HIGHWAY WORK PROPOSAL

Proposal Number: Ø 6

Wisconsin Department of Transportation
DT1502 10/2010 s.66.29(7) Wis. Stats.

COUNTY	STATE PROJECT ID	FEDERAL PROJECT ID	PROJECT DESCRIPTION	HIGHWAY
Milwaukee	1100-20-60		Zoo Freeway Burleigh Street to Good Hope Road	USH 45

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, $ 100,000.00 Payable to: Wisconsin Department of Transportation	Attach Proposal Guaranty on back of this PAGE.
Bid Submittal Due Date: January 13, 2015 Time (Local Time): 9:00 AM	Firm Name, Address, City, State, Zip Code **SAMPLE** **NOT FOR BIDDING PURPOSES**
Contract Completion Time September 4, 2015	
Assigned Disadvantaged Business Enterprise Goal 0 %	This contract is exempt from federal oversight.

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)

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

(Date Commission Expires)

Notary Seal

(Bidder Signature)

(Print or Type Bidder Name)

(Bidder Title)

For Department Use Only

Type of Work Concrete base patching, milling and HMA resurfacing, signing, pavement marking, removing lighting on overhead sign structures, automated traffic recorder installation, STOC traffic camera installation (FTMS), high friction surface treatment, linear delineation system and delineators on the the barrier, and beamguard extension.	
Notice of Award Dated	Date Guaranty Returned

PLEASE ATTACH
PROPOSAL GUARANTY HERE

Effective with November 2007 Letting

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.

Effective with August 2007 Letting

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 http://www.dot.wisconsin.gov/business/engrserv/bid-letting-information.htm. 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 P.M. local time on the Thursday before the letting. Check the department's web site after 5:00 P.M. 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 P.M. 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 http://www.dot.wisconsin.gov/business/engrserv/bid-letting-information.htm or by calling the department at (608) 266-1631. Addenda can ONLY be obtained from the departments web site listed above or by picking up the addenda at the Bureau of Highway Construction, Room 601, 4802 Sheboygan Avenue, Madison, WI, during regular business hours.

B Submitting Electronic Bids

B.1 On the Internet

(1) Do the following before submitting the bid:

1. Have a properly executed annual bid bond on file with the department.
2. 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 **http://www.dot.wisconsin.gov/business/engrserv/bid-letting-information.htm**. 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 envelop 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.

C 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

Wisconsin Department of Transportation

DT1303 1/2006

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

(Date)

State of Wisconsin)
) ss.
_____ County)

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

(Signature, Notary Public, State of Wisconsin)

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

(Date Commission Expires)

Notary Seal

NOTARY FOR SURETY

(Date)

State of Wisconsin)
) ss.
_____ County)

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

(Signature, Notary Public, State of Wisconsin)

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

(Date Commission Expires)

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

Wisconsin Department of Transportation

DT1305 8/2003

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)

March 2010

LIST OF SUBCONTRACTORS

Section 66.0901(7), Wisconsin Statutes, provides that as a part of the proposal, the bidder also shall submit a list of the subcontractors the bidder proposes to contract with and the class of work to be performed by each. In order to qualify for inclusion in the bidder's list a subcontractor shall first submit a bid in writing, to the general contractor at least 48 hours prior to the time of the bid closing. The list may not be added to or altered without the written consent of the municipality. A proposal of a bidder is not invalid if any subcontractor and the class of work to be performed by the subcontractor has been omitted from a proposal; the omission shall be considered inadvertent or the bidder will perform the work personally.

No subcontract, whether listed herein or later proposed, may be entered into without the written consent of the Engineer as provided in Subsection 108.1 of the Standard Specifications.

Name of Subcontractor	Class of Work	Estimated Value

DECEMBER 2000

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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SPECIAL PROVISIONS

1. General.

Perform the work under this construction contract for Project 1100-20-60, Zoo Freeway, Burleigh Street to Good Hope Road, USH 45, Milwaukee 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, 2015 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 (20140630)

2. Scope of Work.

The work under this contract shall consist of concrete base patching of the mainline and the inside shoulders, milling and HMA resurfacing of the mainline and inside shoulders, signing, pavement markings, removing lighting on overhead sign structures, installing an STOC traffic camera (FTMS), installing an automated traffic counter (ATR), applying High Friction Surface Treatment (HFST) to one of the horizontal curves, installing linear delineation system and delineator reflectors, extending guardrail, replacing median concrete barrier 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 start date to the engineer in writing within a month after executing the contract but at least 14 calendar days before the preconstruction conference. Upon approval, the engineer will issue the notice to proceed within ten calendar days before the approved start date.

To revise the time frame, submit a written request to the engineer at least two weeks before the intended start date. 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.

The contract time for completion is based on an expedited work schedule and may require extraordinary forces and equipment; and work at night.

Indicate on the proposed schedule of operations that a large force and adequate equipment will be needed to assure that the work will be completed within the established contract time.

Be advised that there may be multiple mobilizations and/or remobilizations to complete construction operations, for example such items as: traffic control, concrete base patching, milling and resurfacing, signing, pavement marking, high friction surface treatment, guardrail replacement and other incidental items related to staging. No additional payment will be made, by the department, for additional mobilizations.

Schedule of Operations
The department anticipates that the schedule for each stage shall be as follows:

Do not move to the next stage until all work in the current stage is completed or as approved by the engineer.

Stage I
Stage I work consists of concrete base patching of the inside lane and inside shoulder. During this stage temporary pavement markings shall be placed in locations where the base patching operation disturbed the existing pavement markings. The replacement of the median concrete barrier and associated lighting work shall take place in this stage. The signage replacement in the median and the installation of the linear delineation system on the median barrier can take place either in this stage or in Stage IV.

Stage II
Stage II work consists of concrete base patching of the middle and outside travel lanes. During this stage temporary pavement markings shall be placed in locations where the base patching operation disturbed the existing pavement markings. The signage replacement on the outer portion of the roadway, the placement of the delineators on the outside barrier, the guardrail replacement, the STOC camera and automated traffic recorder (ATR) placement can take place either in this stage or in Stage III.

Stage III
Stage III work consists of milling 2" and placing 2" HMA Type E-10 on the middle and outside travel lanes. During this stage the final same day pavement markings on the outside edge shall be placed except between Station 170+62 and Station 179+33 where the HFST will be applied during Stage V. Temporary pavement markings will be placed on the lane line between the middle and outside lane. The signage replacement on the outer portion of the roadway, the placement of the delineators on the outside barrier, and the guardrail replacement can take place either in this stage or in Stage II.

Stage IV
Stage IV work consists of milling 2" and overlaying 2" HMA Type E-10 on the inside lane and inside shoulder. The inside shoulder mill and overlay limits are from Station 169+00 – Station 375+00. During this stage the final same day pavement markings on the inside edge shall be placed except between Station 170+62 and Station 179+33 where the HFST

will be applied during Stage VI. Temporary pavement markings will be placed on the lane line between the inside and middle lanes. The signage replacement in the median and the installation of the linear delineation system on the median barrier can take place either in this stage or in Stage I.

Stage V

Stage V work consists of applying the HFST on the middle and outside lanes of the horizontal curve just south of the Burleigh Street Structure (Station. 170+62 to Station. 179+36). During this stage the final same day pavement markings on the outside edge line shall be placed in the limits of the HFST application. Temporary pavement marking shall be placed on the lane line between the middle and outside travel lanes within the limits of the HSFT application.

Stage VI

Stage VI work consists of applying the HFST on the inside lane of the horizontal curve just south of Burleigh Street Structure (Station 170+62 to Station 179+36). During this stage the final same day pavement markings on the inside edge line shall be placed in the limits of the HFST application. Temporary pavement marking shall be placed on the lane line between the inside and middle travel lanes within the limits of the HSFT application.

Stage VII

Stage VII work consists of applying the Grooved Wet Reflective Tape at both lane lines as shown in the plans.

Lane rental assessment will apply to Stage I through Stage VII closures.

Advance Notification

Notify the engineer and WisDOT Statewide Traffic Operations Center (STOC), (414) 227-2142, if there are any changes in the schedule, early completions, or cancellations of scheduled work. Coordinate the locations of messages of portable changeable message sign with the engineer and STOC.

Provide the engineer with a schedule of lane and ramp closures for the following week by 9:00 AM on Wednesday of the previous week. In addition, provide the following minimum advance notification to the engineer for incorporation into the Wisconsin Lane Closure System (LCS).

Ramp Closures	3 business days
Lane Closures	3 business days
Full Freeway Closures	14 calendar days
Construction Stage Changes	14 calendar days
Detours	14 calendar days

Obtain prior acceptance from the engineer and the STOC for Full Freeway Closures. Notify and request assistance from law enforcement for lane closures, stage changes and full freeway closures with 14 calendar days notice. The department will provide contact information.

Ramp Closures
All entrance and exit ramps shall be posted three business days in advance of their closure with dates and time of closure. No two consecutive entrance ramps or consecutive exit ramps may be closed unless it is shown in the traffic control plans or approved by the engineer. STH 175 ramps are considered service ramps for this project.

Portable Changeable Message Signs (PCMS)
PCMS are required on USH 45 in advance of the last exit ramp prior to the beginning of the lane closure. No less than 48 hours before construction begins, the advance PCMS shall notify motorists the date that night work from on USH 45 will begin. During the project, the advance PCMS shall notify motorists of the ongoing night work and lane closures. Wording for all messages displayed shall meet MUTCD requirements and obtain acceptance from the engineer.

Freeway and Ramp Work Restrictions

Definitions
The following definitions apply to this contract:

Capitol - Good Hope Rd

Weekday Off-Peak Hours	
7:00 PM – 8:30 PM	Monday, Tuesday, Wednesday, and Thursday
7:00 PM – 9:30 PM	Friday
Weekend Off-Peak Hours	
7:00 PM – 9:30 PM	Saturday
7:00 PM – 8:30 PM	Sunday
Night Time Hours	
8:30 PM – 5:30 AM	Sunday, Monday, Tuesday, Wednesday and Thursday PM to the following AM
9:30 PM – 8:00 AM	Friday and Saturday PM to the following AM
Weekday Peak Hours	
5:30 AM – 7:00 PM	Monday, Tuesday, Wednesday, Thursday and Friday
Weekend Peak Hours	
8:00 AM – 7:00 PM	Saturday, Sunday

Full Freeway Closure Hours

11:00 PM – 4:30 AM	Sunday, Monday, Tuesday, Wednesday and Thursday PM to the following AM
11:00 PM – 6:00 AM	Friday and Saturday PM to the following AM

Burleigh - Capitol

Weekday Off-Peak Hours.

7:00 PM – 9:30 PM	Monday, Tuesday, Wednesday, and Thursday
7:00 PM – 11:00 PM	Friday

Weekend Off-Peak Hours.

7:00 PM – 11:00 PM	Saturday
7:00 PM – 9:30 PM	Sunday

Night Time Hours

9:30 PM – 5:30 AM	Sunday, Monday, Tuesday, Wednesday and Thursday PM to the following AM
11:00 PM – 8:00 AM	Friday and Saturday PM to the following AM

Weekday Peak Hours

5:30 AM – 7:00 PM	Monday, Tuesday, Wednesday, and Thursday

Weekend Peak Hours

8:00 AM – 7:00 PM	Saturday, Sunday

Full Freeway Closure Hours

11:00 PM – 4:30 AM	Sunday, Monday, Tuesday, Wednesday and Thursday PM to the following AM
11:00 PM – 6:00 AM	Friday and Saturday PM to the following AM

Do not close freeway lanes or shoulders (including auxiliary lanes and ramps) and ensure that the freeways are entirely clear for traffic during Weekday Peak Hours and Weekend Peak Hours. One freeway lane and/or the shoulder may be closed, but maintain at least two freeway lanes open to traffic, during Weekday Off-Peak and Weekend Off-Peak Hours. Provide a minimum of one lane in each direction of the freeway that is entirely clear for traffic during Night Time Hours except as allowed during full closure. Close service ramps and auxiliary lanes only during Night Time Hours unless otherwise approved by the engineer for safety or operational reasons associated with other adjacent lane or freeway closures.

Follow plan details for closures. Lane restrictions of the freeway beyond that shown on the traffic control plans are subject to lane rental assessments and must be approved by the engineer. If plan details are not provided in the traffic control plan, furnish plans for review by the engineer so that approval, or disapproval, is obtained at least three business days prior to any closure.

The maximum length of lane closure is three miles. The minimum distance between successive lane closures is two miles. Successive lane closures in the same direction shall consist of the same closed lanes.

The maximum length of shoulder closure is two miles. At any location on USH 45, at least one of the shoulders on either side of the roadway in each direction shall be open at all times. Shoulder closures shall be in accordance to the Standard Detail Drawings (SDD) and have the approval of the engineer.

Do not, at any time, conduct construction operations in the median area and adjacent outside shoulder area of the freeway at the same time without obtaining prior permission of the engineer, beyond that shown on the traffic control plans.

Do not begin or continue any work that closes traffic lanes or ramps outside the allowed time periods specified in this contract. If the contractor fails to open freeway lanes of traffic and/or ramps to traffic by the specified times, assessments shown in the Lane Rental Assessment Table in the article Lane Rental Assessment will be placed upon the contractor based on the hourly rental rate for the closure type and hourly definition that the noncompliant closure occurs. The total assessment to the contractor will be the summation of the separate assessments for each lane and each ramp closure violation.

Permitting the contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a waiver on the part of the department of any of its rights under the contract.

Work Zone Ingress/Egress

Provide engineer approved signage and parallel deceleration and acceleration lanes for freeway access into and out of the work zones at locations approved by the engineer.

At the weekly traffic meetings, provide an Emergency Work Zone Access Plan and required updates, as approved by the engineer, to direct emergency responders accessing a mainline median barrier restricted work zone.

Locations of work zone egress or ingress for construction vehicles, other than as shown in the plans, is subject to approval from the engineer. Access into the work zones are not allowed directly from the freeway during peak and off-peak hours. Access into the work zones from the freeway will be allowed during night-time hours, subject to approval by the engineer, if operations can be safely accomplished and do not result in non-construction traffic entering the work zones. Exiting work zones directly onto the freeway are only allowed when operations do not obstruct or slow traffic on the freeway. All construction vehicles shall yield to all through traffic at all locations.

Detours
Full closure and detouring of freeways will be restricted to Full Freeway Closure Hours. Provide signed detour routes, as shown in the plans that are fully open and free of construction during all full freeway closures. Install required traffic control and detour signs as shown on the plans at least 14 calendar days prior to beginning stage construction; remove the detour after completion of the project. Cover advance-warning signs and detour signs until work begins. The freeway may be closed to facilitate base patching and mill /overlay work at USH 45 southbound between Good Hope Off- and On-Ramps, and the replacement of the overhead sign on USH 45 southbound at Station 64+30. A full freeway closure is defined as one direction of the freeway. Closing both directions of the freeway constitutes using two full freeway closures. Lane rental assessments will apply to these closures.

Concrete Base Patching
The roadway lanes and shoulders shall be concrete base patched prior to milling and HMA resurfacing. The engineer shall identify concrete base patching locations for the roadway lanes. The shoulders shall be concrete base patched as shown in the plans and as directed by the engineer.

The existing mainline pavement consists of 4" to 5" HMA over 9" jointed reinforced PCC pavement. Due to the requirement that all lanes of traffic on USH 45 be open as per the requirements listed above, Special High Early Strength (SHES) concrete shall be used. Multiple crews may be in operation at the same time within the same closure, or in both directions of the roadway at the same time. The base patches in the shoulder shall be completed prior to any traffic being placed onto the shoulders.

Milling and HMA Resurfacing
The milling and resurfacing operation shall be a simultaneous operation. Any pavement that is milled is required to be resurfaced prior to opening to traffic. Traffic is not permitted on the milled surface. Temporary pavement markings shall be applied prior to opening completed lanes to traffic. The final Grooved Wet Reflective Tape on the mainline shall be placed five days after placement of new asphalt.

Overhead Sign Panel Replacement and Overhead Sign Lighting Removal
Work on overhead signs (replacing sign panels and overhead sign lighting removal) shall be coordinated with the concrete base patching work or milling/resurfacing work so that additional lane closures for overhead signage work will not be necessary.

High Friction Surface Treatment (HFST)
The HFST shall not be applied on new HMA pavement until after it has been in place for at least 24 hours. The final Grooved Wet Reflective Tape shall be placed 5 days after the application of the HFST. Temporary pavement markings shall be applied prior to opening the completed lanes to traffic.

Beam guard Replacement
The contract includes replacement of beam guard in five locations. The beam guard replacement and associated grading work in these locations shall take place during Stages II or III when the middle and outside lanes are closed to traffic. The replacement of beam guard at each location shall be completed in the same night it started so as not to leave blunt ends or an unprotected steep slope and shall be completed prior to opening the middle and outside lanes back to traffic. Lane rental assessments will apply to these closures.

Concrete Barrier Replacement
The contract includes replacement of median concrete barrier in four locations. The concrete barrier replacement and associated lighting work in these locations shall take place during Stage I when the inside lane and inside shoulder are closed to traffic. The concrete barrier replacement shall take place prior to any milling and overlaying operations in the adjacent shoulder. The replacement of concrete barrier at each location shall be completed in the same night it started so as not to leave blunt ends and shall be completed prior to opening the northbound/southbound inside shoulder and lane back to traffic. Lane rental assessments will apply to these closures.

Other Operations
All other operations, such as FTMS, sign replacement and, installation of delineation systems on the concrete barrier shall be coordinated with the base patching and mill/overlay operations to avoid additional lane closures. The final pavement markings and sign replacement on the ramps shall be performed when these ramps are closed for the USH 45 mill/overlay operations during Stage III.

Equipment Parking/Materials Storage, Miscellaneous
Park or store equipment and materials only at work sites approved by the engineer. Parking equipment or storing materials on the shoulders or within 30’ of the roadway during non-working hours is not permitted.

Comply with all local ordinances that apply to work operations pertaining to work during night time work hours. Furnish in writing any ordinance variance issued by the municipality or required permits to the engineer no less than three days before performing such work.

Permitting the contractor to continue and finish the work or any part of after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a waiver on the part of the department of any of its rights under the contract.

Keep open travel lanes free of construction debris at all times.

All work and operations shall be completed in accordance to WisDOT Standard Detail Drawings, the MUTCD, and as directed by the engineer. Installing construction zone signage on existing sign posts or utility poles is not permitted.

4. Lane Rental Assessment.

A General

This contract includes a lane rental charge procedure under which a rental charge is assessed for each freeway shoulder closure, each freeway lane closure, each service ramp closure, each system ramp closure, and each full closure of a directional freeway roadway from the time of notice to proceed until the project is complete. If a lane is obstructed at any time due to operations, it is considered a closure. The purpose of lane rental is to discourage unnecessary short term closures, especially during time periods outside night time hours.

A.1 Lane Rental Assessment Table

The hourly rental rate will be assessed for each shoulder closure, each freeway lane closure, each service ramp closure, each system ramp closure, and each full closure of a freeway roadway as follows:

Lane Rental Assessment Table										
Freeway Closure Type*	Weekday Peak Hours		Weekend Peak Hours		Weekday Off-Peak Hours		Weekend Off-Peak Hours		Night Time Hours	
	Hourly Rental	Closure Hour Credits	Hourly Rental	Closure Hour Credits	Hourly Rental	Closure Hour Credits	Hourly Rental	Closure Hour Credits	Hourly Rental	Closure Hour Credits
Shoulder when at least 8 ft, shoulder is reduced to less than 8 ft.	$2,500	0	$2,000	0	$950	0	$400	0	$50	0
Single Lane when 2 or more lanes next to closure are open to traffic	$13,000	0	$8,300	0	$7,000	198	$3,800	52	$200	0
2 Adjacent Lanes when 1 lane next to closure is open to traffic	$30,000	0	$9,000	0	$8,800	0	$4,200	0	$700	978
Service On-Ramp	$2,500	0	$1,700	0	$1,500	0	$1,000	0	$700	629
Full Roadway Closure	$92,000	0	$30,000	0	$25,000	0	$22,000	0	$1650	16

**Lane denotes thru lane, not auxiliary lane.*

The monetary amount represents the average hourly cost of the interference and inconvenience to the road user for each closure. Lane rental in excess of the maximum credited hours specified will be assessed. The assessment will be the total number of hours that each shoulder, lane, roadway, or ramp closure exceeds the "closure hour credits", multiplied by the "hourly rental" rate as defined in the Lane Rental Assessment Table.

The rental assessment will be 15-minute increments for closure time periods equal to or less than 60 minutes in length. All shoulder, lane, roadway, or ramp closure event durations will be rounded up or down to the nearest quarter hour for the purposes of this computation except where freeway shoulders or lanes of traffic and/or ramps are not opened to traffic by the specified times, as noted in the article Prosecution and Progress under Freeway Work Restrictions. Deductions will be made from the monies based on the hourly rental rate for the closure type and hourly definition that the non-compliant closure occurs. The deduction will be made based on the applicable rate for any and all closures whether work is being performed or not. The engineer, or designated representative, will be the sole authority in determining time period length for the lane rental charge.

Lane rental will not be assessed for closures noted in the plans under the title "Traffic Control/Construction Stage XX". Additional lane or ramp closures shown beyond those in the plans under the title "Traffic Control/Construction Stage XX" will be assessed if the closures exceed the credited hours.

Lane rental will not be assessed for ramp closures noted in the plans under the title "Traffic Control/Construction Stage XX" if the plans and construction operations already include such closures. Additional ramp closures shown beyond those in the plans under the title "Traffic Control/Construction Stage XX" will be assessed if the closures exceed the credited hours.

Lane rental will not be assessed for closure of auxiliary lanes noted in the plans under the title "Traffic Control/Construction Stage XX" if the plans and construction operations already include such closures. However, when closure of an auxiliary lane requires the closure of a ramp, then lane rental will be assessed for each service and/or system ramp closure. Additional ramp closures shown beyond those in the plans under the title "Traffic Control/Construction Stage XX" will be assessed if the closures exceed the credited hours.

Lane rental for shoulder shall only apply to shoulders along the traveled way of USH 45 northbound or southbound. A shoulder is considered closed when a paved shoulder area with 8 feet or more of width is reduced to a dimension less than 8-feet wide by contractor's equipment or traffic control devices, excluding spot locations of advance traffic control devices "in use" for other lane or ramp closures. Lane rental for shoulder shall not apply to shoulders along ramps or along closed traffic lane(s).

Lane rental will not be assessed for maintenance of temporary surfaces, if in the opinion of the engineer, maintenance of the damaged pavement was completed expeditiously, and the lack of maintenance would cause safety concerns to the traveling public.

Lane rental will not be assessed for closures due to crashes, accidents or emergencies.

A1.1 Lane Rental Assessment and Liquidated Damages
On those days when charged with the liquidated damage fee; and a shoulder, ramp or lane closure is in effect to facilitate construction operations that are exceeding credited hours; both the lane rental assessment and the liquidated damages fee will be charged.

B (Vacant)

C (Vacant)

D Measurement
The department will assess Lane Rental Assessment by the dollar under the administrative item Failing to Open Road to Traffic. The charge will be the total dollar amount of each freeway closure type category where the total number of hours that each shoulder, lane, ramp, or roadway closure exceeds the project maximum number of "closure hour credits," as defined in the Lane Rental Assessment Table, multiplied by the "hourly rental" as

defined in the Lane Rental Assessment Table. The Lane Rental Assessment total will not be reduced or offset with freeway closure type categories where the total closure hours were less than "closure hour credits." Lane Rental Assessment will be in effect from the time of notice to proceed until such time that the project is complete.

E (Vacant)
SEF Rev. 14_0124

5. Traffic.

Keep USH 45, all system ramps and all service ramps open to through traffic at all times for the duration of this project except as noted below and in the Prosecution and Progress article in these special provisions. The schedule of operations shall conform to the requirements contained herein, unless modifications are approved in writing by the engineer. Construction on USH 45 will be performed under traffic in the following stages. Work operations will be conducted under live traffic.

Stage I, Stage IV, and Stage VI
During these stages, traffic is on the outside lane. The middle lane is closed to traffic to be utilized for the placement of the traffic control devices. The only exception is the segment on USH 45 southbound between the Good Hope On-Ramp and Off-Ramp where the base patching operations (Stage I) and mill and overlay operations (Stage IV) will take place with a Full Freeway Closure of USH 45 southbound. During the Full Freeway Closure, traffic shall be detoured on USH 45 southbound Off-Ramp to Good Hope Road, Good Hope Road to USH 45 southbound HOV ON Ramp, and USH 45 southbound HOV On-Ramp to USH 45 southbound.

Stage II, Stage III, Stage V, and Stage VII
During these stages, traffic is partially on the inside lane and partially on the inside shoulder. Part of the inside lane is utilized for the placement of the traffic control devices.

Detours
Freeway closures are only permitted during the Full Freeway Closure Hours specified with the Prosecution and Progress article above. Provide signed detour routes, as shown in the plans that are fully open and free of construction during all full freeway closures. Install required traffic control and detour signs as shown on the plans at least 14 calendar days prior to beginning stage construction; remove the detour after completion of the project. Cover advance-warning signs and detour signs until work begins. Two detours will be needed throughout the project to facilitate work:

<u>Southbound Off-Ramp to Good Hope Rd / Good Hope Rd / Southbound On-Ramp from Good Hope Rd</u>
This detour shall be established during Stages I and IV to complete the base patching and mill/overlay operations in the two-lane section of USH 45 southbound between the Good Hope On-Ramp and Good Hope Off-Ramp. Traffic will use the southbound Off-Ramp to Good Hope Road, turn left at the ramp terminal and enter the freeway through the southbound HOV On-Ramp.

During the freeway closure the Loop ramp from Westbound Good Hope Road to USH 45 southbound will be closed. The traffic on the Westbound Good Hope Road will enter USH 45 southbound through the southbound HOV On-Ramp.

Southbound Off-Ramp to USH 41 / USH 41 / Southbound On-Ramp from USH 41
This detour shall be established in order to replace the overhead sign and remove the sign lighting on USH 45 southbound at Station 64+30 (painted gore of the USH 41/STH 175 Off-Ramp. During this closure, traffic will utilize the southbound Off-Ramp to USH 41/175 and enter the freeway through the southbound On-Ramp from USH 41/175.

