.000 CY	_____.	_____.
0018	208.1500.S Temporary Lane Shift During Culvert Work	32.000 EACH	_____.	_____.
0020	211.0101 Prepare Foundation for Asphaltic Paving (project) 01. 9250-12-61	1.000 EACH	_____.	_____.
0022	211.0400 Prepare Foundation for Asphaltic Shoulders	4.000 STA	_____.	_____.
0024	213.0100 Finishing Roadway (project) 01. 9250-12-61	1.000 EACH	_____.	_____.
0026	305.0110 Base Aggregate Dense 3/4-Inch	2,762.000 TON	_____.	_____.
0028	305.0120 Base Aggregate Dense 1 1/4-Inch	4,900.000 TON	_____.	_____.
0030	305.0500 Shaping Shoulders	295.000 STA	_____.	_____.



Proposal Schedule of Items

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Federal ID(s): N/A

SECTION: 0001

Contract Items

Alt Set ID:

Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0032	450.4000 HMA Cold Weather Paving	1,250.000 TON	_____.	_____.
0034	455.0605 Tack Coat	9,220.000 GAL	_____.	_____.
0036	460.0105.S HMA Percent Within Limits (PWL) Test Strip Volumetrics	1.000 EACH	_____.	_____.
0038	460.0110.S HMA Percent Within Limits (PWL) Test Strip Density	1.000 EACH	_____.	_____.
0040	460.2005 Incentive Density PWL HMA Pavement	11,515.000 DOL	1.00000	11,515.00
0042	460.2007 Incentive Density HMA Pavement Longitudinal Joints	75,100.000 DOL	1.00000	75,100.00
0044	460.2010 Incentive Air Voids HMA Pavement	14,394.000 DOL	1.00000	14,394.00
0046	460.5224 HMA Pavement 4 LT 58-28 S	14,497.000 TON	_____.	_____.
0048	465.0105 Asphaltic Surface	2,236.000 TON	_____.	_____.
0050	465.0110 Asphaltic Surface Patching	50.000 TON	_____.	_____.
0052	465.0475 Asphalt Centerline Rumble Strips 2-Lane Rural	35,550.000 LF	_____.	_____.
0054	520.1018 Apron Endwalls for Culvert Pipe 18-Inch	2.000 EACH	_____.	_____.
0056	520.1024 Apron Endwalls for Culvert Pipe 24-Inch	6.000 EACH	_____.	_____.
0058	520.1030 Apron Endwalls for Culvert Pipe 30-Inch	24.000 EACH	_____.	_____.
0060	520.1036 Apron Endwalls for Culvert Pipe 36-Inch	2.000 EACH	_____.	_____.
0062	520.1042 Apron Endwalls for Culvert Pipe 42-Inch	2.000 EACH	_____.	_____.



Proposal Schedule of Items

Proposal ID: 20230214039 Project(s): 9250-12-61

Federal ID(s): N/A

SECTION: 0001

Contract Items

Alt Set ID:

Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0064	520.1060 Apron Endwalls for Culvert Pipe 60-Inch	2.000 EACH	_____.	_____.
0066	520.3418 Culvert Pipe Class III-A Non-metal 18-Inch	48.000 LF	_____.	_____.
0068	520.3424 Culvert Pipe Class III-A Non-metal 24-Inch	64.000 LF	_____.	_____.
0070	520.3430 Culvert Pipe Class III-A Non-metal 30-Inch	784.000 LF	_____.	_____.
0072	520.3436 Culvert Pipe Class III-A Non-metal 36-Inch	60.000 LF	_____.	_____.
0074	520.9700.S Culvert Pipe Liners (size) 01. 24-Inch	64.000 LF	_____.	_____.
0076	520.9700.S Culvert Pipe Liners (size) 02. 30-Inch	128.000 LF	_____.	_____.
0078	520.9750.S Cleaning Culvert Pipes for Liner Verification	3.000 EACH	_____.	_____.
0080	522.0142 Culvert Pipe Reinforced Concrete Class III 42-Inch	58.000 LF	_____.	_____.
0082	522.0160 Culvert Pipe Reinforced Concrete Class III 60-Inch	100.000 LF	_____.	_____.
0084	522.2353 Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-III 53x83-Inch	68.000 LF	_____.	_____.
0086	522.2358 Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-III 58x91-Inch	74.000 LF	_____.	_____.
0088	522.2653 Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 53x83-Inch	2.000 EACH	_____.	_____.