6. Special Event and Holiday Work Restrictions.

Do not perform work on, nor haul materials of any kind along or across any portion of the highway carrying USH 45 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 special event and holiday periods:

- From noon Wednesday, June 24, 2015 to 6:00 AM Monday, July 6, 2015 for Summerfest 2015 and Independence Day;
- From noon Thursday, August 6, 2015 to 6:00 AM Monday, August 17, 2015 for State Fair;
- From noon Friday, September 4, 2015 to 6:00 AM Tuesday, September 8, 2015 for Labor Day;
- No work permitted on the southbound lanes within three hours before the start of Milwaukee Brewers home games;
- No work permitted on the northbound lanes within two hours after the end of Milwaukee Brewers home games;
- No work permitted on the northbound lanes within four hours before the start of Green Bay Packers home games;
- No work permitted on the southbound lanes within four hours after the end of Green Bay Packers home games.

7. Utilities.

This contract comes under the provision of Administrative Rule Trans 220. Utilities are listed below.

Utility adjustments are not anticipated for this construction project. Coordinate construction activities with a call to Diggers Hotline or a direct call to the utilities that have facilities in the area as required per statutes. Use caution to ensure the integrity of underground facilities and maintain code clearances from overhead facilities at all times.

Contact the local governing road authority to find out if there are any locally owned facilities within the project limits.

Contact each utility company listed in the plans, prior to preparing bids, to obtain current information on the status of existing and any new utility relocation work.
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The following utilities operate numerous buried and overhead facilities in the project area. No conflicts are anticipated:

WE-Energies-Electric has facilities within the project limits. The existing facilities are not in conflict with the proposed work.

The field contact is:
LaTroy Brumfield
(414) 221-5617
latroy.brumfield@we-energies.com

Wisconsin Gas Company has facilities within the project limits. The existing facilities are not in conflict with the proposed work.

The field contact is: LaTroy Brumfield
(414) 221-5617
latroy.brumfield@we-energies.com

WisDOT STOC has facilities within the project limits. All work is part of this contract.

The field contact is: Jeff Madson
(414) 225-3723
jeffrey.madson@dot.wi.gov

WisDOT Lighting has facilities within the project limits. All work is part of this contract.

The field contact is: Eric Perea
(262) 574-5422
eric.perea@dot.wi.gov

WisDOT ATR Pull Boxes has facilities within the project limits. All work is part of this contract.

The field contact is: Cliff Serowski
(414) 266-1157
clifford.serowski@dot.wi.gov

Sprint Communications has facilities within the project limits. The existing facilities are not in conflict with the proposed work.

The field contact is: Jim Burton
(708) 955-6659
james.m.burton@sprint.com

Teleport Communications America has facilities within the project limits. The existing facilities are not in conflict with the proposed work.

The field contact is: Debbie Saddler
(414) 459-3572
d.saddler@northwindtech.com

Time Warner Cable has facilities within the project limits. The existing facilities are not in conflict with the proposed work.

The field contact is: Steve Cramer
(414) 277-4045
wis.engineering@twcable.com

City of Milwaukee has facilities within the project limits. The existing facilities are not in conflict with the proposed work.

The field contact is: Jeffrey Polenske
(414) 286-3701
jeffrey.polenske@milwaukee.gov

City of Wauwatosa has facilities within the project limits. The existing facilities are not in conflict with the proposed work.

The field contact is: Bill Wehrley
(414) 479-8929
wwehrley@waywatosa.net

ATC Management, Inc. has facilities within the project limits. The existing facilities are not in conflict with the proposed work.

The field contact is: Mike Olsen
(920) 338-6582
molsen@atcllc.com

Milwaukee Metro Sewerage District (MMSD) has facilities within the project limits. The existing facilities are not in conflict with the proposed work.

The field contact is: Debra Jensen
(414) 225-2143
djensen@mmsd.com

Midwest Fiber Networks has facilities within the project limits. The existing facilities are not in conflict with the proposed work.

The field contact is: Richard Trgovec
(414) 672 5612
rtrgovec@midwestfibernetworks.com

8. Other Contracts.

Coordinate your work in accordance to standard spec 105.5.

Modifications to the traffic control plan may be required by the engineer to be safe and consistent with the adjacent work by others.

The following projects may be under construction concurrently with the work under this contract. Coordinate activities, detours, work zone traffic control, roadway and lane closures, and other work items as required with other contracts.

Modifications to the traffic control plan may be required by the engineer to be safe and consistent with the adjacent work by others.

Project 1060-33-80
Zoo IC, Zoo Interchange Phase 1
WisDOT Contact: James Keegan
(414) 750-3311
James.Keegan@dot.wi.gov

Project 1060-33-83
Zoo IC, Pedestrian Bridge Over USH 45
WisDOT Contact: Christopher Zacharias
(262) 548-6716
Christopher.Zacharias@dot.wi.gov

Project 1060-33-94
Zoo IC, Swan and Discovery Roundabout
WisDOT Contact: Christopher Hager
(262) 521-4433
Christopher.Hager@dot.wi.gov

City of Wauwatosa 2015
West North Avenue (North 114th Street to Mayfair Rd)

Project 1120-11-86, IH 41 Conversion, Russell Road - SCL Dodge County Signing, USH 41, Washington, Waukesha, Milwaukee, Racine and Kenosha Counties, Wisconsin under a department contract. Work under this contract is anticipated to be LET in the 2014 to 2015 timeframe. Work areas under contract 1120-11-86 fall within the physical limits of work under this contract. Coordinate activities in these areas with the 1120-11-86 contractor.

WisDOT Contact: Brian Lipke
(920) 492-5703
brian.lipke@dot.wi.gov

Project 1100-37-70
USH 41 Milwaukee to Fond Du Lac
WisDOT Contact: Kenneth Kiepczynski;
(414)-659-3055
Kenneth.Kiepczynski@dot.wi.gov

9. Railroad Insurance and Coordination.

A Description
Comply with standard spec 107.17 for all work affecting Union Pacific Railroad Company property and any existing tracks.

A.1 Railroad Insurance Requirements
In addition to standard spec 107.26, provide railroad protective liability insurance coverage as specified in standard spec 107.17.3. Insurance is filed in the name of Union Pacific Railroad Company.

Notify evidence of the required coverage, and duration to John Venice, Manager Special Projects – Industry and Public Projects Engineering Department, 101 North Wacker Drive, Suite 1920, Chicago, IL 60606, telephone (312) 777-2043, FAX (402) 233-2769, email jnvenice@up.com.

Include the following information on the insurance document:

Project: 1100-20-60
Route Name: USH 45, Milwaukee County
RR Crossing No. 177 268N, Milepost 93.79
Milwaukee Subdivision
RR Crossing No. 178 868U, Milepost 96.78
Shoreline Subdivision

A.2 Work by Railroad
The railroad will perform the work described in this section, except for work described in other special provisions and will be accomplished without cost to the contractor. None

A.3 Names and addresses of Railroad Representatives for Consultation and Coordination

Contact John Venice, Manager Special Projects – Industry and Public Projects Engineering Department, 101 North Wacker Drive, Suite 1920, Chicago, IL 60606, telephone (312) 777-2043, FAX (402) 233-2769, email jnvenice@up.com, for consultation on railroad requirements during construction.

Amend standard spec 108.4 to include the railroad in the distribution of the initial bar chart, and monthly schedule updates. The bar chart shall specifically show work involving coordination with the railroad.

A.4 Temporary Grade Crossing

If a temporary grade crossing is desired, submit a written request to the railroad representative named in A.3 several weeks prior to the time needed. Approval is subject to the discretion of the railroad. The department has made no arrangements for a temporary grade crossing.

A.5 Train Operation

RR Crossing No. 177 268N, approximately 20-25 through freight trains operate daily through the construction site. Through freight trains operate at up to 30 mph. In addition to through movements there are switching movements at slower speeds.

RR Crossing No. 178 868U, approximately 6 through freight trains operate daily through the construction site. Through freight trains operate at up to 25 mph. In addition to through movements, there are switching movements at slower speeds

10. Hauling Restrictions.

Please note that Oak Hill Burial Grounds about the project area on the northeast corner of the Capitol Drive interchange. These sites should not be used for borrow or waste disposal, or for the staging of personnel, equipment and/or supplies.

At all times, conduct operations in a manner that causes minimum disruption to traffic on existing roadways. Coordinate with local authorities for use of their facilities. This provision does not reduce or eliminate the contractor responsibility from restoring local roads.

11. Erosion Control.

The contractor shall prepare and submit an erosion control implementation plan (ECIP) for the project including borrow sites, material disposal sites, dust control, and dewatering in accordance to Chapter TRANS 401 requirements. The erosion control implementation plan shall supplement information shown on the plans and shall not reproduce it. The erosion control implementation plan will identify how the contractor intends to implement the project's erosion control plan.

- Provide the ECIP 14 calendar days prior to the pre-construction conference. Provide 1 copy of the ECIP to WisDOT and 1 copy of the ECIP to the WDNR Liaison (*insert DNR liaison contact information here*). Pursue operations in a timely and diligent manner, continuing all construction operations methodically from the initial removals and topsoil stripping operations through the subsequent grading, paving, and re-topsoiling to minimize the period of exposure to possible erosion. Do not implement the ECIP until it has been approved by the department.

- Re-topsoil of graded areas, as designated by the engineer, immediately after grading is completed within those areas. Seed, fertilize, and mulch/erosion mat top-soiled areas, as designated by the engineer, within 5 calendar days after placement of topsoil. If graded areas are left exposed for more than 14 calendar days, seed those areas with temporary seed.

- When performing roadway cleaning operations, the contractor shall use equipment having vacuum or water spray mechanism to eliminate the dispersion of dust. If vacuum equipment is employed, it shall have suitable self-contained particulate collectors to prevent discharge from the collection bin into the atmosphere.

- Stockpile excess material or spoils on upland areas away from wetlands, floodplains and waterways. Stockpiled soil shall be protected against erosion. If stockpiled material is left for more than 14 calendar days, seed the stockpile with temporary seed.

- Do not pump water from the construction site to a storm water conveyance without the water first passing through a sediment trap or filter bag.

12. Notice to Contractor - Clearing and Grubbing, Emerald Ash Borer.

This applies to projects in the emerald ash borer (EAB) quarantined zones to include Fond du Lac, Kenosha, Milwaukee, Ozaukee, Racine, Sheboygan, Washington and Waukesha counties.

Supplement standard spec 201.3 with the following:

The emerald ash borer (EAB) has resulted in a quarantine of ash trees (*Fraxinus sp.*) by the Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP) and the Wisconsin Department of Natural Resources (DNR).

Ash trees species attacked by emerald ash borer include the following:

- Green ash (F. pennsylvanica) is found throughout the state, but is most common in southern Wisconsin. It may form pure stands or grow in association with black ash, red maple, swamp white oak, and elm. It grows as an associate in upland hardwood stands, but is most common in and around stream banks, floodplains, and swamps.

- Black ash (F. nigra) is distributed over the entire state but is most frequently found in northern Wisconsin. It is most common in swamps, but is also found in other wet forest types.
- Blue ash (F. quadrangulata) is a threatened species that is currently found only at a few sites in Waukesha County. The species is at the edge of its range in Wisconsin, but is common in states farther south. The species is not of commercial importance. Blue ash twigs are 4-sided.
- White ash (F. americana) tends to occur primarily in upland forests, often with Acer saccharum.

The quarantine of ash trees includes all horticultural cultivars of the species listed above.

Note that blue ash twigs are 4-sided. All other Wisconsin ash trees have round stems. Also, Mountain ash (*Sorbus americana and S. decora*) is not a true ash and is not susceptible to EAB infestation.

The contractor shall be responsible for hiring a certified arborist to identify all ash trees that will be cleared and grubbed for the project. In addition, prior to scheduled clearing and grubbing activities, the arborist shall mark all ash trees with florescent lime flagging tied around the trunk perimeter.

Follow and obey the following Wisconsin Department of Agriculture, Trade, and Consumer Protection order:

ATCP 21.17 Emerald ash borer; import controls and quarantine.

Importing or Moving Regulated Items from Infested Areas; Prohibition.
Except as provided in subparagraph (3), no person may do any of the following:

(a) Import a regulated item under sub. (2) into this state if that item originates from an emerald ash borer regulated area identified in 7CFR 301.53-3.

(b) Move any regulated item under sub. (2) out of an emerald ash borer regulated area that is identified in 7CFR 301.53-3 and located in this state.

Note: the United States Department of Agriculture-Animal and Plant Health Inspection Service (USDA-APHIS) periodically updates the list of regulated areas in 7CFR 301.53-3. Subsection (1) applies to new regulated areas as those areas are identified in the CFR.

Regulated Items. The following are regulated items for purposes of subparagraph (1):

The emerald ash borer, Agrilus planipennis Fairmaire in any living stage.

Ash trees.

Ash limbs, branches, and roots.

Ash logs, slabs or untreated lumber with bark attached.

Cut firewood of all non-coniferous species.

Ash chips and ash bark fragments (both composted and uncomposted) larger than one inch in diameter.

Any other item or substance that may be designated as a regulated item if a DATCP pest control official determines that it presents a risk of spreading emerald ash borer and notifies the person in possession of the item or substance that it is subject to the restrictions of the regulations.

Regulatory Considerations
The quarantine means that ash wood products may not be transported out of the quarantined area.

Clearing and grubbing includes all ash trees that are to be removed from within the project footprint. If ash trees are identified within clearing and grubbing limits of the project, the following measures are required for the disposal:

Chipped Ash Trees
May be left on site if used as landscape mulch within the project limits. If used as mulch on site, chips may not be applied at a depth greater than standard mulch applications as this will impede germination of seeded areas.

May be buried on site within the right-of-way in accordance to standard spec 201.3 (14).

May be buried on adjacent properties to projects within the quarantined zone with prior approval of the engineer in accordance to standard spec 201.3 (15).

May be trucked to a licensed landfill within the quarantined zone with the engineer's approval in accordance to standard spec 201.3 (15).

Burning chips is optional if in compliance with standard spec 201.3.

Chips must be disposed of immediately if not used for project mulching and may not be stockpiled and left on site for potential transport by others. Chips may be stockpiled temporarily if they will be used for project mulching and are not readily accessible to the public.

Chipper equipment must be cleaned following post-chipping activities to ensure no spread of wood chip debris into non-quarantined counties.

Ash logs, Branches, and Roots
May be buried without chipping within the existing right-of-way or on adjacent properties in accordance to standard spec 201.3 (14)(15).

May be trucked to a licensed landfill within the quarantined zone with the engineer's approval in accordance to standard spec 201.3 (15).

Burning is optional if in compliance with standard spec 201.3.

Ash logs, branches, and roots must be disposed of immediately and may not be stockpiled.

All additional costs will be incidental to clearing and grubbing items.

Do not bury or use mulch in an area that will be disturbed again during later phases of the project.

Anyone moving firewood or ash products from the state or these counties is subject to state and federal fines up to $1,000.00. All fines are the responsibility of the contractor. Obtain updated quarantine information at the DNR Firewood Information Line at (800) 303-WOOD.

Furnishing and Planting Plant Materials
Supplement standard spec 632.2.2 with the following:

Ash trees may be obtained from inside or outside the quarantine area and planted within the quarantined area. Ash trees from within the quarantine area may not be transported and planted into the non-quarantined area.

Updates for Compliance
Each year, as a service, the Wisconsin department of agriculture, trade and consumer protection distributes an updated federal CFR listing to nursery license holders and other affected persons in this state. More frequent updates, if any, are available on the Department of Agriculture, Trade, and Consumer Protection (DATCP) website at **www.datcp.state.wi.us** . Subsection (1) applies to new regulated areas as those areas are identified in the CFR, regardless of whether affected persons receive update notices from the DATCP. Persons may request update notices by calling (608) 224−4573, by visiting the DATCP website, or by writing to the following address:

Wisconsin Department of Agriculture, Trade and Consumer Protection
Division of Agricultural Resource Management
P.O. Box 8911
Madison WI 53708−8911

Regulated Items
More frequent updates, if any, are available on the DATCP website at **www.datcp.state.wi.us** . Subsection (1) applies to new regulated areas as those areas are identified in the CFR, regardless of whether affected persons receive update notices from DATCP. Persons may request update notices by calling (608) 224−4573, by visiting the DATCP website, or by writing to the above address.
201-SER1 (20100401)

13. Traffic Meetings and Traffic Control Scheduling.

Every Wednesday by 9:00 AM, submit a detailed proposed 2-week look-ahead traffic closure schedule to the engineer. Type the detailed proposed 2-week look-ahead closure schedule into an excel spreadsheet provided by the engineer. Enter information such as closure dates, duration, work causing the closure and detours to be used. Also enter information such as ongoing long-term closures, emergency contacts and general 2-month look-ahead closure information into the excel spreadsheet.

Meet with the project engineer at 10:00 AM on Wednesdays at the Zoo Interchange project office on 2424 S. 102nd Street; West Allis to discuss and answer questions on the proposed schedule. Edit, delete and add closures to the detailed proposed 2-week look-ahead schedule, as directed by the project engineer, so that proposed closures meet specification requirements. Other edits, deletions or additions unrelated to meeting specification requirements may also be agreed upon with the project engineer during the 10:00 AM meeting.

Every Wednesday at 2:00 PM, or as scheduled by the engineer, attend a weekly traffic meeting. The meeting will bring local agencies, project stakeholders, owner managers, owner engineers, contractors, document control and construction engineering personnel together to discuss traffic staging, closures and general impacts. Upon obtaining feedback from the meeting attendees, edit, delete and add information to the detailed 2-week look-ahead closure schedule, as needed. Submit the revised 2-week look-ahead to the engineer.

Obtain approval from the engineer for any mid-week changes to the closure schedule. Revise the 2-week look-ahead as required and obtain engineer approval.
SEF Rev. 12_0810

14. Material and Equipment Staging.

Submit a map showing all proposed material stockpile or equipment storage locations to the engineer 14 days prior to either preconstruction or proposed use, whichever comes first. Identify the specific purposes for the location. Obtain written permits from the property owner, and submit two copies to the engineer before use. Do not stockpile or store materials or equipment on wetlands.
SEF Rev. 13_0204

15. Contractor Notification.

Replace standard spec 104.2.2.2(2) with the following:

If the contractor discovers the differing condition, provide a written notice, as specified in standard spec 104.3.3, of the specific differing condition before further disturbing the site and before further performing the affected work.

104.3.2 (Vacant)

104.3.3 Contractor Initial Written Notice
Replace standard spec 104.3.2 and standard spec 104.3.3 with the following:

If required by standard spec 104.2, or if the contractor believes that the department's action, the department's lack of action, or some other situation results in or necessitates a contract revision, promptly provide a written notice to the engineer. At a minimum, provide the following:

- A written description of the nature of the issue.
- The time and date of discovering the problem or issue.
- If appropriate, the location of the issue.

Provide the additional information specified in standard spec 104.3.5 as early as possible to assist the engineer in the timely resolution of an identified issue. The engineer will not require, in subsequent submissions, duplication of information already provided.
SEF Rev. 12_0823

16. Contractor Document Submittals.

This special provision describes minimum requirements for submitting project documents to the department. This special provision does not apply to shop drawing submittals.

Provide two paper originals and one electronic copy of all documents requiring department review, acceptance, or approval. Attach a completed engineer-provided transmittal sheet to each paper original and email submittal. The department will reject submittals with incomplete transmittal sheets and require re-submittal.

The department will return one reviewed, accepted, or approved paper original to the contractor. Additional return originals can be requested. Submit an additional original for each additional return original requested.

Submit electronic copies in Adobe Acrobat (.pdf) format via email to an account the engineer determines. If possible, translate original documents from their native format (e.g. Word, Excel, AutoCAD, etc.) using an Adobe Acrobat translation routine. Scan other documents to Adobe Acrobat format with a minimum resolution of 600 dpi.

All costs for contractor document submittals are incidental to the contract.
SEF Rev. 14_ 0114

17. Information to Bidders, Use of Recovered Material.

The department encourages the use of waste materials and recovered industrial byproducts as material substitutions (standard spec 106.2.1), provided they meet standard specification gradation requirements, conform to NR 538 requirements, and/or follow standard engineering practice for their intended use.
SEF Rev. 12_1212

18. Dust Control Implementation Plan.

A Description
Develop, update, and implement a detailed Dust Control Implementation Plan (DCIP) for all land-disturbing construction activities and associated impacts both within the project site boundaries and outside the project site boundaries. Incorporate contract bid items that this article specifies into the DCIP.

B (Vacant)

C Construction
C.1 General
Take responsibility for dust control on the project as specified in standard spec 107.18. Minimize dust emissions resulting from land disturbing activities. Do not generate excessive air borne particulate matter (PM) or nuisance dust conditions. Take direct responsibility for controlling dust at all times throughout the duration of the contract, 24 hours per day, 7 days per week, including non-working hours, weekends, and holidays.

Submit a DCIP to the engineer for review at least 14 calendar days before the preconstruction conference. Coordinate with the department, if requested, to resolve DCIP related issues before the preconstruction conference. The department will either approve the DCIP or request revisions. Do not initiate any land-disturbing activities without the department's approval of the DCIP.

C.2 Dust Control Implementation Plan Contents
Develop a DCIP tailored to the specific needs of the project. Consider potential impacts to businesses and residences adjacent to the job site. Describe in detail all land disturbing, dust generating activities. Identify strategies to prevent, mitigate, and collect excess dust. Establish clear lines of communication with the engineer to ensure that all dust control issues can be dealt with promptly.

The DCIP shall include, but not be limited to, all of the following:

1. A single contact person with overall responsibility for the DCIP development as well as surveillance and remediation of job related dust. Include the following:
    - Name, firm, address, and working-hours phone number.
    - Non-working-hours phone number.
    - Email address.
2. Individual contact persons and their respective areas of responsibility. Include the following:
    - Name, firm, address, and working-hours phone number.
    - Non-working-hours phone number.
    - Email address.
3. A site map locating project features, the job site boundaries, all ingress and egress points, air intakes and other dust-sensitive areas, and all public and private paved surfaces within and immediately adjacent to the job site. Show where specific land disturbing, dust generating activities will occur and, to the extent possible, where employing various dust control or prevention strategies.
4. A matrix showing, for each anticipated land disturbing, dust generating activity, the following:
    - Preventive measures that shall be employed.
    - The applicable contact person.
    - The contractor's timetable and/or surveillance measures used to determine when remediation is required.
    - The specific dust control and remediation measures that shall be employed. List the specific contract bid items that shall be used for payment. Also indicate costs that are incidental to the contract.
    - Both maintenance and cleanup schedules and procedures.
    - How excess and waste materials shall be disposed of.
5. A description of how off-site impacts shall be monitored and dealt with.

C.3 Updating the Dust Control Implementation Plan

Update the DCIP throughout the term of the contract as the engineer directs. Obtain the engineer's approval for all DCIP alterations. Also obtain the engineer's approval for DCIP routine adjustments for weather, job conditions, or emergencies that will have an impact on payment under the bid items listed in the approved DCIP.

C.4 Dust Control Deficiencies

Correct engineer identified dust control deficiencies within the time the engineer specifies. The engineer will allow from 30 minutes to 24 hours from the time the engineer notifies the contractor in writing of the deficiency. Deficiencies include, but are not limited to, actions or lack of actions resulting in excessive dust, failing to comply with the contractor's dust control implementation plan or associated special provisions, and failing to properly maintain equipment.

D Measurement

The department will measure the various bid items associated with dust control as specified in the applicable measurement subsections of either the standard specifications or other contract special provisions. The department will not measure work performed under a DCIP alteration unless the engineer specifically approves that alteration.

Measurement under the DCIP shall include, but is not limited to, the contract bid items listed below:

SPV.0105.01 Pavement Cleanup Project 1100-20-60

The department will measure work completed under other existing contract bid items if approved as a part of the DCIP. The department will consider new bid items to the contract if proposed under the DCIP. The department will not measure work required under the DCIP that is not included in contract bid items.

E Payment

All costs associated with the development and updating of the DCIP are incidental to the contract. The department will pay separately for the work required to implement the actions approved in the DCIP under the contract bid items approved as a part of the DCIP. All other costs associated with work approved under the DCIP are incidental to the contract.

19. Intelligent Transportation Systems (ITS) – Control of Materials.

Standard spec 106.2 – Supply Source and Quality

Supplement standard spec 106.2 with the following:

The department will furnish a portion of equipment to be installed by the contractor. This department-furnished equipment includes the following:

Department-furnished Items
CCTV Camera
50-Foot Camera Pole
Microwave Vehicle Detectors
Ethernet Video Encoder

Pick-up small department-furnished equipment, such as communications devices, cameras, and controllers, from the department's Statewide Traffic Operations Center (STOC), 433 W. St. Paul Ave., Milwaukee, WI 53203 at a mutually agreed upon time during normal state office hours. Contact the department's STOC at (414) 227-2166 to coordinate pick-up of equipment.

Large department-furnished equipment, such as camera poles will be delivered by the supplier to a contractor-controlled site within Milwaukee County. Delivery will not necessarily be in a "just in time" manner. Store the equipment until field installation.

Provide location details and a contact for delivery coordination upon receiving the contract's Notice to Proceed.

Transportation of the equipment between the electric shop and the field or interim location(s) shall be the responsibility of the contractor.

Standard spec 106.3 – Approval of Materials
Supplement standard spec 106.3 with the following:

Design/Shop Drawings
Prior to the purchase and/or fabrication of any of the components listed herein, and for any non-catalog item shown on the Material and Equipment List specified above, and no more than 30 days after notice to proceed, submit five copies of design drawings and shop drawings, as required, to the department for review. The items and the drawings that represent them shall meet the requirements of the standard specifications.

Design drawing submissions shall consist of signed and certified designs, design drawings, calculations, and material specifications for required items.

Shop drawings will be required for, but not limited to the following:

- Mounting assemblies for the vehicle speed and classification sensors, including their attachment to the structure.
- Any contractor-designed structure or foundation.

The department will complete its review of the material within 30 days from the date of receipt of the submission, unless otherwise specified. The department will advise the contractor, in writing, as to the acceptability of the material submitted. The department may determine that if no exceptions were taken for the item, it is approved, and no further action is required by the contractor; or the item may be partially or totally rejected, in which case modify and/or amend the submittal as required by the department and resubmit the item within 14 days. At this time, the review and approval cycle described above will begin again.
670-005 (20100709)

20. Highway Lighting Systems for State-Owned Lighting.

The following modifications are made to standard specifications and standard detail drawings as they apply to state-owned highway lighting.

State Electrical Shops
For materials to be returned to the Department, deliveries shall be scheduled three working days in advance so as to occur during normal business hours Monday through Thursday. Contact Mr. Mike Prebish at (414) 266-1170.

State electrical shops are located in West Allis and in Wauwatosa, Milwaukee County.

Removal of Sign Structures
No payment will be made for electrical disconnection of sign structures to be removed. Build those costs into sign bridge removal items.

If a sign structure is to be removed, electrical parts attached to the sign structure will be considered scrap, with no payment for their removal, unless the contract includes pay items for salvaging or stockpiling selected electrical pieces.

Outdoor Conductors
The following modifications are made to standard spec 655.

There will be no measurement for payment for abandoning conductors or removing conductors for scrap, and for making good the remaining circuit.

Wet location splices shall be made up with approved epoxy kits. Wet location splices will be allowed only where shown in the plans.

Protocol for Access to and Switching of Lighting Circuits
The department does not employ a load dispatcher and has no intent to do so. Each electrical worker is responsible for his/her own protection from automatic switching and from switching by others. Conform to lock-out and tag-out rules that apply in the industry. Tags shall be signed and dated, and include the name of the contractor. If possible, clear lock-outs and tag-outs by the end of the work day. If not possible, notify the engineer.

21. Project Site Air Quality.

Because fine particulate matter levels for Milwaukee, Racine and Kenosha Counties are typically close to $PM_{2.5}$ limits and the project is in a non-attainment area for the federal 8-hour ozone standard, contributions from construction activities can have a major impact well beyond the project limits. Take practical measures to mitigate the impact of operating construction equipment on the air quality in and around the project site.

Voluntarily establishing the staging zones for trucks waiting to load and unload is encouraged by the department. Locate staging zones where idling of diesel powered equipment will have minimal impact on abutting properties and the general public. The department will make signs available to help identify these zones. Have truckers queue up in these zones whenever it is practical. The department further encourages drivers to shut down diesel trucks as soon as it appears likely that they will be queued up for more than ten minutes. Notify employees and sub-contractors about fueling and engine idling.

Portable Concrete Crusher Plants
Portable concrete crusher plants may need a NR 440 Concrete Crusher Plant Air Permit for air emissions. Please contact Mike Griffin, Wisconsin Department of Natural Resources, Air Compliance Engineer, (414) 263-8554, to request additional information and permit application materials. Complete permit applications may take 3 months to process.
SEF Rev. 12_1008

22. Nighttime Work Lighting-Stationary.

A Description
Provide portable lighting as necessary to complete nighttime work. Nighttime operations consist of work specifically scheduled to occur after sunset and before sunrise.

B (Vacant)

C Construction
C.1 General
This provision shall apply when providing, maintaining, moving, and removing portable light towers and equipment-mounted lighting fixtures for nighttime stationary work operations, for the duration of nighttime work on the contract.

At least 14 days prior to the nighttime work, furnish a lighting plan to the engineer for review and acceptance. Address the following in the plan:

1. Layout, including location of portable lighting – lateral placement, height, and spacing. Clearly show on the layout the location of all lights necessary for every aspect of work to be done at night.

2. Specifications, brochures, and technical data of all lighting equipment to be used.

3. The details on how the luminaires will be attached.

4. Electrical power source information.

5. Details on the louvers, shields, or methods to be employed to reduce glare.

6. Lighting calculations. Provide illumination with average to minimum uniformity ratio of 5:1 or less throughout the work area.

7. Detail information on any other auxiliary equipment.

C.2 Portable Lighting

Provide portable lighting that is sturdy and free standing and does not require any guy wires, braces, or any other attachments. Furnish portable lighting capable of being moved as necessary to keep up with the construction project. Position the portable lighting and trailers to minimize the risk of being impacted by traffic on the roadway or by construction traffic or equipment. Provide lightning protection for the portable lighting. Portable lighting shall withstand up to 60 mph wind velocity.

If portable generators are used as a power source, furnish adequate power to operate all required lighting equipment without any interruption during the nighttime work. Provide wiring that is weatherproof and installed according to local, state, federal (NECA and OSHA) requirements. Equip all power sources with a ground-fault circuit interrupter to prevent electrical shock.

C.3 Light Level and Uniformity

Position (spacing and mounting height) the luminaires to provide illumination with an average to minimum uniformity ratio of 5:1 or less throughout the work area.

Illuminate the area as necessary to incorporate construction vehicles, equipment, and personnel activities.

C.4 Glare Control

Design, install, and operate all lighting supplied under these specifications to minimize or avoid glare that interferes with all traffic on the roadway or that causes annoyance or discomfort for properties adjoining the roadway. Locate, aim, and adjust the luminaires to provide the adequate level of illumination and the specified uniformity in the work area without the creation of objectionable glare.

Provide louvers, shields, or visors, as needed, to reduce any objectionable levels of glare. As a minimum, ensure the following requirements are met to avoid objectionable glare on the roadways open to traffic in either direction or for adjoining properties:

1. Aim tower-mounted luminaires, either parallel or perpendicular to the roadway, so as to minimize light aimed toward approaching traffic.

2. Aim all luminaires such that the center of beam axis is no greater than 60 degrees above vertical (straight down).

If lighting does not meet above-mentioned criteria, adjust the lighting within 24 hours.

C.5 Continuous Operation
Provide and have available sufficient fuel, spare lamps, generators, and qualified personnel to ensure that the lights will operate continuously during nighttime operation. In the event of any failure of the lighting system, discontinue the operation until the adequate level of illumination is restored. Move and remove lighting as necessary.

D (Vacant)

E Payment
Costs for furnishing a lighting plan, and for providing, maintaining, moving, and removing portable lighting, tower mounted lighting, and equipment-mounted lighting required under this special provision are incidental to the contract.
643-010 (20100709)

23. CPM Progress Schedule.

Submit a CPM Progress Schedule and updates in accordance to standard spec 108.4.4, and as hereinafter provided.

To ensure compatibility with the Master Program Schedule, use the latest version of Primavera Project Planner (P6), by Primavera Systems, Inc., Bala Cynwyd, PA to prepare the Initial CPM Progress Schedule, Monthly CPM Progress Updates and other CPM Progress Revisions requested by the engineer.

Within five business days after award, the department will provide its current standard Work Breakdown Structure and activity codes to use to develop the Initial CPM Progress Schedule.

Designate a Project Scheduler who will be responsible for scheduling the Work and submit a professional resume describing a minimum of three years of scheduling experience on interstate-highway reconstruction work of similar size and complexity, including recent experience with P6. Obtain approval of the submitted resume prior to scheduling the work.

With each Monthly CPM Progress Schedule Update also include:

- Activities underway and as-built dates for the past month.
- On a monthly basis, agree on the as-built dates with the department depicted in the Monthly CPM Progress Schedule Update or document any disagreements. Use the as-built dates from the Monthly CPM Progress Schedule Update for the month when updating the CPM schedule.
- Provide actual as-built dates for completed activities through final acceptance of the project.

SEF Rev. 13_0812

24. Pay Plan Quantity.

A Bid Items Designated as Pay Plan Quantity

Replace standard spec 109.1.1.2 with the following:

If the schedule of items designates a bid item with a **P** in the title, the department will not measure that bid item. The department will use the plan quantity, the approximate quantity shown on the schedule of items, for payment unless a contract revision affects a designated bid item.

If the engineer revises the contract under standard spec 104.2, the department will adjust the quantity of designated items that are affected by the revised work. The engineer will adjust the affected quantity, with a contract modification as defined in standard spec 101.3, regardless of the magnitude of the revised work, which may result in either an increase or a decrease from the quantity shown on the schedule of items. The department will measure revised work as specified in standard spec 109.1.1.1. If the engineer revises the contract to eliminate a designated item, the engineer will not pay for the designated item, except as specified in standard spec 109.5.

The approximate quantity shown on the schedule of items for a designated item is for information only and only an estimate. The engineer makes no guarantee that the quantity, which can be determined by computations based on contract information, will equal the approximate quantity shown on the schedule of items. The engineer will not make a quantity adjustment for discrepancies.
SEF Rev. 12_0510

25. Removing Asphaltic Surface Milling.

Replace standard spec 204.3.2.2 (5) with the following:

Under the Removing Asphaltic Surface Milling bid item, remove and dispose of existing asphaltic pavement, surfacing, portions of concrete barrier gutter and concrete base patching material by milling at the location and to the depth the plans show. Mill the asphaltic pavement, surfacing, portions of concrete barrier gutter and concrete base patching material as specified for milling salvaged asphaltic pavement in standard spec 490.3.

Add the following to standard spec 204.5.1 (7) as follows:

Removing Concrete Surface Partial Depth required for milling of portions of concrete barrier gutter and concrete base patching material is not paid for separately but considered incidental to the bid item Removing Asphaltic Surface Milling.

26. Removing Concrete Barrier.

Supplement standard spec 204.3.2.2 with the following:

Under the Removing Concrete Barrier bid item, remove barrier to the depth and location the plans show. Removal includes all required sawing in accordance to standard spec 690. Remove lighting conduit so not to damage existing conduit in adjacent barrier section to remain. Remove the concrete barrier so that the longitudinal steel bars are not damaged and can provide a minimum Class B lap splice with new barrier longitudinal reinforcement.

Supplement standard spec 204.5.1(2) with the following:

Payment for Removing Concrete Barrier is full compensation for furnishing all required sawing of existing barrier, removal of barrier, saving of lap splice reinforcement, removal of lighting conduit and Sludge removal.
SEF Rev 14_0701

27. Removing Guardrail EATs.

Existing guardrail, energy absorbing terminals (EATs) and delineators to be removed as part of the project, and in good condition, will be given to Milwauke County. Do not remove these items, unless permitted by the engineer by means of cutting or torching, and fully disassemble all pieces. Deliver all removed and salvageable items to the Milwaukee County Department of Public Works yard located on 10190 W. Watertown Plank Road, Milwaukee, WI 53226. Contact Kevin Peiffer at (414) 257-6567 to schedule a date and time to deliver the material.

28. QMP Base Aggregate.

A Description

A.1 General

(1) This special provision describes contractor quality control (QC) sampling and testing for base aggregates, documenting those test results, and documenting related production and placement process changes. This special provision also describes department quality verification (QV), independent assurance (IA), and dispute resolution.

(2) Conform to standard spec 301, standard spec 305, and standard spec 310 as modified here in this special provision. Apply this special provision to material placed under all of the Base Aggregate Dense and Base Aggregate Open Graded bid items, except do not apply this special provision to material classified as reclaimed asphaltic pavement placed under the Base Aggregate Dense bid items.

(3) Do not apply this special provision to material placed under the Aggregate Detours, Salvaged Asphaltic Pavement Base, Breaker Run, Select Crushed, Pit Run, Subbase, or Riprap bid items.

(4) Provide and maintain a quality control program, defined as all activities related to and documentation of the following:
1. Production and placement control and inspection.
2. Material sampling and testing.

(5) Chapter 8 of the department's construction and materials manual (CMM) provides additional detailed guidance for QMP work and describes required sampling and testing procedures. The contractor may obtain the CMM from the department's web site at:

http://roadwaystandards.dot.wi.gov/standards/cmm/index.htm

A.2 Contractor Testing for Small Quantities

(1) The department defines a small quantity, for each individual Base Aggregate bid item, as a plan quantity of 9000 tons or less of material as shown in the schedule of items under that bid item.

(2) The requirements under this special provision apply equally to a small quantity for an individual bid item except as follows:
1. The contractor need not submit a full quality control plan but shall provide an organizational chart to the engineer including names, telephone numbers, and current certifications of all persons involved in the quality control program for material under affected bid items.
2. Divide the aggregate into uniformly sized sublots for testing as follows:

Plan Quantity	Minimum Required Testing
≤ 1500 tons	One test from production, load-out, or placement at the contractor's option[1]
> 1500 tons and ≤ 6000 tons	Two tests of the same type, either from production, load-out, or placement at the contractor's option[1]
> 6000 tons and ≤ 9000 tons	Three placement tests[2] [3]

[1] If using production tests for acceptance, submit test results to the engineer for review prior to incorporating the material into the work. Production test results are valid for a period of 3 years.

[2] For 3-inch material, obtain samples at load-out.

[3] If the actual quantity overruns 9000 tons, create overrun sublots to test at a rate of one additional placement test for each 3000 tons, or fraction of 3000 tons, of overrun.

3. No control charts are required. Submit aggregate load-out and placement test results to the engineer within one business day of obtaining the sample. Assure that all properties are within the limits specified for each test.
4. Department verification testing is optional for quantities of 6000 tons or less.

(3) Material represented by a sublot with any property outside the specification limits is nonconforming. The department may reject material or otherwise determine the final disposition of nonconforming material as specified in standard spec 106.5.

B Materials

B.1 Quality Control Plan

(1) Submit a comprehensive written quality control plan to the engineer at or before the pre-construction meeting. Do not place base before the engineer reviews and comments on the plan. Construct the project as that plan provides.

(2) Do not change the quality control plan without the engineer's review. Update the plan with changes as they become effective. Provide a current copy of the plan to the engineer and post in each of the contractor's laboratories as changes are adopted. Ensure that the plan provides the following elements:

1. An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of QC personnel.
2. The process used to disseminate QC information and corrective action efforts to the appropriate persons. Include a list of recipients, the communication means that will be used, and action time frames.
3. A list of source and processing locations, section and quarter descriptions, for all aggregate materials requiring QC testing.
4. Test results for wear, sodium sulfate soundness, freeze/thaw soundness, and plasticity index of all aggregates requiring QC testing. Obtain this information from the region materials unit or from the engineer.
5. Descriptions of stockpiling and hauling methods.
6. Locations of the QC laboratory, retained sample storage, and where control charts and other documentation is posted.
7. An outline for resolving a process control problem. Include responsible personnel, required documentation, and appropriate communication steps.

B.2 Personnel

(1) Have personnel certified under the department's highway technician certification program (HTCP) perform sampling, testing, and documentation as follows:

Required Certification Level:	Sampling or Testing Roles:
Aggregate Technician IPP Aggregate Sampling Technician Aggregate Assistant Certified Technician (ACT-AGG)	Aggregate Sampling[1]
Aggregate Technician IPP Aggregate Assistant Certified Technician (ACT-AGG)	Aggregate Gradation Testing, Aggregate Fractured Particle Testing, Aggregate Liquid Limit and Plasticity Index Testing

[1] Plant personnel under the direct observation of an aggregate technician certified at level one or higher may operate equipment to obtain samples.

(2) A certified technician must coordinate and take responsibility for the work an ACT performs. Have a certified technician ensure that all sampling and testing is performed correctly, analyze test results, and post resulting data. No more than one ACT can work under a single certified technician.

B.3 Laboratory

(1) Perform QC testing at a department-qualified laboratory. Obtain information on the Wisconsin laboratory qualification program from:

Materials Management Section
3502 Kinsman Blvd.
Madison, WI 53704
Telephone: (608) 246-5388
http://www.dot.state.wi.us/business/engrserv/lab-qualification.htm

B.4 Quality Control Documentation

B.4.1 General

(1) Submit base aggregate placement documentation to the engineer within 10 business days after completing base placement. Ensure that the submittal is complete, neatly organized, and includes applicable project records and control charts.

B.4.2 Records

(1) Document all placement observations, inspection records, and control adjustments daily in a permanent field record. Also include all test results in the project records. Provide test results to the engineer within 6 hours after obtaining a sample. For 3-inch base, extend this 6-hour limit to 24 hours. Post or distribute tabulated results using a method mutually agreeable to the engineer and contractor.

B.4.3 Control Charts

(1) Plot gradation and fracture on the appropriate control chart as soon as test results are available. Format control charts according to CMM 8.30. Include the project number on base placement control charts. Maintain separate control charts for each base aggregate size, source or classification, and type.

(2) Provide control charts to the engineer within 6 hours after obtaining a sample. For 3-inch base, extend this 6-hour limit to 24 hours. Post or distribute charts using a method mutually agreeable to the engineer and contractor. Update control charts daily to include the following:

1. Contractor individual QC tests.
2. Department QV tests.
3. Department IA tests.
4. Four-point running average of the QC tests.

(3) Except as specified under B.8.2.1 for nonconforming QV tests, include only QC tests in the running average. The contractor may plot process control or informational tests on control charts, but do not include these tests, conforming QV tests, or IA tests in the running average.

B.5 Contractor Testing

(1) Test gradation, fracture, liquid limit and plasticity index during placement for each base aggregate size, source or classification, and type.

(2) Test gradation once per 3000 tons of material placed. Determine random sample locations and provide those sample locations to the engineer. Obtain samples after the material has been bladed, mixed, and shaped but before compacting; except collect 3-inch samples from the stockpile at load-out. Do not sample from material used to maintain local traffic or from areas of temporary base that will not have an overlying pavement. On days when placing only material used to maintain local traffic or only temporary base that will not have an overlying pavement, no placement testing is required.

(3) Split each contractor QC sample and identify it according to CMM 8.30. Retain the split for 7 calendar days in a dry, protected location. If requested for department comparison testing, deliver the split to the engineer within one business day.

(4) The engineer may require additional sampling and testing to evaluate suspect material or the technician's sampling and testing procedures.

(5) Test fracture for each gradation test until the fracture running average is above the lower warning limit. Subsequently, the contractor may reduce the frequency to one test per 10 gradation tests if the fracture running average remains above the warning limit.

(6) Test the liquid limit and plasticity index for the first gradation test. Subsequently, test the liquid limit and plasticity index a minimum of once per 10 gradation tests.

B.6 Test Methods

B.6.1 Gradation

(1) Test gradation using a washed analysis conforming to the following as modified in CMM 8.60:

Gradation..... AASHTO T 27
Material finer than the No. 200 sieve..... AASHTO T 11

(2) For 3-inch base, if 3 consecutive running average points for the percent passing the No. 200 sieve are 8.5 percent or less, the contractor may use an unwashed analysis. Wash at least one sample out of 10. If a single running average for the percent passing the No. 200 sieve exceeds 8.5 percent, resume washed analyses until 3 consecutive running average points are again 8.5 percent passing or less.

(3) Maintain a separate control chart for each sieve size specified in standard spec 305 or standard spec 310 for each base aggregate size, source or classification, and type. Set control and warning limits based on the standard specification gradation limits as follows:

1. Control limits are at the upper and lower specification limits.
2. There are no upper warning limits for sieves allowing 100 percent passing and no lower control limits for sieves allowing 0 percent passing.
3. Dense graded warning limits, except for the No. 200 sieve, are 2 percent within the upper and lower control limits. Warning limits for the No. 200 sieve are set 0.5 percent within the upper and lower control limits.
4. Open graded warning limits for the 1-inch, 3/8-inch, and No. 4 sieves are 2 percent within the upper and lower control limits. Upper warning limits for the No. 10, No. 40, and No. 200 sieves are 1 percent inside the upper control limit.

B.6.2 Fracture

(1) Test fracture conforming to CMM 8.60. The engineer will waive fractured particle testing on quarried stone.

(2) Maintain a separate fracture control chart for each base aggregate size, source or classification, and type. Set the lower control limit at the contract specification limit, either specified in another special provision or in table 301-2 of standard spec 301.2.4.5. Set the lower warning limit 2 percent above the lower control limit. There are no upper limits.

B.6.3 Liquid Limit and Plasticity

(1) Test the liquid limit and plasticity according to AASHTO T 89 and T 90.

(2) Ensure the material conforms to the limits specified in standard spec table 301-2.

B.7 Corrective Action

B.7.1 General

(1) Consider corrective action when the running average trends toward a warning limit. Take corrective action if an individual test exceeds the contract specification limit. Document all corrective actions both in the project records and on the appropriate control chart.

B.7.2 Placement Corrective Action

(1) Do not blend additional material on the roadbed to correct gradation problems.

(2) Notify the engineer whenever the running average exceeds a warning limit. When 2 consecutive running averages exceed a warning limit, the engineer and contractor will discuss appropriate corrective action. Perform the engineer's recommended corrective action and increase the testing frequency as follows:
   1. For gradation, increase the QC testing frequency to at least one randomly sampled test per 1000 tons placed.
   2. For fracture, increase the QC testing frequency to at least one test per gradation test.

(3) If corrective action improves the property in question such that the running average after 4 additional tests is within the warning limits, the contractor may return to the testing frequency specified in B.5.3. If corrective action does not improve the property in question such that the running average after 4 additional individual tests is still in the warning band, repeat the steps outlined above starting with engineer notification.

(4) If the running average exceeds a control limit, material starting from the first running average exceeding the control limit and ending at the first subsequent running average inside the control limit is nonconforming and subject to pay reduction.

(5) For individual test results significantly outside the control limits, notify the engineer, stop placing base, and suspend other activities that may affect the area in question. The engineer and contractor will jointly review data, data reduction, and data analysis; evaluate sampling and testing procedures; and perform additional testing as required to determine the extent of potentially unacceptable material. The engineer may direct the contractor to remove and replace that material. Individual test results are significantly outside the control limits if meeting one or more of the following criteria:
1. A gradation control limit for the No. 200 sieve is exceeded by more than 3.0 percent.
2. A gradation control limit for any sieve, except the No. 200, is exceeded by more than 5.0 percent.
3. The fracture control limit is exceeded by more than 10.0 percent.

B.8 Department Testing

B.8.1 General

(1) The department will conduct verification testing to validate the quality of the product and independent assurance testing to evaluate the sampling and testing. The department will provide the contractor with a listing of names and telephone numbers of all QV and IA personnel for the project, and provide test results to the contractor within 2 business days after the department obtains the sample.

B.8.2 Verification Testing

B.8.2.1 General

(1) The department will have an HTCP technician, or ACT working under a certified technician, perform QV sampling and testing. Department verification testing personnel must meet the same certification level requirements specified in B.2 for contractor testing personnel for each test result being verified. The department will notify the contractor before sampling so the contractor can observe QV sampling.

(2) The department will conduct QV tests of each base aggregate size, source or classification, and type during placement conforming to the following:
1. One non-random test on the first day of placement.
2. At least one random test per 30,000 tons, or fraction of 30,000 tons, placed.

(3) The department will sample randomly, at locations independent of the contractor's QC work, collecting one sample at each QV location. The department will collect QV samples after the material has been bladed, mixed, and shaped but before compacting; except, for 3-inch aggregates, the department will collect samples from the stockpile at load-out. The department will split each sample, test half for QV, and retain half.

(4) The department will conduct QV tests in a separate laboratory and with separate equipment from the contractor's QC tests. The department will use the same methods specified for QC testing.

(5) The department will assess QV results by comparing to the appropriate specification limits. If QV test results conform to the specification, the department will take no further action. If QV test results are nonconforming, add the QV to the QC test results as if it were an additional QC test.

B.8.3 Independent Assurance

(1) Independence assurance is unbiased testing the department performs to evaluate the department's QV and the contractor's QC sampling and testing including personnel qualifications, procedures, and equipment. The department will perform an IA review according to the department's independent assurance program. That review may include one or more of the following:

1. Split sample testing.
2. Proficiency sample testing.
3. Witnessing sampling and testing.
4. Test equipment calibration checks.
5. Reviewing required worksheets and control charts.
6. Requesting that testing personnel perform additional sampling and testing.

(2) If the department identifies a deficiency, and after further investigation confirms it, correct that deficiency. If the contractor does not correct or fails to cooperate in resolving identified deficiencies, the engineer may suspend placement until action is taken. Resolve disputes as specified in B.9.

B.9 Dispute Resolution

(1) The engineer and contractor should make every effort to avoid conflict. If a dispute between some aspect of the contractor's and the engineer's testing program does occur, seek a solution mutually agreeable to the project personnel. The department and contractor may review the data, examine data reduction and analysis methods, evaluate sampling and testing procedures, and perform additional testing. Use ASTM E 178 to evaluate potential statistically outlying data.

(2) Production test results, and results from other process control testing, may be considered when resolving a dispute.

(3) If the project personnel cannot resolve a dispute, and the dispute affects payment or could result in incorporating non-conforming product, the department will use third party testing to resolve the dispute. The department's central office laboratory, or a mutually agreed on independent testing laboratory, will provide this testing. The engineer and contractor will abide by the results of the third party tests. The party in error will pay service charges incurred for testing by an independent laboratory. The department may use third party test results to evaluate the quality of questionable materials and determine the appropriate payment. The department may reject material or otherwise determine the final disposition of nonconforming material as specified in standard spec 106.5.

C (Vacant)

D (Vacant)

E Payment

(1) Costs for all sampling, testing, and documentation required under this special provision are incidental to this work. If the contractor fails to perform the work required under this special provision, the department may reduce the contractor's pay. The department will administer pay reduction under the non-performance of QMP administrative item.

(2) For material represented by a running average exceeding a control limit, the department will reduce pay by 10 percent of the contract price for the affected Base Aggregate bid items listed in subsection A. The department will administer pay reduction under the Nonconforming QMP Base Aggregate Gradation or Nonconforming QMP Base Aggregate Fracture Administrative items. The department will determine the quantity of nonconforming material as specified in B.7.2.

301-010 (20100709)

29. QMP Ride; Incentive IRI Ride, Item 440.4410.S.

A Description

(1) This special provision describes profiling pavements with a non-contact profiler, locating areas of localized roughness, and determining the International Roughness Index (IRI) for each wheel path segment.

(2) Profile the final riding surface of all mainline pavements**.** Include auxiliary lanes in Category I and II segments; crossroads with county, state or U.S. highway designations greater than 1500 feet in continuous length; bridges, bridge approaches; and railroad crossings. Exclude roundabouts and pavements within 150 feet of the points of curvature of roundabout intersections.

(3) The engineer may direct straightedging under standard spec 415.3.10 for pavement excluded from localized roughness under C.5.2 (1); for bridges; and for roundabouts and pavements within 150 feet of the points of curvature of roundabout intersections. Other surfaces being tested under this provision are exempt from straightedging requirements.

B (Vacant)

C Construction

C.1 Quality Control Plan

(1) Submit a written quality control plan to the engineer at or before the pre-pave meeting. Ensure that the plan provides the following elements:

1. An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of all quality control personnel.
2. The process by which quality control information and corrective action efforts will be disseminated to the appropriate persons. Include a list of recipients, the communication means that will be used, and action time frames.
3. The methods and timing used for monitoring and/or testing ride quality throughout the paving process. Also indicate the approximate timing of acceptance testing in relation to the paving operations.
4. The segment locations of each profile run used for acceptance testing.
5. Traffic Control Plan

C.2 Personnel

(1) Have a profiler operator, certified under the department's highway technician certification program (HTCP), operate the equipment, collect the required data, and analyze the results using the methods taught in the HTCP profiling course. Ensure that an HTCP-certified profiler operator supervises data entry into the material records system (MRS).