Proposal Schedule of Items

Proposal ID: 20230214039 Project(s): 9250-12-61

Federal ID(s): N/A

SECTION: 0001

Contract Items

Alt Set ID:

Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0090	522.2658 Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 58x91-Inch	2.000 EACH	_____.	_____.
0092	606.0200 Riprap Medium	8.700 CY	_____.	_____.
0094	606.0300 Riprap Heavy	296.900 CY	_____.	_____.
0096	614.0396 Guardrail Mow Strip Asphalt	94.000 SY	_____.	_____.
0098	614.2300 MGS Guardrail 3	200.000 LF	_____.	_____.
0100	614.2340 MGS Guardrail 3 L	224.000 LF	_____.	_____.
0102	614.2610 MGS Guardrail Terminal EAT	4.000 EACH	_____.	_____.
0104	618.0100 Maintenance And Repair of Haul Roads (project) 01. 9250-12-61	1.000 EACH	_____.	_____.
0106	619.1000 Mobilization	1.000 EACH	_____.	_____.
0108	624.0100 Water	133.000 MGAL	_____.	_____.
0110	625.0100 Topsoil	1,183.000 SY	_____.	_____.
0112	625.0500 Salvaged Topsoil	6,500.000 SY	_____.	_____.
0114	628.1504 Silt Fence	21,630.000 LF	_____.	_____.
0116	628.1520 Silt Fence Maintenance	21,630.000 LF	_____.	_____.
0118	628.1905 Mobilizations Erosion Control	3.000 EACH	_____.	_____.
0120	628.1910 Mobilizations Emergency Erosion Control	6.000 EACH	_____.	_____.



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Proposal ID: 20230214039 Project(s): 9250-12-61

Federal ID(s): N/A

SECTION: 0001

Contract Items

Alt Set ID:

Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0122	628.2008 Erosion Mat Urban Class I Type B	16,415.000 SY	_____.	_____.
0124	628.7504 Temporary Ditch Checks	400.000 LF	_____.	_____.
0126	628.7555 Culvert Pipe Checks	183.000 EACH	_____.	_____.
0128	628.7570 Rock Bags	70.000 EACH	_____.	_____.
0130	629.0210 Fertilizer Type B	6.000 CWT	_____.	_____.
0132	630.0130 Seeding Mixture No. 30	138.000 LB	_____.	_____.
0134	630.0500 Seed Water	172.600 MGAL	_____.	_____.
0136	633.5200 Markers Culvert End	44.000 EACH	_____.	_____.
0138	638.2102 Moving Signs Type II	12.000 EACH	_____.	_____.
0140	638.4000 Moving Small Sign Supports	12.000 EACH	_____.	_____.
0142	642.5201 Field Office Type C	1.000 EACH	_____.	_____.
0144	643.0300 Traffic Control Drums	1,997.000 DAY	_____.	_____.
0146	643.0705 Traffic Control Warning Lights Type A	697.000 DAY	_____.	_____.
0148	643.0900 Traffic Control Signs	1,995.000 DAY	_____.	_____.
0150	643.1000 Traffic Control Signs Fixed Message	36.000 SF	_____.	_____.
0152	643.3105 Temporary Marking Line Paint 4-Inch	34,952.000 LF	_____.	_____.
0154	643.3120 Temporary Marking Line Epoxy 4-Inch	39,791.000 LF	_____.	_____.



Proposal Schedule of Items

Proposal ID: 20230214039 Project(s): 9250-12-61

Federal ID(s): N/A

SECTION: 0001

Contract Items

Alt Set ID:

Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0156	643.5000 Traffic Control	1.000 EACH	_____.	_____.
0158	645.0120 Geotextile Type HR	533.300 SY	_____.	_____.
0160	646.1020 Marking Line Epoxy 4-Inch	114,891.000 LF	_____.	_____.
0162	646.6464 Cold Weather Marking Epoxy 4-Inch	39,791.000 LF	_____.	_____.
0164	648.0100 Locating No-Passing Zones	7.110 MI	_____.	_____.
0166	650.6000 Construction Staking Pipe Culverts	16.000 EACH	_____.	_____.
0168	650.8000 Construction Staking Resurfacing Reference	37,550.000 LF	_____.	_____.
0170	650.9911 Construction Staking Supplemental Control (project) 01. 9250-12-61	1.000 EACH	_____.	_____.
0172	650.9920 Construction Staking Slope Stakes	2,634.000 LF	_____.	_____.
0174	690.0150 Sawing Asphalt	960.000 LF	_____.	_____.
0176	740.0440 Incentive IRI Ride	14,090.000 DOL	1.00000	14,090.00
0178	SPV.0060 Special 01. Temporary Water Diversion - Station 87+43	1.000 EACH	_____.	_____.
0180	SPV.0060 Special 02. Temporary Water Diversion - Station 113+80	1.000 EACH	_____.	_____.
0182	SPV.0060 Special 03. Temporary Water Diversion - Station 196+29	1.000 EACH	_____.	_____.
0184	SPV.0060 Special 04. Temporary Water Diversion - Station 268+53	1.000 EACH	_____.	_____.



Proposal Schedule of Items

Proposal ID: 20230214039 Project(s): 9250-12-61

Federal ID(s): N/A

SECTION: 0001

Contract Items

Alt Set ID:

Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0186	SPV.0060 Special 05. Temporary Water Diversion - Station 336+66	1.000 EACH	_____.	_____.
0188	SPV.0090 Special 01. Medium Riprap Grouted Special	70.000 LF	_____.	_____.
0190	SPV.0195 Special 01. Travel Corridor Stone	30.000 TON	_____.	_____.
Section: 0001			Total:	_____.
			Total Bid:	_____.

PLEASE ATTACH ADDENDA HERE