C.3 Equipment

(1) Furnish a profile-measuring device capable of measuring IRI from the list of department-approved devices published on the department's web site:

http://roadwaystandards.dot.wi.gov/standards/qmp/index.htm

(2) Unless the engineer and contractor mutually agree otherwise, arrange to have a calibrated profiler available when paving the final riding surface.

(3) Perform daily calibration verification of the profiler using test methods according to the manufacturer's recommendations. Notify the engineer before performing the calibration verification. If the engineer requests, arrange to have the engineer observe the calibration verification and operation. Maintain records of the calibration verification activities, and provide the records to the engineer upon request.

C.4 Testing

C.4.1 Run and Reduction Parameters

(1) Enter the equipment-specific department-approved filter settings and parameters given in the approved profilers list on the department's QMP ride web site.

http://roadwaystandards.dot.wi.gov/standards/qmp/profilers.pdf

C.4.2 Contractor Testing

(1) Operate profilers within the manufacturer's recommended speed tolerances. Perform all profile runs in the direction of travel. Measure the longitudinal profile of each wheel track of each lane. The wheel tracks are 6.0 feet apart and centered in the traveled way of the lane.

(2) Coordinate with the engineer to schedule profile runs for acceptance. The department may require testing to accommodate staged construction or if corrective action may be required.

(3) Measure the profiles of each standard or partial segment. Define primary segments starting at a project terminus and running contiguously along the mainline to the other project terminus. Field-locate the beginning and ending points for each profile run. When applicable, align segment limits with the sublot limits used for testing under the QMP Concrete Pavement specification. Define segments one wheel path wide and distinguished by length as follows:

1. Standard segments are 500 feet long.
2. Partial segments are less than 500 feet long.

(4) Treat partial segments as independent segments.

The department will categorize each standard or partial segment as follows:

Segments with a Posted Speed Limit of 55 MPH or Greater	
Category	**Description**
HMA I	Asphalt pavement with multiple opportunities to achieve a smooth ride. The following operations performed under this contract are considered as opportunities: a layer of HMA, a leveling or wedging layer of HMA, and diamond grinding or partial depth milling of the underlying pavement surface.
HMA II	Asphalt pavement with a single opportunity to achieve a smooth ride.
HMA III	Asphalt pavement segments containing any portion of a bridge, bridge approach, railroad crossing, or intersection. An intersection is defined as the area within the points of curvature of the intersection radii.
PCC II	Concrete pavement.
PCC III	Concrete pavement segments containing any portion of a bridge, bridge approach, railroad crossing, intersection or gap. An intersection is defined as the area within the points of curvature of the intersection radii.

Segments with Any Portion Having a Posted Speed Limit Less Than 55 MPH	
Category	**Description**
HMA IV	Asphalt pavement including intersections, bridges, approaches, and railroad crossings.
PCC IV	Concrete pavement including gaps, intersections, bridges, approaches, and railroad crossings.

C.4.3 Verification Testing

(1) The department may conduct verification testing (QV) to validate the quality of the product. A HTCP certified profiler operator will perform the QV testing. The department will provide the contractor with a listing of the names and telephone numbers of all verification personnel for the project.

(2) The department will notify the contractor before testing so the contractor can observe the QV testing. Verification testing will be performed independent of the contractor's QC work using separate equipment from the contractor's QC tests. The department will provide test results to the contractor within 1 business day after the department completes the testing.

(3) The engineer and contractor will jointly investigate any testing discrepancies. The investigation may include additional testing as well as review and observation of both the department's and contractor's testing procedures and equipment. Both parties will document all investigative work.

(4) If the contractor does not respond to an engineer request to resolve a testing discrepancy, the engineer may suspend production until action is taken. Resolve disputes as specified in C.6.

C.4.4 Documenting Profile Runs

(1) Compute the IRI for each segment and analyze areas of localized roughness using the ProVAL software. Also, the contractor shall prepare the ProVAL Ride Quality Module Reports, showing the IRI for each segment and the areas of localized roughness exceeding an IRI of 200 in/mile. Use ride quality module report as follows:

	Fixed Interval	Continuous (Localized Roughness)
Base-length	500'	25'
Threshold	140"/Mile	200"/Mile

The ProVAL software is available for download at:
http://www.roadprofile.com.

(2) As part of the profiler software outputs and ProVAL reports, document the areas of localized roughness. Field-locate the areas of localized roughness prior to the engineer's assessment for corrective actions. Document the reasons for areas excluded and submit to the engineer.

(3) Within 5 business days after completing profiling of the pavement covered under this special provision, unless the engineer and contractor mutually agree to a different timeline, submit the electronic ProVAL project file containing the .ppf files for each profiler acceptance run data and Ride Quality Module Reports, in .pdf format using the department's Materials Reporting System (MRS) software available on the department's web site:
http://www.atwoodsystems.com/mrs

Notify the engineer when the Profiler Acceptance Run data and the Ride Quality Report have been submitted to the MRS system.

C.5 Corrective Actions

C.5.1 General

(1) Analyze the data from the PROVAL reports and make corrective action recommendations to the department. The department will independently assess whether a repair will help or hurt the long-term pavement performance before deciding on corrective action. Correct the ride as the engineer directs in writing.

C.5.2 Corrective Actions for Localized Roughness

(1) Apply localized roughness requirements to all pavements, including HMA III, PCC III, HMA IV, and PCC IV; except localized roughness requirements will not be applied to pavements within 25 feet of the following surfaces if they are not constructed under this contract: bridges, bridge approaches, or railroad crossings. The department may direct the contractor to make corrections to the pavement within the 25-foot exclusionary zones.

(2) The engineer will review each individual wheel track for areas of localized roughness. The engineer will assess areas of localized roughness within 5 business days of receiving notification that the reports were uploaded. The engineer will analyze the report documenting areas that exceed an IRI of 200 in/mile and do one of the following for each location:

1. Direct the contractor to correct the area to minimize the effect on the ride.
2. Leave the area of localized roughness in place with no pay reduction.
3. Except for HMA IV and PCC IV segments, assess a pay reduction as follows for each location in each wheel path:

Localized Roughness IRI (in/mile)	**Pay Reduction[1] (dollars)**
> 200	(Length in Feet) x (IRI –200)

[1] A maximum $250 pay reduction may be assessed for locations of localized roughness that are less than or equal to 25 feet long. Locations longer than 25 feet may be assessed a maximum pay reduction of $10 per foot.

(3) The engineer will not direct corrective action or assess a pay reduction for an area of localized roughness without independent identification of that area as determined by physically riding the pavement. For corrections, use only techniques the engineer approves.

(4) Re-profile corrected areas to verify that the IRI is less than 140 in/mile after correction. Submit a revised ProVAL ride quality module report to the reference documents section of the MRS for the corrected areas to validate the results.

C.5.3 Corrective Actions for Excessive IRI

(1) If an individual segment IRI exceeds 140 in/mile for HMA I, HMA II, and PCC II pavements after correction for localized roughness, the engineer may require the contractor to correct that segment. Correct the segment final surface as follows:

HMA I: Correct to an IRI of 60 in/mile using whichever of the following methods as approved by the engineer:
Mill and replace the full lane width of the riding surface excluding the paved shoulder.
Continuous diamond grinding or fine-tooth milling the full lane width, if required, of the riding surface including adjustment of the paved shoulders.

HMA II: Correct to an IRI of 85 in/mile using whichever of the following methods as approved by the engineer:
Mill and replace the full lane width of the riding surface excluding the paved shoulder.
Continuous diamond grinding or fine-tooth milling of the full lane width, if required, of the riding surface including adjustment of the paved shoulders

PCC II: Correct to an IRI of 85 in/mile using whichever of the following methods as approved by the engineer:
Continuous diamond grinding of the full lane width, if required, of the riding surface including adjustment of the paved shoulders. Conform to sections C.1 through C.4 of Concrete Pavement Continuous Diamond Grinding Special provision contained elsewhere in the contract.
Remove and replace the full lane width of the riding surface.

(2) Re-profile corrected segments to verify that the final IRI meets the above correction limits and there are no areas of localized roughness. Enter a revised ProVAL ride quality module report for the corrected areas to the reference documents section of the MRS. Segments failing these criteria after correction are subject to the engineer's right to adjust pay for non-conforming work under standard spec 105.3.

C.6 Dispute Resolution

(1) The engineer and contractor should make every effort to avoid conflict. If a dispute between some aspect of the contractor's and the engineer's testing program does occur, seek a solution mutually agreeable to the project personnel. The department and contractor may review the data, examine data reduction and analysis methods, evaluate testing procedures, and perform additional testing.

(2) If the project personnel cannot resolve a dispute and the dispute affects payment or could result in incorporating nonconforming pavement, the department will use third party testing to resolve the dispute. The department's Quality Assurance Unit, or a mutually agreed on independent testing company, will provide this testing. The engineer and contractor will abide by the results of the third party tests. The party in error will pay service charges incurred for testing by an independent tester. The department may use third party tests to evaluate the quality of questionable pavement and determine the appropriate payment.

D Measurement

(1) The department will measure Incentive IRI Ride by the dollar, adjusted as specified in E.2.

E Payment

E.1 Payment for Profiling

(1) Costs for furnishing and operating the profiler, documenting profile results, and correcting the final pavement surface are incidental to the contract. The department will pay separately for engineer-directed corrective action performed within the 25-foot exclusionary zones under C.5.2 as extra work.

E.2 Pay Adjustment

(1) The department will pay incentive for ride under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
440.4410.S	Incentive IRI Ride	DOL

(2) Incentive payment is not limited, either up or down, to the amount the schedule of items shows.

(3) The department will administer disincentives for ride under the Disincentive IRI Ride administrative item.

(4) The department will not assess disincentive on HMA III or PCC III segments. Incentive pay for HMA III and PCC III segments will be according to the requirements for the category of the adjoining segments.

(5) The department will adjust pay for each segment based on the initial IRI for that segment. If corrective action is required, the department will base disincentives on the IRI after correction for pavement meeting the following conditions:

All Pavement:	The corrective work is performed in a contiguous, full lane width section 500 feet long, or a length as agreed with the engineer.
HMA Pavements:	The corrective work is a mill and inlay or full depth replacement and the inlay or replacement layer thickness conforms to standard spec 460.3.2.
Concrete Pavements:	The corrective work is a full depth replacement and conforms to standard spec 415.

(6) The department will adjust pay for 500-foot long standard segments nominally one wheel path wide using equation "QMP 1.04" as follows:

HMA I	
Initial IRI (inches/mile)	**Pay Adjustment[1] (dollars per standard segment)**
< 30	250
≥ 30 to <35	1750 – (50 x IRI)
≥ 35 to < 60	0
≥ 60 to < 75	1000 – (50/3 x IRI)
≥ 75	-250

HMA II and PCC II	
Initial IRI (inches/mile)	**Pay Adjustment[1] [2] (dollars per standard segment)**
< 50	250
≥ 50 to < 55	2750 – (50 x IRI)
≥ 55 to < 85	0
≥ 85 to < 100	(4250/3) – (50/3 x IRI)
≥ 100	-250

HMA IV and PCC IV	
Initial IRI (inches/mile)	**Pay Adjustment[1] [2] (dollars per standard segment)**
< 35	250
≥ 35 to < 45	1125-(25xIRI)
≥ 45	0

[1] The department will not assess a ride disincentive for HMA pavement placed in cold weather because of a department-caused delay as specified in standard spec 450.5(4) of the contract additional special provisions (ASP 6).

[2] If the engineer directs placing concrete pavement for department convenience, the department will not adjust pay for ride on pavement the department orders the contractor to place when the air temperature falls below 35 F.

(7) The department will prorate the pay adjustment for partial segments based on their length.

440-010 (20130615)

30. QMP HMA Pavement Nuclear Density.

A Description

Replace standard spec 460.3.3.2 (1) and standard spec 460.3.3.2 (4) with the following:

(1) This special provision describes density testing of in-place HMA pavement with the use of nuclear density gauges. Conform to standard spec 460 as modified in this special provision.

(2) Provide and maintain a quality control program defined as all activities and documentation of the following:
1. Selection of test sites.
2. Testing.
3. Necessary adjustments in the process.
4. Process control inspection.

(3) Chapter 8 of the department's construction and materials manual (CMM) provides additional detailed guidance for QMP work and describes required procedures. Obtain the CMM from the department's web site at:
http://roadwaystandards.dot.wi.gov/standards/cmm/index.htm

(4) The department's Materials Reporting System (MRS) software allows contractors to submit data to the department electronically, estimate pay adjustments, and print selected reports. Qualified personnel may obtain MRS software from the department's web site at:
http://www.atwoodsystems.com/mrs

B Materials

B.1 Personnel

(1) Perform HMA pavement density (QC, QV) testing using a HTCP certified nuclear technician I, or a nuclear assistant certified technician (ACT-NUC) working under a certified technician.

(2) If an ACT is performing sampling or testing, a certified technician must coordinate and take responsibility for the work an ACT performs. Have a certified technician ensure that all sampling and testing is performed correctly, analyze test results, and post resulting data. No more than one ACT can work under a single certified technician.

B.2 Testing

(1) Conform to ASTM D2950 and CMM 8.15 for density testing and gauge monitoring methods. Perform nuclear gauge measurements using gamma radiation in the backscatter position. Perform each test for 4 minutes of nuclear gauge count time.

B.3 Equipment

B.3.1 General

(1) Furnish nuclear gauges from the department's approved product list at http://www.dot.wisconsin.gov/business/engrserv/approvedprod.htm.

(2) Have the gauge calibrated by the manufacturer or an approved calibration service within 12 months of its use on the project. Retain a copy of the manufacturer's calibration certificate with the gauge.

(3) Prior to each construction season, and following any calibration of the gauge, the contractor must perform calibration verification for each gauge using the reference blocks located in the department's central office materials laboratory. To obtain information or schedule a time to perform calibration verification, contact the department's Radiation Safety Officer at:

Materials Management Section
3502 Kinsman Blvd.
Madison, Wisconsin 53704
Telephone: (608) 243-5998

B.3.2 Correlation of Nuclear Gauges

B.3.2.1 Correlation of QC and QV Nuclear Gauges

(1) Select a representative section of the compacted pavement prior to or on the first day of paving for the correlation process. The section does not have to be the same mix design.

(2) Correlate the 2 or more gauges used for density measurement (QC, QV). The QC and QV gauge operators will perform the correlation on 5 test sites jointly located. Record each density measurement of each test site for the QC, QV and back up gauges.

(3) Calculate the average of the difference in density of the 5 test sites between the QC and QV gauges. Locate an additional 5 test sites if the average difference exceeds 1.0 lb/ft^3. Measure and record the density on the 5 additional test sites for each gauge.

(4) Calculate the average of the difference in density of the 10 test sites between the QC and QV gauges. Replace one or both gauges if the average difference of the 10 tests exceeds 1.0 lb/ft^3 and repeat correlation process from B.3.2.1 (2).

(5) Furnish one of the QC gauges passing the allowable correlation tolerances to perform density testing on the project.

B.3.2.2 Correlation Monitoring

(1) After performing the gauge correlation specified in B.3.2.1, establish a project reference site approved by the department. Clearly mark a flat surface of concrete or asphalt or other material that will not be disturbed during the duration of the project. Perform correlation monitoring of the QC, QV, and all back-up gauges at the project reference site.

(2) Conduct an initial 10 density tests with each gauge on the project reference site and calculate the average value for each gauge to establish the gauge's reference value. Use the gauge's reference value as a control to monitor the calibration of the gauge for the duration of the project.

(3) Check each gauge on the project reference site a minimum of one test per day if paving on the project. Calculate the difference between the gauge's daily test result and its reference value. Investigate if a daily test result is not within 1.5 lb/ft^3 of its reference value. Conduct 5 additional tests at the reference site once the cause of deviation is corrected. Calculate and record the average of the 5 additional tests. Remove the gauge from the project if the 5-test average is not within 1.5 lb/ft^3 of its reference value established in B.3.2.2(2).

(4) Maintain the reference site test data for each gauge at an agreed location.

B.4 Quality Control Testing and Documentation

B.4.1 Lot and Sublot Requirements

B.4.1.1 Mainline Traffic Lanes, Shoulders, and Appurtenances

(1) A lot consists of the tonnage placed each day for each layer and target density specified in standard spec 460.3.3.1. A lot may include partial sublots.

(2) Divide the roadway into sublots. A sublot is 1500 lane feet for each layer and target density.

(3) A sublot may include HMA placed on more than one day of paving. Test sublots at the pre-determined random locations regardless of when the HMA is placed. No additional testing is required for partial sublots at the beginning or end of a day's paving.

(4) If a resulting partial quantity at the end of the project is less than 750 lane feet, include that partial quantity with the last full sublot of the lane. If a resulting partial quantity at the end of the project is 750 lane feet or more, create a separate sublot for that partial quantity.

(5) Randomly select test locations for each sublot as specified in CMM 8.15 prior to paving and provide a copy to the engineer. Locate and mark QC density test sites when performing the tests. Perform density tests prior to opening the roadway to traffic.

(6) Use Table 1 to determine the number of tests required at each station, depending on the width of the lane being tested. When more than one test is required at a station, offset the tests 10 feet longitudinally from one another to form a diagonal testing row across the lane.

Lane Width	No. of Tests	Transverse Location
5 ft or less	1	Random
Greater than 5 ft to 9 ft	2	Random within 2 equal widths
Greater than 9 ft	3	Random within 3 equal widths

Table 1

B.4.1.2 Side Roads, Crossovers, Turn Lanes, Ramps, and Roundabouts

(1) A lot represents a combination of the total daily tonnage for each layer and target density.

(2) Each side road, crossover, turn lane, ramp, and roundabout must contain at least one sublot for each layer.

(3) If a side road, crossover, turn lane, or ramp is 1500 feet or longer, determine sublots and random test locations as specified in B.4.1.1.

(4) If a side road, crossover, turn lane, or ramp is less than 1500 feet long, determine sublots using a maximum of 750 tons per sublot and perform the number of random tests as specified in Table 2.

Side Roads, Turn Lanes, Crossovers, Ramps, Roundabouts: Sublot/Layer tonnage	Minimum Number of Tests Required
25 to 100 tons	1
101 to 250 tons	3
251 to 500 tons	5
501 to 750 tons	7

Table 2

B.4.2 Pavement Density Determination

B.4.2.1 Mainline Traffic Lanes and Appurtenances

(1) Calculate the average sublot densities using the individual test results in each sublot.

(2) If all sublot averages are no more than one percent below the target density, calculate the daily lot density by averaging the results of each random QC test taken on that day's material.

(3) If any sublot average is more than one percent below the target density, do not include the individual test results from that sublot when computing the lot average density and remove that sublot's tonnage from the daily quantity for incentive. The tonnage from any such sublot is subject to disincentive pay according to standard spec 460.5.2.2.

B.4.2.2 Mainline Shoulders

B.4.2.2.1 Width Greater Than 5 Feet

(1) Determine the pavement density as specified in B.4.2.1.

B.4.2.2.2 Width of 5 Feet or Less

(1) If all sublot test results are no more than 3.0 percent below the minimum target density, calculate the daily lot density by averaging all individual test results for the day.

(2) If a sublot test result is more than 3.0 percent below the target density, the engineer may require the unacceptable material to be removed and replaced with acceptable material or allow the nonconforming material to remain in place with a 50 percent pay reduction. Determine the limits of the unacceptable material according to B.4.3.

B.4.2.3 Side Roads, Crossovers, Turn Lanes, Ramps, and Roundabouts

(1) Determine the pavement density as specified in B.4.2.1.

B.4.2.4 Documentation

(1) Document QC density test data as specified in CMM 8.15. Provide the engineer with the data for each lot within 24 hours of completing the QC testing for the lot.

B.4.3 Corrective Action

(1) Notify the engineer immediately when an individual test is more than 3.0 percent below the specified minimum in standard spec 460.3.3.1. Investigate and determine the cause of the unacceptable test result.

(2) The engineer may require unacceptable material specified in B.4.3(1) to be removed and replaced with acceptable material or allow the nonconforming material to remain in place with a 50 percent pay reduction. Determine limits of the unacceptable area by measuring density of the layer at 50-foot increments both ahead and behind the point of unacceptable density and at the same offset as the original test site. Continue testing at 50-foot increments until a point of acceptable density is found as specified in standard spec 460.5.2.2(1). Removal and replacement of material may be required if extended testing is in a previously accepted sublot. Testing in a previously accepted sublot will not be used to recalculate a new lot density.

(3) Compute unacceptable pavement area using the product of the longitudinal limits of the unacceptable density and the full sublot width within the traffic lanes or shoulders.

(4) Retesting and acceptance of replaced pavement will be according to standard spec 105.3.

(5) Tests indicating density more than 3.0 percent below the specified minimum, and further tests taken to determine the limits of unacceptable area, are excluded from the computations of the sublot and lot densities.

(6) If 2 consecutive sublot averages within the same paving pass and same target density are more than one percent below the specified target density, notify the engineer and take necessary corrective action. Document the locations of such sublots and the corrective action that was taken.

B.5 Department Testing

B.5.1 Verification Testing

(1) The department will have a HTCP certified technician, or ACT working under a certified technician, perform verification testing. The department will test randomly at locations independent of the contractor's QC work. The department will perform verification testing at a minimum frequency of 10 percent of the sublots and a minimum of one sublot per mix design. The sublots selected will be within the active work zone. The contractor will supply the necessary traffic control for the department's testing activities.

(2) The QV tester will test each selected sublot using the same testing requirements and frequencies as the QC tester.

(3) If the verification sublot average is not more than one percent below the specified minimum target density, use the QC tests for acceptance.

(4) If the verification sublot average is more than one percent below the specified target density, compare the QC and QV sublot averages. If the QV sublot average is within 1.0 lb/ft^3 of the QC sublot average, use the QC tests for acceptance.

(5) If the first QV/QC sublot average comparison shows a difference of more than 1.0 lb/ft^3 each tester will perform an additional set of tests within that sublot. Combine the additional tests with the original set of tests to compute a new sublot average for each tester. If the new QV and QC sublot averages compare to within 1.0 lb/ft^3, use the original QC tests for acceptance.

(6) If the QV and QC sublot averages differ by more than 1.0 lb/ft^3 after a second set of tests, resolve the difference with dispute resolution specified in B.6. The engineer will notify the contractor immediately when density deficiencies or testing precision exceeding the allowable differences are observed.

B.5.2 Independent Assurance Testing

(1) Independent assurance is unbiased testing the department performs to evaluate the department's verification and the contractor's QC sampling and testing including personnel qualifications, procedures, and equipment. The department will perform the independent assurance review according to the department's independent assurance program.

B.6 Dispute Resolution

(1) The testers may perform investigation in the work zone by analyzing the testing, calculation, and documentation procedures. The testers may perform gauge correlation according to B.3.2.1.

(2) The testers may use correlation monitoring according to B.3.2.2 to determine if one of the gauges is out of tolerance. If a gauge is found to be out of tolerance with its reference value, remove the gauge from the project and use the other gauge's test results for acceptance.

(3) If the testing discrepancy cannot be identified, the contractor may elect to accept the QV sublot density test results or retesting of the sublot in dispute within 48 hours of paving. Traffic control costs will be split between the department and the contractor.

(4) If investigation finds that both gauges are in error, the contractor and engineer will reach a decision on resolution through mutual agreement.

B.7 Acceptance

(1) The department will not accept QMP HMA Pavement Nuclear Density if a non-correlated gauge is used for contractor QC tests.

C (Vacant)

D (Vacant)

E Payment

E.1 QMP Testing

(1) Costs for all sampling, testing, and documentation required under this special provision are incidental to the work. If the contractor fails to perform the work required under this special provision, the department may reduce the contractor's pay. The department will administer pay reduction under the Non-performance of QMP administrative item.

E.2 Disincentive for HMA Pavement Density

(1) The department will administer density disincentives according to standard spec 460.5.2.2.

E.3 Incentive for HMA Pavement Density

(1) Delete standard spec 460.5.2.3.

(2) If the lot density is greater than the minimum specified in standard spec table 460-3 and all individual air voids test results for that mixture are within +1.0 percent or -0.5 percent of the design target in standard spec table 460-2, the department will adjust pay for that lot as follows:

Percent Lot Density Above Minimum	Pay Adjustment Per Ton
From -0.4 to 1.0 inclusive	$0
From 1.1 to 1.8 inclusive	$0.40
More than 1.8	$0.80

(3) The department will adjust pay under the Incentive Density HMA Pavement bid item. Adjustment under this item is not limited, either up or down, to the bid amount shown on the schedule of items.

(4) If a traffic lane meets the requirements for disincentive, the department will not pay incentive on the integrally paved shoulder.

(5) Submit density results to the department electronically using the MRS software. The department will validate all contractor data before determining pay adjustments.

460-020 (20100709)

31. Sign Supports Concrete Masonry.

Add the following to standard spec 636.3.2:

(3) Drill or excavate and maintain a stable open excavation for subsequent installation of drilled footings for sign structure foundations as shown in the plans. The subsurface conditions vary across the project site and are not necessarily the same at each sign structure foundation in the project. Anticipate the possibility of encountering randomly interlaced seams of loose, permeable sand or gravel of substantial thickness situated within glacial clays and till deposits; saturated soils; ground water; isolated cobbles or boulders; and nested cobbles and boulders at any sign structure foundation when selecting equipment and methods for drilling or otherwise excavating. Partial or full depth temporary casing may be required to maintain the stability of the excavation prior to placement of reinforcement and filling the excavation with concrete.

It is strongly advised to obtain and review the Geotechnical Exploration and Foundation Evaluation Reports for the sign structures and as well as nearby structures to the sign structure foundation being constructed. See article "Geotechnical Investigation Information" in these special provisions for information on obtaining geotechnical reports.

Add the following paragraph to standard spec 636.3.3:

(8) For drilled foundations, no more than 3 inches of standing water is permitted in the bottom of the drilled excavation immediately prior to placing concrete masonry in the excavation.

Replace standard spec 636.5.2(1) with the following:

Payment for Sign Supports Concrete Masonry is full compensation for providing, transporting, placing and curing the concrete; for providing and removing casing if applicable; for providing required ground rods; for furnishing all required excavating; for placing post stubs or anchor bolts, and for providing and placing electrical conduit if required; for pumping of ground water seepage if applicable; for cleaning-up, repairing damage, and for disposing of excavation and surplus materials.

SEF Rev. 12_0810

32. Signs Type I and II.

Furnish and install mounting brackets per approved product list for type II signs on overhead sign supports incidental to sign. For type II signs on sign bridges use aluminum vertical support beams noted above incidental to sign.

Modify standard spec 637.2.4 with the following:

Use stainless steel bolts, washers and nuts for type I and type II signs mounted on sign bridges or type I signs mounted on overhead sign supports. Use clips on every joint for Sign Plate A 4-6 when mounted on a sign bridge or overhead sign support. Inspect installation of clips and assure bolts and nuts are tightened to manufacturers recommended torque values.

Use aluminum vertical sign support beams that have a 5-inch wide flange and weigh 3.7 pounds per foot, if the L-brackets are 4 inches wide then use 4 inch wide flange beams weighing 3.06 pounds per foot. Contractor shall measure the width of the L-brackets on existing structures of determine the width needed for sign support beams

Use beams a minimum of 6 feet in length or equal to the height of the sign to be supported, whichever is greater. Use U-bolts that are made of stainless steel, 1/2 inch diameter and of the proper size to fit the truss cords of each sign bridge. Install vertical sign support beams on each sign and use new U-bolts to attach each beam to the top and bottom cord of the sign bridge truss.

For type II signs on overhead sign supports follow the approved product list for mounting brackets.

Replace standard spec 637.2.4.1(2)2 with the following:

Clips may be either stainless steel or ASTM B 108, aluminum alloy, 356.0-T6.

Append standard spec 637.3.2.1(3) with the following:

Provide the engineer with 3 copies of drawings of the signs proposed to be furnished under this contract for approval.

Append standard spec 637.3.3.2(2) with the following:

Install Type I Signs at the offset stated in the plan, which shall be the clear distance between the edge of mainline pavement right edgeline and the near edge of the sign.

Append standard spec 637.3.3.3(3) with the following:

Furnish and install new aluminum vertical sign support beams on each sign and new U-bolts to attach each beam to the top and bottom cord of the sign bridge truss for Type I or Type II Signs and Type I signs on overhead sign supports incidental to sign.
637-SER1 (20120401)

33. Traffic Control.

The work under this item shall be in accordance to the requirements of standard spec 643, and as shown on the plans, or as approved by the engineer, except as hereinafter set forth.

Place traffic control devices for work in the proper location before operations proceed. Traffic Control is subject to change at the direction of the engineer in the event of an emergency. Do not place drums or other traffic control devices within a travel lane with live traffic. Provide proper shy distance between live traffic and traffic control devices as shown in the plans.

Provide the Milwaukee County Sheriff's Department, City of Milwaukee Police Department, City of Wauwatosa Police Department, Wisconsin State Patrol, the Statewide Traffic Operations Center, and the engineer a current telephone number with which the contractor or his representative can be contacted during non-working hours in the event a traffic control safety hazard develops.

Do not park or store equipment, vehicles, or construction materials within 30 feet of the edge of freeway traffic lanes without barrier separation for any roadway carrying freeway traffic; or within 20 feet off the edge of a freeway service interchange ramp during any time except as approved by the engineer. At such locations, the materials and equipment involved shall not constitute a hazard to the traveling public.

Do not park personal vehicles within the access control limits of the freeway. Do not cross live freeway traffic lanes with equipment or vehicles.

Do not use flag persons to direct, control, or stop freeway traffic. Obtain approval from the engineer to use a flag person to direct, control, or stop local street traffic. Adhere to Manual of Uniform Traffic Control Devices chapter 6E standard requirements for flagger control.

Do not disturb, remove or obliterate any traffic control signs, advisory signs, shoulder delineators, sand barrel array or beam guard in place along the traveled roadways not shown on the plans without the approval of the engineer.

Place one flashing arrow board in advance of each lane closure taper and one flashing arrow board within each lane closure taper at locations directed by the engineer.
SEF Rev 13_0610

34. Traffic Control Signs Removal.

Supplement standard spec 643.3.8.3 with the following:

Remove all signs on temporary mounts and other potential associated hazards to the traveling public from the right-of-way when not in use.
SEF Rev. 14_0326

35. Traffic Control Detour Signs Not in Use.

Replace standard spec 643.3.8.6(6) with the following:

Immediately remove or cover signing when the detour is no longer in effect. When removing signs, remove all signs, posts, supports, and other potential associated hazards to the traveling public from within the right-of-way.
SEF Rev. 14_0402

36. Truck or Trailer-Mounted Attenuator, Item 643.1055.S.

A Description

(1) This special provision describes protecting work operations with a truck or trailer-mounted attenuator (TMA).

B Materials

(1) Furnish and maintain a TMA conforming to NCHRP Report 350 test level 3 or to MASH crashworthiness criteria. Submit written certification from the manufacturer that the host vehicle/attenuator configuration provided conforms to crashworthiness criteria. Include the federal-aid reimbursement eligibility letter with that submittal.

(2) Provide a host vehicle and mount the attenuator conforming to the attenuator manufacturer's specifications. Provide the engineer a copy of the manufacturer's specifications and installation instructions.

C Construction

(1) Coordinate with the engineer at least 72 hours before its intended use so the engineer can determine if the work operation requires TMA protection.

(2) Position the attenuator at a manufacturer-recommended location in advance of a stationary work operation. Position and maintain the attenuator consistently at the manufacturer-recommended distance from a mobile work operation. Ensure that an operator stays with the host vehicle while protecting a mobile work operation.

D Measurement

(1) The department will measure Truck or Truck-Trailer-Mounted Attenuator by the day, acceptably completed, measured to the 1/2-day based on the engineer-determined time the attenuator is required to protect work operations. The department will measure 4 or less hours per calendar day as a half day and over 4 hours as a full day.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
643.1055.S	Truck or Trailer-Mounted Attenuator	DAY

(2) Payment is full compensation for providing the portable attenuator, host vehicle, and operator.

643-015 (20140630)

37. Pavement Marking Grooved Wet Reflective Contrast Tape 4-Inch, Item 646.0841.S; 8-Inch, Item 646.0843.S.

A Description

This special provision describes furnishing, grooving and installing preformed wet reflective pavement marking contrast tape for grooved applications as shown on the plans, according to standard spec 646, and as hereinafter provided.

B Materials

Furnish wet reflective pavement marking contrast tape and adhesive material, per manufacturer's recommendation if required, from the department's approved products list.

Furnish a copy of the manufacturer's recommendations to the engineer before preparing the pavement marking grooves.

C Construction

C.1 General

For quality assurance, provide the engineer and the region's Marking Section evidence of manufacturer training in the proper placement and installation of pavement marking contrast tape.

Plane the grooved lines according to details in the plan and per manufacturer's recommendations. Use grooving equipment with a free-floating, independent cutting head. Plane a minimum number of passes to create a grooved surface per manufacturer's recommendations.

C.2 Groove Depth

Cut the groove to a depth of 120 mils ± 10 mils from the pavement surface or, if tined, from the high point of the tined surface. To measure the depth, the contractor may use a depth plate placed in the groove and a straightedge placed across the plate and groove, or the contractor may use a straightedge placed perpendicular to the groove. The department may periodically check groove depths.

C.3 Groove Width – Longitudinal Markings

Cut the groove one-inch wider than the width of the tape.

C.4 Groove Position

Position the groove edge according to plan details. Groove a minimum of 4 inches, but not greater than, 12 inches from both ends of the tape segment. Achieve straight alignment with the grooving equipment.

C.5 Groove Cleaning

C.5.1 Concrete

Cooling the cutting head with water may be necessary for some applications and equipment. If cooling water is necessary, flush the groove immediately with high-pressure water after cutting to remove any build-up of cement dust and water slurry. If this is not done, the slurry may harden in the groove.

If water is used in the grooving process, allow the groove to dry a minimum of 24 hours after groove cleaning, and prior to pavement marking application. The groove surface shall be clean and dry before applying the adhesive, and the pavement marking tape. Use a high-pressure air blower with at least 185 ft^3/min air flow and 120 psi air pressure to clean the groove; use of the air blower does not decrease the amount of time required for the groove to dry.

C.5.2 New Asphalt

Groove pavement five or more days after paving.

Use a high-pressure air blower with at least 185 ft^3/min air flow and 90 psi air pressure to clean the groove.

C.5.3 Existing Asphalt

Check for structural integrity in supporting grooving operations. If the structural integrity of the asphalt pavement is inadequate to support grooving operations, immediately notify the engineer.

Use a high-pressure air blower with at least 185 ft^3/min air flow and 90 psi air pressure to clean the groove.

C.6 Tape Application

Apply the tape when both the air and surface temperature are 40 degrees F and rising.

Apply tape in the groove as per manufacturer's recommendations. If manufacturer's recommendations require surface preparation adhesive

1) For the Southeast Region and the ozone non-attainment Northeast Region counties of Sheboygan, Manitowoc, and Kewaunee:

    - Apply SPA-60 during May 1 to September 30, both dates inclusive due to Volatile Organic Compound Limitations.

    - Apply P-50 during October 1 to April 30, both dates inclusive. –

2) For the remainder counties:

    - Apply either adhesive.

Refer to the manufacturer's instructions for determining when the surface preparation adhesive is set.

Tamp the wet reflective pavement marking contrast tape with a tamper cart roller, with a minimum of a 200-lb load, cut to fit the groove. Tamp a minimum of three complete cycles (6 passes) with grooved modified tamper roller cart.

D Measurement
The department will not measure Pavement Marking Grooved Wet Reflective Contrast Tape (Width). The department will use pay plan quantity according to the Pay Plan Quantity article.

E Payment
The department will pay for plan quantities according to the Pay Plan Quantity article at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
646.0841.S	Pavement Marking Grooved Wet Reflective Contrast Tape 4-Inch	LF
646.0843.S	Pavement Marking Grooved Wet Reflective Contrast Tape 8-Inch	LF

Payment is full compensation for cleaning and preparing the pavement surface; furnishing and installing the material; and for removing temporary pavement marking, if necessary.
646-022 (20120615)

38. Construction Staking Resurfacing Reference

Replace standard spec 650.3.10 (2) with the following:

Place and maintain project stationing marks on both the northbound and southbound inside and outside shoulders at 300-foot intervals. Use white marking paint to indicate the stationing. Do not place any marks on the barrier wall. Contractor is to meet with the engineer to verify the proper orientation of the stationing marks before doing the work.

39. Install Conduit Into Existing Item, Item 652.0700.S.

A Description
This special provision describes installing proposed conduit into an existing manhole, pull box, junction box, communication vault, or other structure.

B Materials
Use nonmetallic conduit, as provided and paid for under other items in this contract. Furnish backfill material, topsoil, fertilizer, seed, and mulch conforming to the requirements of pertinent provisions of the standard specifications.

C Construction

Expose the outside of the existing structure without disturbing existing conduits or cabling. Drill the appropriate sized hole for the entering conduit(s) at a location within the structure without disturbing the existing cabling and without hindering the installation of new cabling within the installed conduit. Fill void area between the drilled hole and conduit with an engineer-approved filling material to protect against conduit movement and entry of fill material into the structure. Tamp backfill into place.

D Measurement

The department will measure Install Conduit Into Existing System by the unit, acceptably installed. Up to five conduits entering a structure per entry point into the existing structure will be considered a single unit. Conduits in excess of five, or conduits entering at significantly different entry points into the existing pull box, manhole, or junction box will constitute multiple units of payment.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
652.0700.S	Install Conduit Into Existing Item	Each

Payment is full compensation for excavating, drilling holes; furnishing and installing all materials, including bricks, coarse aggregate, sand, bedding, and backfill; for excavating and backfilling; and for furnishing and placing topsoil, fertilizer, seed, and mulch in disturbed areas; for properly disposing of surplus materials; and for making inspections. 652-070 (20100709)

40. Intelligent Transportation Systems – General Requirements.

A Description

A.1 General

This contract includes furnishing and installing elements for an Intelligent Transportation System (ITS) in or along the existing roadway as shown on the plans.

Unusual aspects of this project include:

- The project includes working on cables and equipment that are carrying data between roadside equipment and the department's Statewide Traffic Operations Center (STOC). Interruption of this service is not expected to perform this work. If an interruption is determined necessary, it must be done on a weekend, and must be done in a way that minimizes communication outages for the existing equipment. Notify the department's STOC at least 48 hours in advance of the planned interruption.
- The department will furnish some of the equipment to be installed. Make a reasonable effort to discover defects in that equipment prior to installing it.

A.2 Surge Protection

Equip every ungrounded conductor wire entering or leaving any equipment cabinet with a surge protector. For purposes of this section, multiple cabinets on a single pole or foundation are considered a single cabinet.

B Materials

B.1 General

Only furnish equipment and component parts for this work that are new and have high quality workmanship. All controls, indicators, and connectors shall be clearly and permanently labeled in a manner approved by the engineer. All equipment of each type shall be identical.

All electrical equipment shall conform to the standards and requirements of the Wisconsin Electrical Code, the National Electrical Manufacturers Association (NEMA), National Electric Safety Council (NESC), Underwriter's Laboratory Inc. (UL) or the Electronic Industries Association (EIA), when applicable. All materials and workmanship shall conform to the requirements of the National Electrical Code (NEC), Rural Electrification Administration (REA), Standards of the American Society for Testing and Materials (ASTM), American Association of State Highway and Transportation Officials (AASHTO), requirements of the plans these special provisions, the standard specifications, and to any other codes, standards, or ordinances that may apply. All system wiring, conduit, grounding hardware and circuit breakers shall be in conformance with the National Electrical Code. Whenever reference is made to any of the standards mentioned, the reference shall be considered to mean the code, ordinance, or standard that is in effect at the time of the bid advertisement.

B.2 Outdoor Equipment

All conductive connectors, pins (except pins connected by soldering), and socket contacts shall be gold plated. Acrylic conformal coating shall protect each circuit board side that has conductive traces. Except for integrated circuits containing custom firmware, all components shall be soldered to the printed circuit board.

To prevent galvanic corrosion, all connections between dissimilar metals shall incorporate a means of keeping moisture out of the connection. Where the connection need not conduct electricity, interpose a non-absorbing, inert material or washer between the dissimilar metals. Use nonconductive liners and washers to insulate fasteners from dissimilar metals. Where the connection must conduct electricity, use a conductive sealant between the dissimilar metals. Alternatively, use an insulating gasket and a bond wire connecting the two metal parts.

B.3 Custom Equipment

Equipment that is not part of the manufacturer's standard product line, or that is made or modified specifically for this project, shall conform to the following requirements:

Where practical, electronics shall be modular plug-in assemblies to facilitate maintenance. Such assemblies shall be keyed to prevent incorrect insertion of modules into sockets.

All components shall be available from multiple manufacturers as part of the manufacturers' standard product lines. All must be clearly labeled with the value, part number, tolerance, or other information sufficient to enable a technician to order an exact replacement part.

Lamps used for indicator purposes shall be light-emitting diodes.

The printed circuit boards shall be composed of "two-ounce" copper on 1/16-inch thick fiberglass epoxy or equivalent type construction. Holes that carry electrical connections from one side of the boards to the other shall be completely plated through. Multilayer printed circuit boards shall not be used. The name or reference number used for the board in the drawings and maintenance manuals supplied to the department shall be permanently affixed to each board.

All components shall be mounted so that the identifying markings are visible without moving or removing any part, if practical.

B.4 Environmental Conditions

Equipment shall continue to operate as specified under the following ranges of environmental conditions, except as noted in the specifications for individual pieces of equipment.

1. **Vibration and Shock:** Vehicle speed and classification sensors and any other equipment mounted atop poles or on structures shall not be impaired by the continuous vibration caused by winds (up to 90 mph with a 30 percent gust factor) and traffic.
2. **Duty Cycle:** Continuous
3. **Electromagnetic Radiation:** The equipment shall not be impaired by ambient electrical or magnetic fields, such as those caused by power lines, transformers, and motors. The equipment shall not radiate signals that adversely affect other equipment.
4. **Electrical Power:**
    a. **Operating power:** The equipment shall operate on 120-volts, 60-Hz, single-phase unless otherwise specified. It shall conform to its specified performance requirements when the input voltage varies from 89 to 135 volts and the frequency varies +3 Hz.
    b. **High frequency interference:** The equipment operation shall be unaffected by power supply voltage spikes of up to 150 volts in amplitude and 10 microseconds duration.
    c. **Line voltage transients:** The equipment operation shall be unaffected by voltage transients of plus or minus 20 percent of nominal line voltage for a maximum duration of 50 milliseconds. Equipment in the field shall meet the power service transient requirements of NEMA Standard TS-2 when connected to the surge protectors in the cabinets.

5. **Temperature and Humidity:**
    a. **Field equipment:** Equipment in the field shall meet the temperature and humidity requirements of NEMA Standard TS-2. Liquid crystal displays shall be undamaged by temperatures as high as 165 degrees F, and shall produce a usable display at temperatures up to 120 degrees F.
    b. **Equipment in Controlled Environments** shall operate normally at any combination of temperatures between 50 degrees F and 100 degrees F, and humidity's between 5 percent and 90 percent, non-condensing, and with a temperature gradient of 9 degrees F per hour.

B.5 Patch Cables and Wiring

All cables and wiring between devices installed in a single cabinet, or in separate cabinets sharing a single concrete base, will be considered incidental to the installation of the devices and no separate payment will be made for them. It is anticipated that this will include fiber optic patch cables between termination panels and Ethernet switches, 10 / 100 MBPS Ethernet cables, RS-232 cables between individual devices and terminal servers, and power cables between individual devices and power sources within the cabinets.

B.6 Surge Protection

Low-voltage signal pairs, including twisted pair communication cable(s) entering each cabinet shall be protected by two-stage, plug-in surge protectors and shall be installed on both ends of camera control cables. The protectors shall meet or exceed the following minimum requirements:

- The protectors shall suppress a peak surge current of up to 10k amps.
- The protectors shall have a response time less than one nanosecond.
- The protector shall clamp the voltage between the two wires at a voltage that is no more than twice the peak signal voltage, and clamp the voltage between each wire and ground at 50 volts.
- The first stage of protection shall be a three-element gas discharge tube, and the second stage shall consist of silicon clamping devices.
- The protector shall also contain a resettable fuse (PTC) to protect against excessive current.
- There shall be no more than two pairs per protector.
- It shall be possible to replace the protector without using tools.

Cables carrying power to curve signs shall be protected at the cabinet by grounded metal oxide varistors of appropriate voltages. The varistors must be at least 0.8 inch in diameter.

C Construction

C.1 Thread Protection

Provide rust, corrosion, and anti-seize protection at all thread assemblies of metallic parts by coating (non-spray) the mating surfaces with an approved compound. Failure to use an approved compound will result in no payment for the items to which coating was to have been applied.

C.2 Cable Installation

When installing new cables into conduits containing existing cables, remove the existing cables and reinstall the existing cables simultaneously with the new cables. Take every precaution necessary to protect the existing cables. In the event of avoidable damage to the existing cables, replace all damaged cables, in-kind, at no additional expense to the department. When cables are pulled into conduit, use a cable pulling lubricant approved by the cable manufacturer. Submit documentation supporting manufacturer approval of the lubricant to the engineer.

C.3 Wiring

Every conductor, except a conductor contained entirely within a single piece of equipment, must terminate either in a connector or on a terminal block. Provide and install the connectors and terminal blocks where needed, without separate payment. Use approved splice kits instead of connectors and terminal blocks for underground power cable splices.

Permanently label and key connectors to preclude improper connection. Obtain prior engineer approval for the labeling method(s) prior to use.

Terminal blocks must be affixed to panels that permanently identify the block and what wire connects to each terminal. This may be accomplished by silk screening or by installing a laminated printed card under the terminal block, with the labels on portions of the card that extend beyond the block. Installation of terminal blocks by drilling holes in the exterior wall of the cabinet is not acceptable.

Use barriers to protect personnel from accidental contact with all dangerous voltages.

Do not install conductors carrying AC power in the same wiring harness as conductors carrying control or communication signals.

Arrange wiring, including fiber optic pigtails, so that any removable assembly can be removed without disturbing wiring that is not associated with the assembly being removed.

Communication and control cables may not be spliced underground, except where indicated on the plans.

Cables in the Statewide Traffic Operations Center or in communication hubs, which are not contained within a single cabinet, shall have at least 10 feet of slack.

C.4 System Operations

If the contractor’s operations unexpectedly interrupt Intelligent Transportation Systems (ITS) service, notify the engineer immediately and restore service within 24 hours. Repair all damaged facilities to the condition existing before the interruption. If service is not restored within 24 hours, the department may restore service to any operating device and deduct restoration costs from payments due the contractor.

C.5 Surge Protection
Arrange the equipment and cabinet wiring to minimize the distance between each conductor's point of entry and its protector. Locate the protector as far as possible from electronic equipment. Ensure that all wiring between the surge protectors and the point of entry is free from sharp bends.

D Measurement
No separate measurement will be made for the work described in this article.

E Payment
No separate payment will be made for the work described in this article. All work described in this article shall be included under the ITS items in the contract.
670-010 (20100709)

41. Install Video Encoder, Item 677.0300.S.

A Description
This special provision describes installing a state-furnished video encoder in a pole mounted cabinet or field cabinet as shown on the plans and as hereinafter provided.

B Materials
Provide Category 5 or better Ethernet cable to connect the Ethernet video encoder to the Ethernet switch. The department will furnish the video encoder or it will be an existing and salvaged encoder.

C Construction
Make the necessary electrical and communication network connections to the video encoder. Mount the video encoder in the pole mounted cabinet or field cabinet. Program the video encoder according to the manufacturer's instructions.

D Measurement
The department will measure Install Video Encoder by each individual assembly, 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
677.0300.S	Install Video Encoder	Each

Payment is full compensation for installing the video encoder in a pole mounted cabinet or field cabinet; for making all connections; and for furnishing all programming.
677-030 (20100630)

42. PCMS Remote Communications, SPV.0045.01.

A Description

This special provision describes remote communications requirements for use with portable changeable message signs (PCMS) provided under the contract.

B Materials

Furnish an EV-DO cellular modem registered to a 3G or 4G cellular carrier. Ensure that the cellular modem includes 1 or more external antennas, 1 or more 10/100 Ethernet ports, and 1 or more db9 Serial RS-232 interfaces. Ensure that the device is able to handle -30° C to +75° C and is powered by a 12VDC power supply. Ensure that the cellular modem has a built-in secure router with NAT, port forwarding and IP pass-through capabilities.

Provide management IP address, serial port setting, and password(s) for the cellular modem to the department. The department will notify contractor of message changes.

Furnish antenna cable without splices mounted at the highest practical location on the PCMS.

C Construction

Install a cellular modem in a lockable, weatherproof compartment in the PCMS trailer.

A minimum of 14 days before deployment, demonstrate to the department that the installed system is capable of communicating with Trans Suite software.

If remote communications are interrupted or temporarily unavailable, the department will direct the contractor to manually change the message.

D Measurement

The department will measure PCMS Remote Communications by the day, acceptably completed, measured as the number of calendar days that remote communications are available and functioning properly. The department will measure separately for each PCMS requiring remote communications that is available for exclusive use under the contract. The department will deduct one day for each calendar day remote communications are required but out of service for more than 2 hours.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0045.01	PCMS Remote Communications	DAY

Payment is full compensation for providing remote communications capability, and for making message changes if remote communications are interrupted or temporarily unavailable.

43. Removing Sign Lighting, Item SPV.0060.01.

A Description
This special provision describes removing existing sign lighting. Sign lighting is defined as luminaire and all part associated with the fixture. Splicing through the circuit for continued operation, where required, will be a part of this item. Lamp Disposal will be measured and paid separately.

B (Vacant)

C Construction
Remove sign lighting wire, luminaires, parts and fittings.

Dispose of other materials off the site. Where threaded conduit hubs are removed from a sign bridge stem, install a threaded plug of the requite diameter.

Obliterate sign lighting circuit plaques (not sign bridge structure numbers and not utility luminaire plaques at some of the same location).

D Measurement
The department will measure Removing Sign Lighting by each individual unit, acceptably completed. A unit of sign lighting will be all the work on one sign bridge.

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	Removing Sign Lighting	Each

Payment is full compensation for removing, hauling, and properly disposing of materials.

44. Lamp Disposal High Intensity Discharge, Item SPV.0060.02.

A Description
This special provision describes packaging, palletizing, and returning HID (metal halide; mercury vapor and high-pressure sodium) lamps removed under this contract to the department at the South 60th Street, West Allis, location.

B (Vacant)

C Construction
Lamps that the contractor turns in to the department will be considered the property of the department for proper future disposal. The contractor will have no further obligation for their disposal. The department will reject improperly packaged lamps.

Prearrange deliveries to the department. Consolidate deliveries into a truckload or more, except that where all the lamps removed under a contract measure less than a truckload, deliver all as one load at one time.

Pack intact lamps in the packaging of the new lamps used to replace the old lamps, or packaging affording the equivalent protection. Deliver in full, closed, stackable cartons with the name of the contractor, the number and type/ wattage of lamps clearly written on each carton.

Pack broken lamps into minimum 6 mil plastic bags and place inside sturdy cardboard boxes or the equivalent with the number of lamps clearly marked on each box. Mark the outer packaging "broken lamps." The department will reject metal containers.

Deliver all broken lamps, as noted above. The department will not pay broken lamps above a level of ten percent of the total number in the contract. Deliver broken lamps above the ten percent level to the department for no compensation.

If palletized, pile cartons no more than two high and secure with shrink-wrap to prevent shifting or falling loads. Label the pallets by the number and type/ wattage of lamps, and the name of the contractor.

The department will reject any lamps not removed as part of a contract pay item or otherwise required under this contract.

D Measurement

The department will measure Lamp Disposal High Intensity Discharge as each individual unit delivered to the department properly packaged, acceptably completed. This payment will be in addition to payment for the work under which the lamps are removed from service.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.02	Lamp Disposal High Intensity Discharge	Each

Payment is full compensation for packaging, palletizing and delivering lamps without breakage.

45. Linear Delineation System, Item SPV.0060.03.

A Description

This special provision describes installing linear delineator panels on both concrete barrier and beamguard.

B Materials
Provide Linear Delineation System that are equivalent to the 3M Diamond Grade Linear Delineation System Series 340 (4-inch, Series 344). Provide delineators in either white or fluorescent yellow, as required by the plans

C Construction
Install Linear Delineation System in the locations detailed in the plans, as specified by the manufacturer.

D Measurement
The department will measure Linear Delineation System as each individual panel, 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.0060.03	Linear Delineation System	Each

Payment is full compensation for providing and placing all materials, including mounting brackets, hardware, adhesives, or other incidental items needed as directed by the manufacturer's installation instructions.

46. Install Poles Type 3, Item SPV.0060.04.

A Description
This special provision describes installing poles Type 3 for automatic traffic recorder stations.

B (Vacant)

C Construction
Under the bid item Poles, install poles, ventilated pole caps, and all necessary miscellaneous hardware to complete the installation of the poles.

Install poles as specified in the plan details.

Before installation, clean each pole of all oil and foreign matter.

Follow the application procedure and drying time instructions provided by the corrosion preventative manufacturer.

D Measurement
The department will measure Poles Type 3 as each individual pole, 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.0060.04	Install Poles Type 3	Each

Payment is full compensation for installing all materials, including poles and all hardware and fittings necessary to install the pole.

47. Install Solar Power Unit 120 Watt, Item SPV.0060.05.

A Description
This special provision describes installing department furnished solar power units.

B **(Vacant)**

C Construction
Install and test the charge regulator and solar battery. Make the necessary electric connections between the components of the solar power unit. Mount the solar panels and enclosure; all necessary hardware for mounting is incidental. Program the solar power unit according to the manufacturer's instructions.

The solar power unit shall be activated and left on for 30 consecutive days. During this period, all materials and components of the solar power unit shall operate as specified and without any failure. In event of a failure, the engineer will suspend the 30-day test until the failures are corrected, at which time the test will resume.

D Measurement
The department will measure Install Solar Power Unit 120 Watt as each individual assembly, 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.0060.05	Install Solar Power Unit 120 Watt	Each

Payment is full compensation for installing the solar power unit on a pole, for making all connections, for furnishing all programming, and for furnishing all testing.

48. Install Wavetronix HD 125 Module and Cable, Item SPV.0060.06.

A Description
This special provision describes installing and testing a department-furnished Wavetronix HD 125 Module and Cable as shown on the plans and as hereinafter provided.

B (Vacant)

C Construction
Make all Wavetronix detector cable connections to the field cabinet and Wavetronix detector HD 125 module, to provide the required operation.

If any work proceeds at a location, without completion of testing procedures, the Contractor shall be responsible for the ultimate correct operation of the module and cables. The cost of correcting the Wavetronix Detector HD 125 cables shall be borne entirely by the contractor.

The contractor shall demonstrate the functionality and accuracy of the vehicle detectors connected to each location. The traffic flow information obtained from each detector shall be within +/- 5% of each of two 10-minute manual data periods.

A field test shall be successfully conducted by the ITS Field System Integrator for each Wavetronix Detector HD 125 Module, complete with connections. The test is designed to demonstrate that Wavetronix Detector HD 125 Module integrated by the contractor operates correctly, and that all functions are in conformance with these Specifications.

Following successful completion of the above tests, the Wavetronix Detector HD 125 Module shall be activated and left on for 30 consecutive days. During this period, all materials and components of the Wavetronix Detector HD 125 Module shall operate as specified and without any failure.

The contractor / ITS Field System Integrator shall submit copies of the test results, including any unsuccessful and subsequently successful tests to the engineer prior to any field operations testing.

D Measurement
The department will measure Installing Wavetronix HD 125 Module and Cable as each unit acceptably installed and operational.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.06	Install Wavetronix HD 125 Module and Cable	Each

Payment is full compensation for installing the Wavetronix HD 125 Module and Cable; for making all connections; and for all testing.

49. Install Wavetronix Click 200 Module, Item SPV.0060.07.

A Description
This special provision describes installing department furnished Wavetronix Click 200 Module as shown on the plans and as hereinafter provided.

B Materials
The units will consist of Wavetronix Click 200 Module. DIN racks, terminal block, and wiring. Provide stainless steel bolts and any other mounting or wiring hardware not furnished by the state.

C Construction
Install the Wavetronix Click 200 Module in the cabinet on to the DIN rail as shown on the plans. The DIN rail shall maintain good physical contact with the cabinet to assure proper grounding.

Connect the Wavetronix Click 200 Module to the Wavetronix Power Module and to the Wavetronix unit as shown on the plan.

After the Wavetronix Click 200 Module is installed and the Wavetronix cable is connected to the Wavetronix unit, test to see that all of the traffic lanes are being collected correctly.

D Measurement
The department will measure Install Wavetronix Click 200 Module, as each Wavetronix Click 200 Module is acceptably installed and operational.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.07	Install Wavetronix Click 200 Module	Each

Payment is full compensation for installing antennas and connections; for furnishing and installing mast brackets and mounting hardware; and for testing.

50. Install Pole Mounted Cabinet 24”X51”, Item SPV.0060.08.

A Description
This special provision describes installing department furnished aluminum enclosures on poles for intelligent transportation systems equipment, as shown on the plans and as hereinafter provided.

B Materials
All bolts, nuts, and washers that are subject to corrosion shall be stainless steel unless otherwise specified.

All conductors, terminals, and parts that could be hazardous to maintenance personnel shall be protected with suitable insulating material.

The cabinet will be equipped with service panels. Two panels will be provided and mounted on the cabinet sidewalls. The left side panel will be designated as “Input/Communications”, and the right side panel will be designated as the “Service Panel”.

The service panel will be equipped with a four-outlet handi-box. The handi-box shall be wired to the series portion of the SHA-1210 specified herein.

The cabinet will be protected by a filtering surge protector (Wavetronix Click 200 supplied by department). The protector will have the following minimum features:

Peak Current	20,000 amps
Life Test	5% change
Clamp Voltage (L-N)	280V @ 20KA
Response Time	Voltage never exceeds 28 volts during surge
Continuous Service Current	10 amps maximum
	120VAC 60Hz

Metallic conduit, fittings, and adapters required from the underground conduit transition point to the cabinet shall be provided by the contractor as part of this item. Metallic conduit shall be supplied in accordance to standard spec 652. Conduit and fittings shall be sized according to the plan. Installation shall require one two-inch conduit for electrical wire.

C Construction

The contractor shall securely fasten the field cabinet onto a pole (pole paid separately). Provide bolted stainless steel connections with lock washers, locking nuts, or other engineer-approved means to prevent the connection nuts from backing off. Isolate dissimilar materials from one another by stainless steel fittings.

Make all power connections to the cabinet as specified in standard spec 656.

The cabinet shall be drilled and tapped, as necessary, to mount the terminal blocks and other attachments to the service panel, to provide an entrance on the back of the cabinet for cable from the pole mounted intelligent transportation systems equipment, and to mount the service panel to the cabinet as shown in the details. Sharp edges, or burrs, caused by the cutting or drilling process shall be removed. All openings shall be sealed to prevent water from entering the cabinet.

The surge protector shall be mounted to the service panel.

Conduit shall be installed exterior to the pole (for entrance to the cabinet from the ground) as shown in the plans, and in accordance to the applicable requirements of standard spec 652.

D Measurement

The department will measure Install Pole Mounted Cabinet 24” X 51” as each individual assembly, 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.0060.08	Install Pole Mounted Cabinet 24" X 51"	Each

Payment is full compensation for installing the pole mounted cabinet, for providing and installing contractor supplied wire and conduit, for making all connections and conduit/wire entrances, and for furnishing all testing.

51. Install Cellular Antenna and Antenna Cable, Item SPV.0060.09.

A Description

This special provision describes installing department furnished cellular antennas and antenna cable as shown on the plans and as hereinafter provided.

B Materials

The department will provide cellular antennas and antenna cable. The following antennas are included:

- Yagi Antennas with 10 dB Gain

All mounting material shall be stainless steel. Holes or notches shall not be drilled into a sign structure or pole. The sign structure or pole shall not be altered in any way.

C Construction

Install the antennas on poles by means of a mast bracket as shown on the plans. Provide the mast bracket of a diameter and construction as recommended by the antenna manufacturer, and approved by the engineer. Electrical and physically bond the mast bracket to the pole. The bracket shall maintain good physical contact with the pole to assure proper grounding.

Place the antenna in the direction indicated on the plan and Communication Schematic to ensure 100% data transfer.

Connect the antenna drop cable to the antenna. The connection shall be fully sealed with waterproof antenna sealant type compound.

After the antenna is installed on the pole, and the antenna cable is connected from the antenna to the assembly, test the signal for data transfer and signal strength. The data transfer shall be at 100%, and the signal strength shall be 60 or better.

D Measurement

The department will measure Install Cellular Antenna and Antenna Cable as each cellular antenna and cable, acceptably completed.

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

ITEM NUMBER	DESCRIPITON	UNIT
SPV.0060.09	Install Cellular Antenna and Antenna Cable	Each

Payment is full compensation for installing antennas and connections; for furnishing and installing mast brackets and mounting hardware; and for testing.

52. Concrete Maintenance Platform 48”X36”X4”, Item SPV.0060.10.

A Description
This special provision describes constructing a concrete maintenance platform at an automatic traffic recorder station.

B Materials
Provide materials per standard spec 602.2.

C Construction
Under this bid item a 48” x 36” x 4” concrete maintenance platform will be constructed. Install concrete maintenance platform as specified in the plan details.

Before installation of the concrete maintenance platform, the earth shall be leveled and compacted around the type 2 concrete pole base.

Fifty two inches by 40 inches of earth 4 inches deep shall be removed on the side of the pole opposite the roadway. (When you are standing on the platform looking into the cabinet you are also looking straight ahead at the roadway.)

Two by four lumber forms shall be constructed and laid in the area that the earth was removed from. The forms shall be leveled and squared before the concrete is poured.

The concrete is poured it shall be leveled and finished with a broom finish.

The area around the maintenance platform and type 2 concrete pole base shall be leveled to the top of the maintenance platform and seeded.

D Measurement
The department will measure Concrete Maintenance Platform 48”x36”x4” as each individual concrete maintenance platform, 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.0060.10	Concrete Maintenance Platform 48”x36”x4”	Each

Payment is full compensation for furnishing all materials, including concrete and for constructing platform.

53. Traffic Control Interim Freeway Two Lane Closure, Item SPV.0060.11.

A Description
This item shall consist of adjusting existing traffic control items that have previously been placed on the freeway for a two lane closure, intended two lane closure or are in position for staged construction as shown on the plans into position for an additional two lane closure, and for readjusting the traffic control items to their original state or position upon removal of the two lane closure within a 24 hour period. All work shall be in accordance to standard spec 643, the plans, and as directed by the engineer.

B (Vacant)

C (Vacant)

D Measurement
The department will measure Traffic Control Interim Freeway Two Lane Closure as each individual freeway two lane closure setup and subsequently removed per direction of traffic within a 24-hour time period, acceptably completed. Single lane closures or shoulder closures placed during off-peak hours just prior to freeway night time hour two lane closures are considered incidental to this item.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.11	Traffic Control Interim Freeway Two Lane Closure	Each

Payment is full compensation for setup and subsequent removal per direction of traffic within a 24-hour time period of a freeway lane or two-lane closure. No separate payment will be made for single lane closure or shoulder closure placed during off-peak hours just prior to freeway night time hour two lane closures.

54. Traffic Control Close-Open Freeway Entrance Ramp, Item SPV.0060.12.

A Description
This item shall consist of furnishing the labor and equipment required for closing and subsequently opening a freeway entrance ramp and associated auxiliary lane in accordance to standard spec 643, the plans, and as directed by the engineer. Drums, barricades and signs may remain along the roadway when the exit ramp is open to traffic. Signs shall not be visible to traffic when the ramp is open. Drums, barricades and signs will be paid for separately under the various traffic control items.

B (Vacant)

C (Vacant)

D Measurement
The department will measure Traffic Control Close-Open Freeway Entrance Ramp by each individual traffic control, close-open freeway ramp acceptably completed. Closure or partial closure of the adjacent auxiliary lane is considered incidental to this item.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.12	Traffic Control Close-Open Freeway Entrance Ramp	Each

Payment is full compensation for closing and subsequently opening a freeway entrance ramp. No separate payment will be made for closure or partial closure of adjacent auxiliary lanes.

55. Traffic Control Full Freeway Closure, Item SPV.0060.13.

A Description
This item shall consist of furnishing the labor and equipment required for closing and subsequently opening the freeway accordance to standard spec 643, the plans, and as directed by the engineer. Drums, barricades and signs may remain along the outside edge of the freeway shoulder when the freeway is open to traffic. Signs shall not be visible to traffic when the freeway is open. Drums, barricades, lights, arrow boards and signs will be paid for separately under the various traffic control items.

B (Vacant)

C (Vacant)

D Measurement
The department will measure Traffic Control Full Freeway Closure by each individual freeway closure that is set up and subsequently removed in each traffic direction within a 24 hour time period, 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.0060.13	Traffic Control Full Freeway Closure	Each

Payment is full compensation for closing and subsequently opening the freeway. Drums, barricades, lights, arrow boards and signs will be paid for separately under the various traffic control items.

56. Pavement Marking Grooved Preformed Thermoplastic Arrows Type 4, Item SPV.0060.14; Arrows Type 5, Item SPV.0060.15.

A Description

This special provision describes grooving the pavement surface, and furnishing and installing preformed thermoplastic pavement marking as shown on the plans, in accordance with standard spec 647, and as hereinafter provided.

B Materials

Furnish 125 mils preformed thermoplastic pavement marking from the department's approved products list. If required, furnish sealant material recommended by the manufacturer.

C Construction

C.1 General

For quality assurance, provide the engineer and the region's Marking Section evidence of manufacturer training in the proper placement and installation of preformed thermoplastic pavement marking.

Plane the grooved lines in accordance with the plan details. Use grooving equipment with a free-floating, independent cutting or grinding head. Plane a minimum number of passes to create a smooth groove.

C.2 Groove Depth

Cut the groove to a depth of 120 mils ±10 mils deep from the pavement surface or, if tined, from the high point of the tined surface. Measure depth using a straightedge placed perpendicular to the groove. The department may periodically check groove depths.

C.3 Groove Width – Linear Markings

Cut the groove 1-inch wider than the width of the thermoplastic.

C.4 Groove Position

Position the groove edge in accordance with the plan details.

C.4.1 Linear Marking

Groove at a minimum of 4-inches, but not greater than, 12-inches from both ends of the line segment. Achieve straight alignment with the grooving equipment.

C.4.2 Special Marking

Groove at a minimum of 4-inches from the perimeter of the special marking. Groove separate areas for Word Items.

C.5 Groove Cleaning

C.5.1 Concrete

Cooling the cutting head with water may be necessary for some applications and equipment. If cooling water is necessary, flush the groove immediately with water after

cutting to remove any build-up of cement dust and water slurry. If this is not done, the slurry may harden in the groove.

If water is used in the grooving process, allow the groove to dry a minimum of 24 hours after groove cleaning, after removal of excess water, and prior to pavement marking application. Clean and dry the groove for proper application of the sealant, and placement of the pavement marking. Use a high-pressure air blower with at least 185 ft^3/min air flow and 90 psi air pressure to clean the groove; use of the air blower does not decrease the amount of time required for the groove to dry.

C.5.2 Asphalt
Use a high-pressure air blower with at least 185 ft^3/min air flow and 90 psi air pressure to clean the groove.

Check for structural integrity in supporting grooving operations. If the structural integrity of the asphalt pavement is inadequate to support grooving operations, immediately notify the engineer.

C.6 Preformed Thermoplastic Application
Preheat the surface if necessary based on manufacturer's recommendation.

Apply preformed thermoplastic in the groove as per manufacturer's recommendations. If manufacturer's recommendations require a sealant, apply a sealant lower than 91g/l VOC during the following period of time due to Volatile Organic Compound Limitations:

May 1 to September 30, both dates inclusive – the Southeast Region and the ozone non-attainment Northeast Region counties of Sheboygan, Manitowoc, and Kewaunee.

Use any sealant in the remainder counties and for the remainder of the year. The sealant must be wet.

D Measurement
The department will measure Pavement Marking Grooved Preformed Thermoplastic Arrows (Type) by each individual unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.14	Pavement Marking Grooved Preformed Thermoplastic Arrows Type 4	Each
SPV.0060.15	Pavement Marking Grooved Preformed Thermoplastic Arrows Type 5	Each

Payment is full compensation for cleaning and preparing the pavement surface, and for furnishing and installing the material.

57. Ground Rod, Item SPV.0060.21.

A Description
This special provision describes installing a ground rod and ground wire.

B Materials
Ground rod shall be copper clad steel with cladding 13 mils thick. The minimum diameter is 5/8-inch and the minimum length is eight feet. Ground wire shall be AWG # 6 bare, solid copper.

C Construction
Use exothermic welding to connect the ground wire to the rod. Install the rod vertically, or as close to vertical as conditions permit. Select locations with moist soil, if available. Place the rod at least six feet from all other ground rods.

D Measurement
The department will measure Ground Rod by each individual unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.21	Ground Rod	Each

Payment is full compensation for installation of the ground rod and ground wire; and for welding and connections at both ends of the ground wire.

58. Refocus Microwave Vehicle Detector Assembly, Item SPV.0060.22.

A Description
This special provision describes refocusing an existing microwave detector for operation with a new lane configuration.

B Materials
Materials include existing or newly installed Electronic Integrated Systems, Inc. (EIS) Remote Traffic Microwave Sensor (RTMS)

C Construction
Coordinate all planned down-time of the temporary vehicle detector assembly with the STOC at (414) 227-2166. Notify the STOC an amount of time ahead of planned down-time equal to the planned down-time. Examples would be that a 4-hour temporary down-time of the system would require notification 4-hours ahead of time while an 8-hour planned down-time would require 8-hours of advance notification.

Verify to the satisfaction of the engineer that the existing detector assembly is working properly. Inspect the vehicle detector assembly for damage.

Reinstall the RTMS detector as required in standard spec 675. Additionally, integrate the integral serial communications radio with the radio installed at the base-station field cabinet, and return the TVDA to operation.

D Measurement
The department will measure Refocus Microwave Vehicle Detector Assembly by each individual unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.22	Refocus Microwave Vehicle Detector Assembly	Each

Payment is full compensation for making the detector fully operational with a new lane configuration.

59. Concrete Barrier Single Faced 32-Inch, Special, Item SPV.0090.01; Concrete Barrier Double Faced 51-Inch, Special, Item SPV.0090.02.

A Description
This special provision describes repairing concrete barrier in accordance to the plans, as directed by the engineer, and as hereinafter provided.

B Materials
Furnish high-strength bar steel reinforcement that conforms to the applicable provisions of Standard spec 505.

Furnish materials that conform to the applicable provisions of standard spec 603.

C Construction
Construct concrete barrier single-faced by using construction methods conforming to standard spec 603.

New barrier section shall be cast in place. The barrier shall be anchored to the existing base and tied to the existing barrier reinforcement.

D Measurement
The department will not measure Concrete Barrier Single Faced 32-Inch, Special, Concrete Barrier Double Faced 51-Inch Special. The department will use pay plan quantity according to the Pay Plan Quantity article.

E Payment
The department will pay for plan quantities according to the Pay Plan Quantity article at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.01	Concrete Barrier Single Faced 32-Inch, Special	LF
SPV.0090.02	Concrete Barrier Double Faced 51-Inch, Special	LF

Payment is full compensation for furnishing all materials, including concrete, expansion joints, and reinforcement; for placing, finishing, protecting, and curing concrete.

60. Removing Electrical Wires from Conduit, Item SPV.0090.03.

A Description

This special provision describes removing of electrical wires from existing conduits and disposed of the project site.

B (Vacant)

C Construction

No removal work will be permitted without approval from the engineer. Removal shall start as soon as the temporary lighting or permanent lighting, as applicable, is placed in approved operation. An inspection and approval by the engineer will take place before any associated proposed permanent or temporary lighting is approved for operation.

All wires shall be removed from the existing embedded or underground conduits as shown on the plans and as directed by the engineer. Any necessary splices or disconnections shall be done as part of this pay items. Removed wires shall become property of the contractor and shall be disposed of the project site.

D Measurement

The department will not measure Removing Electrical Wires from Conduit. The department will use pay plan quantity according to the Pay Plan Quantity article. The vertical length and wire slack shall be incidental to this pay item.

E Payment

The department will pay for plan quantities according to the Pay Plan Quantity article at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.03	Removing Electrical Wires from Conduit	LF

Payment is full compensation for removing electrical wires from conduits; and for disposal of all removed materials.

61. Removing Pavement Markings Water Blasting, Item SPV.0090.04.

A Description

This special provision describes removing pavement markings using high pressurized water spray from locations shown on the plans or as the engineer directs. Conform to standard spec 646 as modified in this special provision.

B (Vacant)

C Construction
Remove pavement marking using a high pressurized water spray with a vacuum recovery system to provide a clean, dry surface, without the use of a secondary cleanup process when pavement or ambient air temperature is 36 degrees F and rising. Remove all markings in their entirety. Provide equipment with a storage system that contains wastewater and debris. Control blast head at all times.

Obtain approval from engineer to perform alternative removal process, including grinding, when either restricted from using water blasting or water blasting alone was unsuccessful.

D Measurement
The department will not measure Removing Pavement Markings Water Blasting. The department will use pay plan quantity according to the Pay Plan Quantity article.

E Payment
The department will pay for plan quantities according to the Pay Plan Qauntity article at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.04	Removing Pavement Markings Water Blasting	LF

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62. Pavement Cleanup Project, Item SPV.0105.01.

A Description
This special provision describes cleanup of dust and debris from pavements within and adjacent to the job site.

B Materials
B.1 Pavement Cleanup
Furnish a vacuum-type street sweeper equipped with a power broom, water spray system, and a vacuum collection system.

Vacuum equipment shall have a self-contained particulate collector capable of preventing discharge from the collection bin into the atmosphere.

Use a vacuum-type sweeper as the primary sweeper, except as specified herein or approved by the engineer.

C Construction
C.1 Pavement Cleanup
Keep all pavements, curb lanes and gutters both closed and open to public traffic within the job-site boundaries free of dust and debris generated from any activity under the contract. Keep all pavements, curb lanes and gutters adjacent to the project free of dust and

debris that are affected by land disturbing, dust generating activities, as defined in the contractor's dust control implementation plan.

Provide surveillance to identify if material is being tracked from the jobsite. Clean up spillage and material tracked from the project within an hour of occurrence or as directed by the engineer. Perform cleanup operations in a safe manner.

Provide routine sweeping of all pavements, curb lanes and gutters on local street active haul routes a minimum of once a day as defined in the Dust Control Implementation Plan (DCIP) or as directed by the engineer.

In addition to routine sweeping, conduct sweepings as the engineer directs or approves, to deal with dust problems that might arise during off-work hours or emergencies. Provide the engineer with a contact person available at all times to respond to requests for emergency sweeping. Respond to emergency sweeping requests within 4 hours.

If the vacuum-type sweeper breaks down, a mechanical broom sweeper may be substituted for no more than 24 hours total elapsed time. Repair the vacuum-type sweeper within that 24 hours or substitute a vacuum-type sweeper.

Skid steers with mechanical power brooms may only be utilized on sidewalks and driveways whose pavements will not support the weight of a street sweeper, unless otherwise approved by the engineer.

D Measurement

The department will measure Pavement Cleanup Project as a single lump sum unit of work, 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.0105.01	Pavement Cleanup Project	LS

Payment schedule for this item will be in accordance to the percentage of contract value earned.

Payment is full compensation for surveillance, mobilization, sweeping, disposing of materials.

SEF Rev. 12_1008

63. Maintenance of Lighting Systems, Item SPV.0105.02.

A Description

Maintain existing and proposed lighting system beginning on the date that the contractor's activities (electrical or otherwise) at the job site begin. Take responsibility for the proper operation and maintenance of all existing and proposed lighting systems which are part of,

or which may be affected by, the work until final acceptance or as otherwise determined by the engineer.

Before performing any excavation, removal, or installation work (electrical or otherwise) at the site, initiate a request for a maintenance transfer and preconstruction inspection, as specified elsewhere herein, to be held in the presence of the engineer and a representative of the party or parties responsible for maintenance of any lighting systems which may be affected by the work. Make the request for the maintenance preconstruction inspection no less than seven calendar days prior to the desired inspection date.

Existing lighting systems, when depicted on the plans, are intended only to indicate the general equipment installation of the systems involved and shall not be construed as an exact representation of the field conditions. Visit the site to confirm and ascertain the exact condition of the electrical equipment and systems to be maintained.

B (Vacant)

C Construction

C.1 Existing Lighting Systems

Existing lighting systems are defined as any lighting system or part of a lighting system in service prior to this contract. The contract drawings indicate the general extent of any existing lighting. Ascertain the extent of effort required for compliance with these specifications; failure to do so will not be justification for extra payment or reduced responsibilities. Clear and replace any knockdowns or damage caused to the existing lighting system, regardless of who causes the damage. Maintain existing lighting system as follows:

Partial Maintenance: Only maintain the affected circuits if the number of circuits affected by the contract is equal to or less than 40% of the total number of circuits in a given controller and the controller is not part of the contract work unless otherwise indicated. Ensure engineer approval to isolate the affected circuits by means of in-line waterproof fuse holders as specified elsewhere.

Full Maintenance: Maintain the entire controller and all associated circuits if the number of circuits affected by the contract is greater than 40% of the total number of circuits in a given controller, or if the controller is modified in any way under the contract work.

C.2 Proposed Lighting Systems

Proposed lighting systems are any temporary or final lighting systems or part of a lighting system to be constructed under this contract.

Maintain all items installed under this contract, including, but not be limited to, any equipment failures or malfunctions as well as equipment damage either by the motoring public, contractor operations, or other means.

Excluding damage due to contractor operations, the contractor will be reimbursed for replaced equipment, materials only, if the invoice paid for the individual piece of equipment is greater than $500. The cost of maintaining equipment installed under this contract, labor, mobilization, tools and incidentals along with repairs due to contractor operations are incidental to this bid item.

C.3 Maintenance Operations

Maintain lighting units (including sign lighting), cable runs, and lighting controls. In the case of a pole knockdown or sign light damage caused by normal vehicular traffic, promptly clear the lighting unit and circuit discontinuity and restore the system to service. Reinstall the lighting unit (if salvageable), or install a new one.

Provide weekly night-time patrol of the lighting system, with patrol reports filed immediately with the engineer and copied to the region lighting coordinator with deficiencies corrected within 24 hours of the patrol. Present patrol reports on standard forms as designated by the engineer. Uncorrected deficiencies may be designated by the engineer as necessitating emergency repairs as described elsewhere herein.

Perform corrective action on specific lighting system equipment according to the following chart. The chart lists the maximum response, service restoration, and permanent repair time.

Incident or Problem	Service Response Time	Service Restoration Time	Permanent Repair Time
Control cabinet out	1 hour	4 hours	7 Calendar days
Hanging mast arm	1 hour to clear	na	7 Calendar days
Motorist caused damage or leaning light pole 10 degrees or more	1 hour to clear	4 hours	7 Calendar days
Circuit out – Needs to reset breaker	1 hour	4 hours	na
Circuit out – Cable trouble	1 hour	24 hours	21 Calendar days
Outage of 3 or more successive lights	1 hour	4 hours	na
Outage of 75% of lights on one tower	1 hour	4 hours	na
Outage of light nearest RR crossing approach, Islands and gores	1 hour	4 hours	na
Outage (single or multiple) found on night outage survey	na	na	7 Calendar days

C.4 Lighting

1. **Service Response Time:** The amount of time from the initial notification to the contractor until a patrolman physically arrives at the location.
2. **Service Restoration Time**: The amount of time from the initial notification to the contractor until the time the system is fully operational again. (In cases of motorist-caused damage, the undamaged portions of the system are operational.)
3. **Permanent Repair Time**: The amount of time from initial notification to the contractor until the time permanent repairs are made if the contractor was required to make temporary repairs to meet the service restoration requirement.

Failure to provide this service will result in liquidated damages of $500.00 per day per occurrence. In addition, the department reserves the right to assign any work not completed within this timeframe to the State Electrical Engineering and Electronics Unit. Reimburse all costs associated to repair this uncompleted work. Failure to pay these costs to the State Electrical Engineering and Electronics Unit within one month after the incident will result in additional liquidated damages of $500.00 per month per occurrence. Unpaid bills will be deducted from the cost of the contract. Repeated failures and/or a gross failure of maintenance shall result in the State's Electrical Engineering and Electronics Unit being directed to correct all deficiencies and the resulting costs deducted from any monies owed the contractor.

C.5 Operation of Lighting

Maintain operational lighting every night, dusk to dawn. Do not operate duplicate lighting systems (such as temporary lighting and proposed new lighting) simultaneously. Do not keep lighting systems in operation during long daytime periods. Ensure that the lighting system is fully operational and approved by the engineer prior to submitting a pay request. Failure to do so will be grounds for denying the pay request.

D Measurement

The department will measure Maintenance of Lighting Systems as a single lump sum unit of work, per contract, 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.0105.02	Maintenance of Lighting Systems	LS

Payment is full compensation for Maintenance of Lighting Systems, both existing and proposed, weekly night-time patrol of the lighting system, mobilization, and filed patrol reports. No payment will be considered for damage or repairs due to contractor operations.
SEF 13_0822

64. High Friction Surface Treatment Asphalt, Item SPV.0180.01.

A Description

This special provision describes providing a High Friction Surface Treatment (HFST) composed of aggregate in an asphaltic binder on HMA pavements.

B Materials

B.1 Asphaltic Binder

Furnish polymer-modified emulsified asphalt conforming to AASHTO M 316.

B.2 Aggregates

Furnish natural aggregates, synthetic aggregates, or industrial by-products that have a proven record of performance in applications of this type. Industrial by-products shall conform to category 1 or 2 under NR 538.08 of the Wisconsin Administrative Code.

Ensure that aggregates are resistant to polishing and crushing; clean and free of surface moisture; fractured or angular in shape; free from silt, clay, asphalt, or other organic materials; compatible with the asphaltic binder; and meet the properties and gradation requirements in Tables 1 and 2.

Table 1. Aggregate Properties

Property	Requirements	Test Method
Fine Aggregate Angularity	≥ 45%	AASHTO T304, Method A
Micro-Deval	≤ 15% loss	ASTM D7428
LA Wear	<10% loss @ 100 revolutions and < 35% loss @ 500 revolutions	AASHTO T96
Freeze-Thaw Soundness	<12% loss @ 50, 16 or 25 cycles using Procedure A, B or C respectievely	AASHTO T103

Table 2. Aggregate Gradation

Sieve Size	% Passing by Weight
No. 4	100
No. 8	30-75
No. 16	0-5
No. 30	0-1

B.3 Required Properties of the High Friction Surface Treatment Asphalt
Provide a HFST with the properties shown in Table 3.

Table 3. HFST Properties

Property	Requirements	Test Method
Surface Friction (Microtexture) -	BPN ≥ 65	ASTM E303
Sideway Friction Force	≥ 0.7	ASTM E670
Macrotexture Depth – Sand Patch Method	≥ 1 mm	ASTM E965

B.4 Approval of High Friction Surface Treatment
A minimum of 10 business days before applying HFST, submit documentation that the materials meet the requirements of Tables 1, 2, and 3 to the engineer for approval. Documents must be dated within three years. If the engineer requests, provide samples of asphaltic binder and aggregate for department testing before applying HFST. If using industrial by-products as aggregate, submit a certificate of compliance certifying which category the material conforms to under NR 538.08 of the Wisconsin Administrative Code.

C Construction
C.1 General
Conduct a meeting before applying HFST to establish procedures for maintaining optimum working conditions and coordination of the work.

Ensure that polymer modified emulsified asphalt materials maintain their original properties during storage and handling. Store all aggregates in a dry environment and protect from contaminants on the job site.

C.2 Pavement Surface Preparation
C.2.1. Pavement Surface Repair
Remove unsound pavement as the plans show or the engineer directs.

Ensure that products used for pavement repairs or patches are compatible with the asphaltic HFST and are fully cured before placing the HFST. Do not apply HFST to new HMA pavement until after it has been in place for at least 24 hours.

C.2.2 Surface Preparation
Cover and protect utilities, drainage structures, expansion joints on bridge decks, and other structures within or adjacent to the application location to prevent materials from adhering to or entering those structures.

Remove pavement markings that are within the treatment area by one or a combination of scarification, grinding, or sand blasting. Cover existing pavement markings adjacent to the application if they are to remain in place.

Seal joints and cracks greater than 1/4 inch wide with a joint sealant conforming to ASTM D6690.

Clean the existing pavement surface with a power broom or other suitable equipment to remove dirt, clay, or other foreign material no more than 24 hours before applying HFST. Keep vehicles and unnecessary equipment off the cleaned surface. Apply HFST as soon as possible after cleaning is completed.

C.3 Application of the High Friction Surface Treatment

Do not apply the HFST if any of the following exists:

- Pavement surface is wet or not sufficiently clean.
- Ambient air temperature is below 60° F.
- Rain is predicted before HFST application will be completed.

Close treatment areas to traffic until after the cover aggregate is applied.

Construct HFST to the full width of the existing pavement surface or as the plans show or engineer directs. Apply as a single layer 1/8 inch to 1/4 inch thick.

Heat and apply the asphaltic material to the supplier-specified temperature using equipment conforming to standard spec 455.3.2.2.2. The department will reject overheated or otherwise damaged asphaltic material.

Apply the asphaltic binder uniformly over the pavement surface manually or with automated equipment. Adjust the application rate based on the existing pavement surface type and condition. Use a minimum application rate of 0.25 gallons per square yard. Use enough asphaltic binder to cover the pavement surface and bind the aggregate, but not so much that it covers the aggregate or bleeds in hot weather.

If applying binder with an automated sprayer, ensure that the equipment features positive displacement, volumetric metering, and is capable of storing, mixing, heating, monitoring, and distributing the binder components at the proper mix ratio. If using an automated tack distributor, provide equipment conforming to standard spec 455.3.2.2.3. Adjust the pressure and the speed of the equipment according to the application rate, and the size, angle, and bar height of the spray nozzles.

Dry or moisten the aggregate to ensure that it is damp to surface dry. Immediately after applying the asphalt binder, while it is still brown in color and before it begins to break, distribute aggregate over the surface using a standard chip spreader or equivalent machine that can provide uniform, consistent coverage. Completely cover the treated surface but limit the application to an amount easily embedded in and bonded by the asphaltic material. Cover areas that have excessive binder with additional hand broadcasted aggregate immediately before rolling.

Roll the surface according to standard spec 475.3.5(2) immediately after placing the aggregate. Stop rolling as soon as the asphalt sets or hardens to preserve the asphalt-to- aggregate bond.

After all the water evaporates and the emulsified asphalt is completely set, remove excess loose surface aggregate by lightly sweeping, blowing, or vacuuming. Do not tear or otherwise damage the surface. The contractor may reuse recovered aggregate if it is clean, uncontaminated and dry. Repair damaged areas or areas with excess or insufficient aggregate coverage. Clean expansion joints, utilities, and drainage structures of all debris before opening to traffic.

Additionally, within 3 to 7 days after opening to traffic, remove loosened aggregates from the high friction surface area, the shoulders, and any other areas within or immediately adjacent to the HFST site.

D Measurement

The department will measure High Friction Surface Treatment Asphalt by the square yard, 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.0180.01	High Friction Surface Treatment Asphalt	SY

Payment for High Friction Surface Treatment Asphalt is full compensation for providing the HFST; for testing materials; for preparing the pavement surface; for application of the HFST; and for removing and disposing of excess material after completion and again in 3-7 days.

The department will pay for pavement repairs, joint and crack sealing, and traffic control separately under other contract bid items or, absent the appropriate bid items, as extra work.

65. Cold Patch, Item SPV.0195.01.

A Description

This special provision describes furnishing, stockpiling, placing, and maintaining cold patch material. Use the cold patch material for short term maintenance purposes to fill potholes/voids in the existing pavement surface that the engineer deems necessary.

B Materials

B.1 General

Furnish cold patch that is a combination of course aggregate, natural sand and bituminous material MC-250. Design the mixture to have: a workability range of 15-100º F without the addition of heat, good adhesion to wet surfaces, and resistance to damage by water, salt

and deicing products. Design a uniform mixture that does not require any mixing or special handling prior to use.

B.2 Gradations
Conform to the following gradation requirements:

SIEVE SIZE	PERCENT PASSING (by weight)
3/8 Inch (9.5mm)	96 - 100
No. 4 (4.75 mm)	76 - 82
No. 8 (2.38mm)	50 - 60
No. 50 (.297mm)	15 - 20
No. 200 (.074mm)	2 - 5
Bitumen	4.8 - 5.2

C Construction
C.1 General
Choose a smooth, firm, and well-drained area for an on-site stockpile that is cleared of vegetation and foreign material that may contaminate the cold patch. Make the stockpile easily accessible, maintainable and replenishable at any time during the project. The stockpile is not to exceed 10 tons on site at any given time unless approved by the engineer. Remove and dispose of any unused portions of the stockpile at the completion of the project unless otherwise directed by the engineer. Complete this work at no additional expense to the department.

Application of the cold patch must be able to be accomplished by hand labor. Remove all ponded water and loose debris prior to filling any potholes/voids. Place material into the pothole/void and compact flush with a tamper, roller, or vehicle tire. Traffic must be able to travel over the patch immediately after installation.

D Measurement
The department will measure Cold Patch by the ton stockpiled on site, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0195.01	Cold Patch	Ton

Payment for Cold Patch is full compensation for the patch; furnishing and providing a stockpile of material; preparing the pothole/void for material placement, stockpiling, placing, compacting, and maintenance. Payment includes compensation for any unused stockpile quantities remaining on site at the completion of the project.
SEF Rev. 13_0814

ADDITIONAL SPECIAL PROVISION 4

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 may also withhold routine 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.

Release of Routine Retainage

After granting substantial completion the department may reduce the routine retainage withheld from the prime contractor to 75 percent of the original total amount retained.

When the Department sends the semi-final estimate the department may reduce the routine retainage withheld from the prime contractor to 10 percent of the original total amount retained.

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 and that no routine retainage is being withheld. The department will pay the prime contractor in full and reduce the routine retainage withheld from the prime contractor to zero when the department approves the final estimate.

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.

ADDITIONAL SPECIAL PROVISION 6
ASP 6 - Modifications to the standard specifications

Make the following revisions to the standard specifications:

450.3.2.1 General

Replace the entire text with the following effective with the January 2015 letting:

(1) Do not place asphaltic mixture when the air temperature approximately 3 feet above grade, in shade, and away from artificial heat sources is less than 36 F for upper layers or 32 F for lower layers unless the engineer allows in writing. The contractor should place HMA pavement for projects on or north of STH 29 between May 1 and October 15 inclusive and for projects south of STH 29 between April 15 and November 1 inclusive. Notify the engineer at least one business day before paving.

(2) Unless the contract specifies otherwise, conform to the following:

- Keep the road open to all traffic during construction.
- Prepare the existing foundation for treatment as specified in 211.
- Incorporate loose roadbed aggregate as a part of preparing the foundation, in shoulder construction, or dispose of as the engineer approves.

(3) Place asphaltic mixture only on a prepared, firm, and compacted base, foundation layer, or existing pavement substantially surface-dry and free of loose and foreign material. Do not place over frozen subgrade or base, or where the roadbed is unstable.

450.5 Payment

Replace the entire text with the following effective with the January 2015 letting:

(1) All costs of furnishing, maintaining, and operating the truck scale or other weighing equipment and furnishing the weigh tickets are incidental to the contract.

(2) Nonconforming material allowed to remain in place is subject to price adjustment under 105.3.2.

(3) Full-depth sawing to remove integrally placed safety edge where not required is incidental to the contract.

(4) The contractor is responsible for pavement performance. If because of an excusable compensable delay under 108.10.3, the engineer directs the contractor to pave when the temperature is less than 36 F for the upper layer or less than 32 F for lower layers, the department:

- Will relieve the contractor of responsibility for damage and defects the engineer attributes to cold weather paving.
- Will not assess disincentives for density or ride.

455.3.2.1 General

Replace paragraphs one and two with the following effective with the January 2015 letting:

(1) Apply tack coat only when the air temperature is 32 F or more unless the engineer approves otherwise in writing. Before applying tack coat ensure that the surface is dry and reasonably free of loose dirt, dust, or other foreign matter. Do not apply if weather or surface conditions are unfavorable or before impending rains.

(2) Use tack material of the type and grade the contract specifies. The contractor may, with the engineer's approval, dilute tack material as allowed under 455.2.4. Provide calculations using the asphalt content as-received from the supplier and subsequent contractor dilutions to show that as-placed material has 50 percent or more residual asphalt content. Apply at 0.050 to 0.070 gallons per square yard, after dilution, unless the contract designates otherwise. The engineer may adjust the application rate based on surface conditions. Limit application each day to the area the contractor expects to pave during that day.

460.2.2.3 Aggregate Gradation Master Range

Replace paragraph one with the following effective with the December 2014 letting:

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

TABLE 460-1 AGGREGATE GRADATION MASTER RANGE AND VMA REQUIREMENTS

SIEVE	PERCENTS PASSING DESIGNATED SIEVES						
	NOMINAL SIZE						
	37.5 mm	25.0 mm	19.0 mm	12.5 mm	9.5 mm	SMA 12.5 mm	SMA 9.5 mm
50.0-mm	100						
37.5-mm	90 –100	100					
25.0-mm	90 max	90 -100	100				
19.0-mm	___	90 max	90 -100	100		100	
12.5-mm	___	___	90 max	90 -100	100	90 - 97	100
9.5-mm	___	___	___	90 max	90 -100	58 - 72	90 - 100
4.75-mm	___	___	___	___	90 max	25 - 35	35 - 45
2.36-mm	15 – 41	19 - 45	23 - 49	28 - 58	20 - 65	15 - 25	18 - 28
75-µm	0 – 6.0	1.0 - 7.0	2.0 - 8.0	2.0 - 10.0	2.0 - 10.0	8.0 - 12.0	10.0 - 14.0
% MINIMUM VMA	11.0	12.0	13.0	14.0[1]	15.0[2]	16.0	17.0

[1] 14.5 for E-0.3 and E-3 mixes.

[2] 15.5 for E-0.3 and E-3 mixes.

460.3.4 Cold Weather Paving

Add a new subsection as follows effective with the January 2015 letting:

460.3.4 Cold Weather Paving

460.3.4.1 Cold Weather Paving Plan

(1) Submit a written cold weather paving plan to the engineer at the preconstruction meeting. In that plan outline material, operational, and equipment changes for paving when the air temperature approximately 3 feet above grade, in shade, and away from artificial heat sources is less than 40 F. Include the following:

- Use a department-accepted HMA mix design that incorporates a warm mix additive from the department's approved products list. Do not use a foaming process.
- Use additional rollers.

(2) Engineer written acceptance is required for the cold weather paving plan. Engineer acceptance of the plan does not relieve the contractor of responsibility for pavement performance except as specified in 450.5(4).

460.3.4.2 Cold Weather Paving Operations

(1) Do not place asphaltic mixture when the air temperature approximately 3 feet above grade, in shade, and away from artificial heat sources is less than 40 F unless a valid engineer-accepted cold weather paving plan is in effect.

(2) If the national weather service forecast for the construction area predicts ambient air temperature less than 40 F at the projected time of paving within the next 24 hours, confirm or submit revisions to a previously engineer-accepted cold weather paving plan for engineer validation. Upon validation of the plan, the engineer will allow paving for the next day. Once in effect, pave conforming to the engineer-accepted cold weather paving plan for the balance of that work day or shift regardless of the temperature at the time of paving.

460.4 Measurement

Add paragraph two as follows effective with the January 2015 letting:

(2) The department will measure HMA Cold Weather Paving by the ton of HMA mixture for pavement placed conforming to an engineer-accepted cold weather paving plan.

460.5.1 General

Revise paragraph one as follows effective with the January 2015 letting:

(1) The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
460.1100	HMA Pavement Type E-0.3	TON
460.1101	HMA Pavement Type E-1	TON
460.1103	HMA Pavement Type E-3	TON
460.1110	HMA Pavement Type E-10	TON
460.1130	HMA Pavement Type E-30	TON
460.1132	HMA Pavement Type E-30X	TON
460.1700	HMA Pavement Type SMA	TON
460.2000	Incentive Density HMA Pavement	DOL
460.4000	HMA Cold Weather Paving	TON

460.5.2.2 Disincentive for HMA Pavement Density

Revise paragraph two as follows effective with the January 2015 letting:

(2) The department will not assess density disincentives for pavement placed in cold weather because of a department-caused delay as specified in 450.5(4).

460.5.2.4 Cold Weather Paving

Add a new subsection as follows effective with the January 2015 letting:

460.5.2.4 Cold Weather Paving

(1) Payment for HMA Cold Weather Paving is full compensation for additional materials and equipment specified for cold weather paving under 460.3.4 including costs for preparing, administering, and following the contractor's cold weather paving plan.

(2) If HMA pavement is placed under 460.3.4 and the HMA Cold Weather Paving bid item is not in the contract, the department will pay for the additional costs specified in 460.5.2.4(1) as extra work. The department will pay separately for HMA pavement under the appropriate HMA Pavement bid items.

465.2 Materials

Replace paragraph two with the following effective with the December 2014 letting:

(2) Under the other section 465 bid items, the contractor need not submit a mix design. Furnish aggregates mixed with a type AC asphaltic material, except under the Asphaltic Curb bid item furnish PG58-28 asphaltic material. Use coarse and fine mineral aggregates uniformly coated and mixed with the asphaltic material in an engineer-approved mixing plant. The contractor may include reclaimed asphaltic pavement materials in the mixture.

Bid Items Added

Add the following new bid item effective with the January 2015 letting:

ITEM NUMBER	DESCRIPTION	UNIT
460.4000	HMA Cold Weather Paving	TON

Errata

Make the following corrections to the standard specifications:

501.3.2.4.4 Water Reducer

Correct errata by deleting the reference to footnote 6 for grade D concrete.

(1) Add a water reducing admixture conforming to 501.2.3. Determine the specific type and rate of use based on the atmospheric conditions, the desired properties of the finished concrete and the manufacturer's recommended rate of use. The actual rate of use shall at least equal the manufacturer's recommended rate, and both the type and rate used require the engineer's approval before use.

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. 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).
6. All agreements made by a contractor shall include the provisions in A(1), (2), (3), (4) and (5), and shall be binding on all first tier subcontractor relationships and all contractors and subcontractors utilizing DBE firms on the project.

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

ADDITIONAL SPECIAL PROVISION 9
Electronic Certified Payroll Submittal

(1) Use the department's Civil Rights Compliance System (CRCS) to submit certified payrolls electronically. Details are available online through the department's highway construction contractor information (HCCI) site on the Labor, Wages, and EEO Information page at: http://www.dot.wi.gov/business/civilrights/laborwages/index.htm

(2) Ensure that all tiers of subcontractors, as well as all trucking firms, submit their weekly certified payrolls electronically through CRCS. These payrolls 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 payrolls. The department will provide training either in a classroom setting at one of our regional offices or by telephone. Contact Tess Mulrooney at 608-267-4489 to schedule the training.

(4) The department will reject all paper submittals of forms DT-1816 and DT-1929 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 data from their computer system into CRCS should have their payroll coordinator send several sample electronic files to Tess two months before a payroll needs to be submitted. Not every contractor's payroll system is capable of producing export files. For details, see pages 17-22 of the CRCS System Background Information manual available online on the Labor, Wages, and EEO Information page at: http://www.dot.wi.gov/business/civilrights/laborwages/docs/crc-payroll-manual.pdf

DECEMBER 2013

BUY AMERICA PROVISION

All steel and iron materials permanently incorporated in this project shall be domestic products and all manufacturing and coating processes for these materials 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 this 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. The contractor shall take actions and provide documentation conforming to CMM 2-28.5 to ensure compliance with this “Buy America” provision.

http://roadwaystandards.dot.wi.gov/standards/cmm/cm-02-28.pdf#cm2-28.5

Upon completion of the project certify to the engineer, in writing using department form WS4567, that all steel, iron, and coating processes for steel or iron incorporated into the contract work conform to these "Buy America" provisions. Attach a list of exemptions and their associated costs to the certification form. Department form WS4567 is available at:

http://roadwaystandards.dot.wi.gov/standards/forms/ws4567.doc

Effective with September 2004 Letting

WISCONSIN DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS AND TRANSPORTATION FACILITIES

SUPPLEMENTAL REQUIRED CONTRACT PROVISIONS

I. WAGE RATES, HOURS OF LABOR AND PAYMENT OF WAGES

The schedule of "Minimum Wage Rates" attached hereto and made a part hereof furnishes the prevailing wage rates that have been determined pursuant to Section 103.50 of the Wisconsin Statutes. These wage rates are the minimum required to be paid to the various laborers, workers, mechanics and truck drivers employed by contractors and subcontractors on the construction work embraced by the contract and subject to prevailing hours and wages under Section 103.50, Stats. If necessary to employ laborers, workers, mechanics or truck drivers whose classification is not listed on the schedule, they shall be paid at rates conformable to those listed for similar classifications. Apprentices shall be paid at rates not less than those prescribed in their state indenture contacts.

While the wage rates shown are the minimum rates required by the contract to be paid during its life, this in not a representation that labor can be obtained at these rates. It is the responsibility of bidders to inform themselves as to the local labor conditions and prospective changes or adjustments of wage rates. No increase in the contract price shall be allowed or authorized on account of the payment of wage rates in excess of those listed herein.

Pursuant to Section 103.50 of the Wisconsin Statutes, the prevailing hours of labor have been determined to be up to 10 hours per day and 40 hours per calendar week Monday through Friday. If any laborer, worker, mechanic or truck driver is permitted or required to work more than the prevailing number of hours per day or per calendar week on this contract, they shall be paid for all hours in excess of the prevailing hours at a rate of at least one and one-half (1 1/2) times their hourly rate of pay. All work on Saturday, Sunday and the following holidays is to be paid at time and a half: (1) January 1, (2) the last Monday in May, (3) July 4, (4) the first Monday in September, (5) the fourth Thursday in November, (6) December 25, (7) the day before if January 1, July 4 or December 25 falls on a Saturday and (8) the day following if January 1, July 4 or December 25 falls on a Sunday.

All laborers, workers, mechanics and truck drivers shall be paid unconditionally not less often than once a week. Persons who own and operate their own trucks must receive the prevailing truck driver rate for the applicable type of truck (i.e. 2 axle, 3 or more axle, articulated, eculid or dumptor) he or she operates, plus an agreed upon amount for the use of his or her truck. Every owner-operator MUST be paid separately for their driving and for the use of their truck.

For those projects subject to the requirements of the Davis-Bacon Act, the Secretary of Labor will also have determined "Minimum Wage Rates" for work to be performed under the contract. These rates are, for all or most of the labor, worker, mechanic or truck driver classifications, identical to those established under Section 103.50 of the Wisconsin Statutes. In the event the rates are not identical, the higher of the two rates will govern.

II. PAYROLL REQUIREMENTS

All contractors and subcontractors must submit weekly Certified Payrolls and Compliance Statement verifying that all laborers, workers, mechanics and truck drivers working on the project have been paid the prevailing wage rates for all work performed under the contract required by Section 103.50 of the Wisconsin Statutes.

III. POSTINGS AT THE SITE OF THE WORK

In addition to the required postings furnished by the Department, the contractor shall post the following in at least one conspicuous place at the site of work:

a. "NOTICE TO EMPLOYEES," which provides information required to be posted by the provisions of Section 103.50 of the Wisconsin Statutes.

b. A copy of the State of Wisconsin Minimum Wages Rates. (Four pages.)

c. A copy of the contractor's Equal Employment Opportunity Policy.

d. On any project involving federal aid, in addition to the furnished postings, the contractor shall post a copy of the "Davis-Bacon Act, Minimum Wage Rates". (Three pages.)

IV. WAGE RATE REDISTRIBUTION

The amount specified as the hourly basic rate of pay and the amount(s) specified as the fringe benefit contribution(s), for all classes of laborers, workers, mechanics or truck drivers may be redistributed, when necessary, to conform to those specified in any applicable collective bargaining agreement, provided that both parties to such agreement

request and receive the approval for any such redistribution from both the Department of Transportation and the Department of Workforce Development prior to the implementation of such redistribution.

V. ADDITIONAL CLASSIFICATIONS

Any unlisted laborer or mechanic classification that is needed to perform work on this project, and is not included within the scope of any of the classifications listed in the application prevailing wage rate determination, may be added after award only if all of the following criteria have been met:

1. The affected employer(s) must make a written request to WisDOT Central Office to utilize the unlisted classification on this project.

2. The request must indicate the scope of the work to be performed by the unlisted classification and must indicate the proposed wage/fringe benefit package that the unlisted classification is to receive.

3. The work to be performed by the unlisted classification must not be performed by a classification that is included in the applicable prevailing wage rate determination.

4. The unlisted classification must be commonly employed in the area where the project is located.

5. The proposed wage/fringe benefit package must bear a reasonable relationship to those set forth in the applicable prevailing wage rate determination.

6. The request should be made prior to the actual performance of the work by the unlisted classification.

7. DWD must approve the use of the unlisted classification and the proposed wage/fringe benefit package. USDOL also must approve the use of the unlisted classification and the proposed wage/fringe benefit package on federal aid projects.

8. WisDOT and DWD may amend the proposed wage/fringe benefit package, as deemed necessary, and may set forth specific employment ratios and scope of work requirements in the approval document.

The approved wage/fringe benefit package shall be paid to all laborers, workers, mechanics or truck drivers performing work within the scope of that performed by the unlisted classification, from the first day on which such work is performed. In the event that work is performed by the unlisted classification prior to approval, the wage/fringe benefit package to be paid for such work must be in conformance with the wage/fringe

benefit package approved for such work. Under this arrangement a retroactive adjustment in wages and/or fringe benefits may be required to be made to the affected laborers, workers, mechanics or truck drivers by the affected employer(s).

ANNUAL PREVAILING WAGE RATE DETERMINATION
FOR ALL STATE HIGHWAY PROJECTS
MILWAUKEE COUNTY

Compiled by the State of Wisconsin - Department of Workforce Development
for the Department of Transportation
Pursuant to s. 103.50, Stats.
Issued on May 1, 2014

CLASSIFICATION: Contractors are required to call the Department of Workforce Development if there are any questions reqarding the proper trade or classification to be used for any worker on a public works project.

OVERTIME: Time and one-half must be paid for all hours worked over 10 hours per day and 40 hours per calendar week and for all hours worked on Saturday, Sunday and the following six (6) holidays: January 1; the last Monday in May; July 4; the 1st Monday in September; the 4th Thursday in November; December 25; the day before if January 1, July 4 or December 25 falls on a Saturday; the day following if January 1, July 4 or December 25 falls on a Sunday.

FUTURE INCREASE: If indicated for a specific trade or occupation, the full amount of such increase MUST be added to the "TOTAL" indicated for such trade or occupation on the date(s) such increase(s) becomes effective.

PREMIUM PAY: If indicated for a specific trade or occupation, the full amount of such pay MUST be added to the "HOURLY BASIC RATE OF PAY" indicated for such trade or occupation, whenever such pay is applicable.

SUBJOURNEY: Wage rates may be available for some of the classifications indicated below. Any employer that desires to use any subjourney classification on a project MUST request the applicable wage rate from the Department of Workforce Development PRIOR to the date such classification is used on such project. Form ERD-10880 is available for this purpose and can be obtained by writing to the Department of Workforce Development, Equal Rights Division, P.O. Box 8928, Madison, WI 53708.

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Bricklayer, Blocklayer or Stonemason	35.80	16.87	52.67
Carpenter	33.68	19.81	53.49
Future Increase(s): Add $1.25/hr on 6/2/2014.			
Premium Pay: DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Cement Finisher	31.56	18.53	50.09
Future Increase(s): Add $1.87 on 6/1/14; Add $1.87 on 6/1/15; Add $1.75 on 6/1/16.			
Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.40/hr when the Wisconsin Department of Transportation or responsible governing agency requires that work be performed at night under artificial illumination with traffic control and the work is completed after sunset and before sunrise.			
Electrician	32.82	22.61	55.43
Premium Pay: DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year’s Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Fence Erector	16.00	3.33	19.33
Ironworker	30.51	23.23	53.74
Line Constructor (Electrical)	38.25	17.63	55.88
Painter	21.87	11.37	33.24
Pavement Marking Operator	30.00	0.00	30.00
Piledriver	27.67	25.64	53.31
Roofer or Waterproofer	29.40	15.55	44.95
Teledata Technician or Installer	24.75	16.08	40.83
Tuckpointer, Caulker or Cleaner	34.57	16.42	50.99
Underwater Diver (Except on Great Lakes)	34.48	15.90	50.38
Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	34.43	15.24	49.67

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY	30.60	15.07	45.67
Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	26.78	13.58	40.36
Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	24.86	12.97	37.83
Groundman - ELECTRICAL LINE CONSTRUCTION ONLY	21.04	11.74	32.78
TRUCK DRIVERS			
Single Axle or Two Axle	34.22	19.90	54.12
Three or More Axle	25.24	15.20	40.44
Articulated, Euclid, Dumptor, Off Road Material Hauler	29.27	20.40	49.67
Future Increase(s): Add $1.75/hr on 6/1/14); Add $1.25/hr on 6/1/15); Add $1.30/hr on 6/1/16); Add $1.25/hr on 6/ 1/ 17. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.			
Pavement Marking Vehicle	25.24	15.20	40.44
Shadow or Pilot Vehicle	34.22	19.90	54.12
Truck Mechanic	25.24	15.20	40.44
LABORERS			
General Laborer	26.06	19.43	45.49
Future Increase(s): Add $1.60/hr on 6/1/2014. Premium Pay: Add $.15/hr for air tool operator, joint sawer and filler (pavement), vibrator or tamper operator (mechanical hand operated), chain saw operator and demolition burning torch laborer; Add $.35/hr for bituminous worker (raker and luteman), formsetter (curb, sidewalk and pavement) and strike off man; Add $.50/hr for line and grade specialist; Add $.65/hr for blaster and powderman; Add $2.01/hr for topman; Add $2.46/hr for bottomman; Add $3.23/hr for pipelayer. / DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			
Asbestos Abatement Worker	19.00	0.00	19.00
Landscaper	26.06	19.43	45.49
Future Increase(s): Add $1.60/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			
Flagperson or Traffic Control Person	22.55	19.43	41.98
Future Increase(s): Add $1.60/hr on 6/1/2014. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year’s Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr when the Wisconsin Department of Transportation or responsible governing agency requires that work be performed at night under artificial illumination with traffic control and the work is completed after sunset and before sunrise.			
Fiber Optic Laborer (Outside, Other Than Concrete Encased)	17.69	15.50	33.19
Railroad Track Laborer	13.50	4.06	17.56

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
HEAVY EQUIPMENT OPERATORS			
Crane, Tower Crane, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 176 Ft or Over; Crane, Tower Crane, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of Over 100 Tons, Self-Erecting Tower Crane With a Lifting Capacity Of Over 4,000 Lbs., Crane With Boom Dollies; Traveling Crane (Bridge Type). Future Increase(s): Add $1.75/hr on 6/1/2014); Add $1.25/hr on 6/1/2015); Add $1.30/hr on 6/1/2016); Add $1.25/hr on 6/ 1/ 2017. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.	36.72	20.40	57.12
Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of 130,000 Lbs. or Over; Caisson Rig; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 175 Ft or Under; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of 100 Tons or Under, Self-Erecting Tower Crane With A Lifting Capacity Of 4,000 Lbs., & Under; Dredge (NOT Performing Work on the Great Lakes); Licensed Boat Pilot (NOT Performing Work on the Great Lakes); Pile Driver. Future Increase(s): Add $1.75/hr on 6/1/2014); Add $1.25/hr on 6/1/2015); Add $1.30/hr on 6/1/2016); Add $1.25/hr on 6/ 1/ 2017. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.	36.22	20.40	56.62
Air Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Asphalt Heater, Planer & Scarifier; Asphalt Milling Machine; Asphalt Screed; Automatic Subgrader (Concrete); Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. & Under); Bituminous (Asphalt) Plant & Paver, Screed; Boatmen (NOT Performing Work on the Great Lakes); Boring Machine (Directional, Horizontal or Vertical); Bridge (Bidwell) Paver; Bulldozer or Endloader; Concrete Batch Plant, Batch Hopper; Concrete Breaker (Large, Auto, VIbratory/Sonic, Manual or Remote); Concrete Bump Cutter, Grinder, Planing or Grooving Machine; Concrete Conveyor System; Concrete Laser/Screed; Concrete Paver (Slipform); Concrete Pump, Concrete Conveyor (Rotec or Bidwell Type); Concrete Slipform Placer Curb & Gutter Machine; Concrete Spreader & Distributor; Crane (Carry Deck, Mini) or Truck Mounted Hydraulic Crane (10 Tons or Under); Crane WIth a Lifting Capacity of 25 Tons or Under; Forestry Equipment, Timbco, Tree Shear, Tub Grinder, Processor; Gradall (Cruz-Aire Type); Grader or Motor Patrol; Grout Pump; Hydro-Blaster (10,000 PSI or Over); Loading Machine (Conveyor); Material or Stack Hoist; Mechanic or Welder; Milling Machine; Post Hole Digger or Driver; Roller (Over 5 Ton); Scraper (Self Propelled or Tractor Drawn) 5 cu yds or More Capacity; Shoulder Widener; Sideboom; Skid Rig; Stabilizing or Concrete Mixer (Self-Propelled or 14S or Over); Straddle Carrier or Travel Lift; Tractor (Scraper, Dozer, Pusher, Loader); Tractor or Truck Mounted Hydraulic Backhoe; Trencher (Wheel Type or Chain Type); Tube Finisher; Tugger (NOT Performing Work on the Great Lakes); Winches	35.72	20.40	56.12

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
& A- Frames. Future Increase(s): Add $1.75/hr on 6/1/2014); Add $1.25/hr on 6/1/2015); Add $1.30/hr on 6/1/2016); Add $1.25/hr on 6/ 1/ 2017. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.			
Belting, Burlap, Texturing Machine; Broom or Sweeper; Compactor (Self-Propelled or Tractor Mounted, Towed & Light Equipment); Concrete Finishing Machine (Road Type); Environmental Burner; Farm or Industrial Type Tractor; Fireman (Asphalt Plant, Pile Driver & Derrick NOT Performing Work on the Great Lakes); Forklift; Greaser; Hoist (Tugger, Automatic); Jeep Digger; Joint Sawer (Multiple Blade); Launch (NOT Performing Work on the Great Lakes); Lift Slab Machine; Mechanical Float; Mulcher; Power Subgrader; Robotic Tool Carrier (With or Without Attachments); Roller (Rubber Tire, 5 Ton or Under); Self Propelled Chip Spreader; Shouldering Machine; Skid Steer Loader (With or WIthout Attachments); Telehandler; Tining or Curing Machine. Future Increase(s): Add $1.75/hr on 6/1/2014); Add $1.25/hr on 6/1/2015); Add $1.30/hr on 6/1/2016); Add $1.25/hr on 6/ 1/ 2017. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.	35.46	20.40	55.86
Air Compressor (&/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; Augers (Vertical & Horizontal); Automatic Belt Conveyor & Surge Bin; Boiler (Temporary Heat); Concrete Proportioning Plant; Crusher, Screening or Wash Plant; Generator (&/or 150 KW or Over); Heaters (Mechanical); High Pressure Utility Locating Machine (Daylighting Machine); Mudjack; Oiler; Prestress Machine; Pug Mill; Pump (3 Inch or Over) or Well Points; Rock, Stone Breaker; Screed (Milling Machine); Stump Chipper; Tank Car Heaters; Vibratory Hammer or Extractor, Power Pack. Future Increase(s): Add $1.75/hr on 6/1/2014); Add $1.25/hr on 6/1/2015); Add $1.30/hr on 6/1/2016); Add $1.25/hr on 6/ 1/ 2017. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.	35.17	20.40	55.57
Fiber Optic Cable Equipment.	26.69	16.65	43.34
Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer.	38.80	20.17	58.97
Work Performed on the Great Lakes Including 70 Ton & Over Tug Operator; Assistant Hydraulic Dredge Engineer; Crane or Backhoe Operator; Hydraulic Dredge Leverman or Diver's Tender; Mechanic or Welder.	38.80	20.17	58.97
Work Performed on the Great Lakes Including Deck Equipment Operator or Machineryman (Maintains Cranes Over 50 Tons or Backhoes 115,000 Lbs. or More); Tug, Launch or Loader, Dozer or Like Equipment When Operated on a Barge, Breakwater Wall, Slip, Dock or Scow, Deck Machinery.	34.50	20.04	54.54
Work Performed on the Great Lakes Including Deck Equipment Operator, Machineryman or Fireman (Operates 4 Units or More or Maintains Cranes 50 Tons or Under or Backhoes 115,000 Lbs. or Under); Deck Hand, Deck Engineer or Assistant Tug Operator; Off Road Trucks-Great Lakes ONLY.	34.50	20.04	54.54

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$

CONTRACT: 20150113006 PROJECT(S): 1100-20-60 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
	SECTION 0001 ROADWAY ITEMS					
0010	108.4400 CPM PROGRESS SCHEDULE	1.000 EACH		.		.
0020	201.0110 CLEARING **P**	100.000 SY		.		.
0030	201.0210 GRUBBING **P**	100.000 SY		.		.
0040	204.0125 REMOVING ASPHALTIC SURFACE MILLING	31,069.000 TON		.		.
0050	204.0157 REMOVING CONCRETE BARRIER **P**	137.000 LF		.		.
0060	204.0165 REMOVING GUARDRAIL **P**	165.000 LF		.		.
0070	213.0100 FINISHING ROADWAY (PROJECT) 01. 1100-20-60	1.000 EACH		.		.
0080	305.0110 BASE AGGREGATE DENSE 3/4-INCH	184.000 TON		.		.
0090	390.0403 BASE PATCHING CONCRETE SHES	10,015.000 SY		.		.
0100	416.0610 DRILLED TIE BARS	6,931.000 EACH		.		.

CONTRACT: 20150113006 PROJECT(S): 1100-20-60 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0110	416.0620 DRILLED DOWEL BARS	14,675.000 EACH		.		.
0120	440.4410.S INCENTIVE IRI RIDE	52,954.000 DOL	1.00000		52954.00	
0130	455.0140 ASPHALTIC MATERIAL PG64-28P	1,709.000 TON		.		.
0140	455.0605 TACK COAT	18,912.000 GAL		.		.
0150	460.1110 HMA PAVEMENT TYPE E-10	31,069.000 TON		.		.
0160	460.2000 INCENTIVE DENSITY HMA PAVEMENT	20,978.000 DOL	1.00000		20978.00	
0170	460.4000 HMA COLD WEATHER PAVING	2,500.000 TON		.		.
0180	614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING	5.000 EACH		.		.
0190	614.0305 STEEL PLATE BEAM GUARD CLASS A **P**	499.000 LF		.		.
0200	614.0370 STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL	3.000 EACH		.		.
0210	614.0925 SALVAGED GUARDRAIL END TREATMENTS	5.000 EACH		.		.

CONTRACT: 20150113006 PROJECT(S): 1100-20-60 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0220	614.2300 MGS GUARDRAIL 3 **P**	201.000 LF		.		.
0230	614.2500 MGS THRIE BEAM TRANSITION **P**	78.000 LF		.		.
0240	614.2610 MGS GUARDRAIL TERMINAL EAT	2.000 EACH		.		.
0250	619.1000 MOBILIZATION	1.000 EACH		.		.
0260	628.1504 SILT FENCE	2,169.000 LF		.		.
0270	628.1520 SILT FENCE MAINTENANCE	2,169.000 LF		.		.
0280	628.1905 MOBILIZATIONS EROSION CONTROL	15.000 EACH		.		.
0290	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL	5.000 EACH		.		.
0300	628.2002 EROSION MAT CLASS I TYPE A	2,939.000 SY		.		.
0310	628.7020 INLET PROTECTION TYPE D	295.000 EACH		.		.
0320	628.7504 TEMPORARY DITCH CHECKS	100.000 LF		.		.

CONTRACT: 20150113006 PROJECT(S): 1100-20-60 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0330	633.0500 DELINEATOR REFLECTORS	60.000 EACH		.		.
0340	633.1000 DELINEATOR BRACKETS	60.000 EACH		.		.
0350	634.0612 POSTS WOOD 4X6-INCH X 12-FT	10.000 EACH		.		.
0360	634.0616 POSTS WOOD 4X6-INCH X 16-FT	10.000 EACH		.		.
0370	634.0618 POSTS WOOD 4X6-INCH X 18-FT	281.000 EACH		.		.
0380	634.0622 POSTS WOOD 4X6-INCH X 22-FT	10.000 EACH		.		.
0390	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS	3,450.000 LB		.		.
0400	635.0300 SIGN SUPPORTS REPLACING BASE CONNECTION BOLTS	48.000 EACH		.		.
0410	636.0100 SIGN SUPPORTS CONCRETE MASONRY	5.000 CY		.		.
0420	636.0500 SIGN SUPPORTS STEEL REINFORCEMENT	500.000 LB		.		.
0430	637.1220 SIGNS TYPE I REFLECTIVE SH	9,536.500 SF		.		.

CONTRACT: 20150113006 PROJECT(S): 1100-20-60 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0440	637.2210 SIGNS TYPE II REFLECTIVE H	3,730.510 SF		.		.
0450	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING	119.360 SF		.		.
0460	637.2230 SIGNS TYPE II REFLECTIVE F	1,201.500 SF		.		.
0470	638.2102 MOVING SIGNS TYPE II	8.000 EACH		.		.
0480	638.2601 REMOVING SIGNS TYPE I	50.000 EACH		.		.
0490	638.2602 REMOVING SIGNS TYPE II	433.000 EACH		.		.
0500	638.3000 REMOVING SMALL SIGN SUPPORTS	259.000 EACH		.		.
0510	638.3100 REMOVING STRUCTURAL STEEL SIGN SUPPORTS	6.000 EACH		.		.
0520	642.5201 FIELD OFFICE TYPE C	1.000 EACH		.		.
0530	643.0200 TRAFFIC CONTROL SURVEILLANCE AND MAINTENANCE (PROJECT) 01.1100-20-60	157.000 DAY		.		.
0540	643.0300 TRAFFIC CONTROL DRUMS	27,903.000 DAY		.		.

CONTRACT: 20150113006 PROJECT(S): 1100-20-60 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0550	643.0420 TRAFFIC CONTROL BARRICADES TYPE III	2,132.000 DAY		.		.
0560	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A	1,606.000 DAY		.		.
0570	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C	5,639.000 DAY		.		.
0580	643.0800 TRAFFIC CONTROL ARROW BOARDS	544.000 DAY		.		.
0590	643.0900 TRAFFIC CONTROL SIGNS	5,872.000 DAY		.		.
0600	643.0910 TRAFFIC CONTROL COVERING SIGNS TYPE I	9.000 EACH		.		.
0610	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE	920.000 SF		.		.
0620	643.1050 TRAFFIC CONTROL SIGNS PCMS	889.000 DAY		.		.
0630	643.1055.S TRUCK OR TRAILER MOUNTED ATTENUATOR .	162.000 DAY		.		.
0640	643.2000 TRAFFIC CONTROL DETOUR (PROJECT) 01. 1100-20-60	1.000 EACH		.		.
0650	646.0106 PAVEMENT MARKING EPOXY 4-INCH **P**	70,055.000 LF		.		.

CONTRACT: 20150113006 PROJECT(S): 1100-20-60 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0660	646.0126 PAVEMENT MARKING EPOXY 8-INCH **P**	11,290.000 LF		.		.
0670	646.0406 PAVEMENT MARKING SAME DAY EPOXY 4-INCH **P**	86,705.000 LF		.		.
0680	646.0841.S PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH **P**	29,413.000 LF		.		.
0690	646.0843.S PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH **P**	24,855.000 LF		.		.
0700	647.0166 PAVEMENT MARKING ARROWS EPOXY TYPE 2	32.000 EACH		.		.
0710	647.0176 PAVEMENT MARKING ARROWS EPOXY TYPE 3	18.000 EACH		.		.
0720	647.0256 PAVEMENT MARKING SYMBOLS EPOXY	29.000 EACH		.		.
0730	647.0356 PAVEMENT MARKING WORDS EPOXY	30.000 EACH		.		.
0740	647.0566 PAVEMENT MARKING STOP LINE EPOXY 18-INCH **P**	310.000 LF		.		.
0750	647.0576 PAVEMENT MARKING STOP LINE EPOXY 24-INCH **P**	342.000 LF		.		.

CONTRACT: 20150113006 PROJECT(S): 1100-20-60 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0760	647.0726 PAVEMENT MARKING DIAGONAL EPOXY 12-INCH **P**	11,425.000 LF		.		.
0770	647.0746 PAVEMENT MARKING DIAGONAL EPOXY 24-INCH **P**	2,725.000 LF		.		.
0780	647.0766 PAVEMENT MARKING CROSSWALK EPOXY 6-INCH **P**	590.000 LF		.		.
0790	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH **P**	35,000.000 LF		.		.
0800	649.0801 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH **P**	6,000.000 LF		.		.
0810	650.7500 CONSTRUCTION STAKING CONCRETE BARRIER	137.000 LF		.		.
0820	650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE **P**	26,442.000 LF		.		.
0830	650.8500 CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (PROJECT) 01. 1100-20-60	LUMP	LUMP			.
0840	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH **P**	240.000 LF		.		.
0850	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH **P**	480.000 LF		.		.

CONTRACT: 20150113006 PROJECT(S): 1100-20-60 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0860	652.0700.S INSTALL CONDUIT INTO EXISTING ITEM	6.000 EACH		.		.
0870	654.0102 CONCRETE BASES TYPE 2	2.000 EACH		.		.
0880	654.0105 CONCRETE BASES TYPE 5	5.000 EACH		.		.
0890	655.0620 ELECTRICAL WIRE LIGHTING 8 AWG **P**	992.000 LF		.		.
0900	655.0625 ELECTRICAL WIRE LIGHTING 6 AWG **P**	496.000 LF		.		.
0910	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE	5.000 EACH		.		.
0920	657.0322 POLES TYPE 5-ALUMINUM	5.000 EACH		.		.
0930	659.0802 PLAQUES SEQUENCE IDENTIFICATION	1.000 EACH		.		.
0940	670.0100 FIELD SYSTEM INTEGRATOR 01. ITS	LUMP	LUMP			.
0950	670.0200 ITS DOCUMENTATION 01. ITS	LUMP	LUMP			.
0960	672.0250 BASE CAMERA POLE 50-FT	1.000 EACH		.		.

CONTRACT: 20150113006 PROJECT(S): 1100-20-60 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0970	674.0200 CABLE MICROWAVE DETECTOR **P**	2,625.000 LF		.		.
0980	674.0300 REMOVE CABLE **P**	1,700.000 LF		.		.
0990	675.0300 INSTALL MOUNTED CONTROLLER MICROWAVE DETECTOR ASSEMBLY	8.000 EACH		.		.
1000	677.0100 INSTALL CAMERA POLE	1.000 EACH		.		.
1010	677.0200 INSTALL CAMERA ASSEMBLY	1.000 EACH		.		.
1020	677.0300.S INSTALL VIDEO ENCODER	1.000 EACH		.		.
1030	690.0250 SAWING CONCRETE	35,341.000 LF		.		.
1040	SPV.0045 SPECIAL 01. PCMS REMOTE COMMUNICATIONS	314.000 DAY		.		.
1050	SPV.0060 SPECIAL 01. REMOVING SIGN LIGHTING	18.000 EACH		.		.
1060	SPV.0060 SPECIAL 02. LAMP DISPOSAL HIGH INTENSITY DISCHARGE	38.000 EACH		.		.
1070	SPV.0060 SPECIAL 03. LINEAR DELINEATION SYSTEM	330.000 EACH		.		.

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CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1080	SPV.0060 SPECIAL 04. INSTALL POLES TYPE 3	2.000 EACH		.		.
1090	SPV.0060 SPECIAL 05. INSTALL SOLAR POWER UNIT 120 WATT	2.000 EACH		.		.
1100	SPV.0060 SPECIAL 06. INSTALL WAVETRONIX HD 125 MODULE AND CABLE	2.000 EACH		.		.
1110	SPV.0060 SPECIAL 07. INSTALL WAVETRONIX CLICK 200 MODULE	2.000 EACH		.		.
1120	SPV.0060 SPECIAL 08. INSTALL POLE MOUNTED CABINET 24"X51"	2.000 EACH		.		.
1130	SPV.0060 SPECIAL 09. INSTALL CELLULAR ANTENNA AND ANTENNA CABLE	2.000 EACH		.		.
1140	SPV.0060 SPECIAL 10. CONCRETE MAINTENANCE PLATFORM 48"X36"X4"	2.000 EACH		.		.
1150	SPV.0060 SPECIAL 11. TRAFFIC CONTROL INTERIM FREEWAY TWO LANE CLOSURE	115.000 EACH		.		.
1160	SPV.0060 SPECIAL 12. TRAFFIC CONTROL CLOSE-OPEN FREEWAY ENTRANCE RAMP	74.000 EACH		.		.
1170	SPV.0060 SPECIAL 13. TRAFFIC CONTROL FULL FREEWAY CLOSURE	3.000 EACH		.		.

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CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1180	SPV.0060 SPECIAL 14. PAVEMENT MARKING GROOVED THERMOPLASTIC ARROWS TYPE 4	9.000 EACH		.		.
1190	SPV.0060 SPECIAL 15. PAVEMENT MARKING GROOVED THERMOPLASTIC ARROWS TYPE 5	4.000 EACH		.		.
1200	SPV.0060 SPECIAL 21. GROUND ROD	6.000 EACH		.		.
1210	SPV.0060 SPECIAL 22. REFOCUS MICROWAVE VEHICLE DETECTOR ASSEMBLY	10.000 EACH		.		.
1220	SPV.0090 SPECIAL 01. CONCRETE BARRIER SINGLE-FACED 32-INCH, SPECIAL **P**	77.000 LF		.		.
1230	SPV.0090 SPECIAL 02. CONCRETE BARRIER DOUBLE-FACED 51-INCH, SPECIAL **P**	60.000 LF		.		.
1240	SPV.0090 SPECIAL 03. REMOVING ELECTRICAL WIRE FROM CONDUIT **P**	510.000 LF		.		.
1250	SPV.0090 SPECIAL 04. REMOVING PAVEMENT MARKING WATER BLASTING **P**	158.000 LF		.		.
1260	SPV.0105 SPECIAL 01. PAVEMENT CLEANUP PROJECT	LUMP	LUMP			.

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CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1270	SPV.0105 SPECIAL 02. MAINTENANCE OF LIGHTING SYSTEMS	LUMP	LUMP			.
1280	SPV.0180 SPECIAL 01. HIGH FRICTION SURFACE TREATMENT, ASPHALT	6,925.000 SY		.		.
1290	SPV.0195 SPECIAL 01. COLD PATCH	10.000 TON		.		.
	SECTION 0001 TOTAL					.
	TOTAL BID					.

PLEASE ATTACH SCHEDULE OF ITEMS HERE