HIGHWAY WORK PROPOSAL

Proposal Number: 5 8

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

COUNTY	STATE PROJECT ID	FEDERAL PROJECT ID	PROJECT DESCRIPTION	HIGHWAY
Winnebago	1517-07-74		USH 10 - USH 10/STH 441 County CB - Oneida Street I-41 (STH 441 - CTH II)	USH 10

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, $ 400,000.00 Payable to: Wisconsin Department of Transportation	Attach Proposal Guaranty on back of this PAGE.
Bid Submittal Due Date: May 10, 2016 Time (Local Time): 9:00 AM	Firm Name, Address, City, State, Zip Code **SAMPLE** **NOT FOR BIDDING PURPOSES**
Contract Completion Time May 31, 2017	
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 Common excavation, roadway embankment, base aggregate, concrete pavement, HMA pavement, storm sewer, bridges, retaining walls, sign structures, erosion control, signing, pavement marking, lighting.	
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 2015 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://wisconsindot.gov/Pages/doing-bus/contractors/hcci/bid-let.aspx

The contractor is responsible for reviewing this web site for general notices as well as information regarding proposals in each letting. The department will also post special notices of all addenda to each proposal through this web site no later than 4:00 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://wisconsindot.gov/Pages/doing-bus/contractors/hcci/bid-let.aspx

or by calling the department at (608) 266-1631. Addenda can ONLY be obtained from the 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.

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

B Submitting Electronic Bids

B.1 On the Internet

(1) Do the following before submitting the bid:

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://wisconsindot.gov/Pages/doing-bus/contractors/hcci/bid-let.aspx

Use Expedite ™ software to prepare and print the schedule of items. Provide a valid amount for all price fields. Follow instructions and review the help screens provided on the Bid Express™ web site to assure that the schedule of items is prepared properly.

(2) Staple an 8 1/2 by 11 inch printout of the Expedite™ generated schedule of items to the other proposal documents submitted to the department as a part of the bidder's sealed bid. As a separate submittal not in the sealed bid 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. Administrative.

1.1 General.

Perform the work under this construction contract for Project 1517-07-74, USH 10 – USH 10/STH 441 County CB - Oneida Street, USH 10, IH 41 from STH 441 to CTH II, Winnebago 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, 2016 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 (20151210)

1.2 Scope of Work.

The work under this contract shall consist of common excavation, roadway embankment, base aggregate, concrete pavement, HMA pavement, storm sewer, bridges B-70-129, B-70-131, B-70-132, retaining walls, sign structures, erosion control, signing, pavement marking, lighting, and all incidental items necessary to complete the work as shown on the plans and included in the proposal and contract.
104-005 (20090901)

1.3 Other Contracts.

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

Project 1517-07-76, Little Lake Butte Morts Bridge B-70-403, Winnebago County, Wisconsin under a department contract. Work under this contract (LET date of August 11, 2014) is anticipated to be complete in October 2016. The work under this contract consists of common excavation, borrow excavation, construction of Structures B-70-403, C-70-200, S-70-204, S-70-240, S-70-249, S-70-251, S-70-258 and S-70-259, concrete pavement, and erosion control. The work under this contract has schedule and work zone overlap. Coordinate activities with Project 1517-07-76 contractor.

Project 1517-07-77, IH 41 Interchange Bridges and LLBDM Bridge B-70-61 Redecking, Winnebago County, Wisconsin under a department contract. Work under this contract (anticipated LET date of July 12, 2016) is anticipated to be complete in July 2018. The

work under this contract consists of common excavation, borrow excavation, construction of Structures B-70-401, B-70-405, B-70-406, redecking of B-70-61, S-70-209, S-70-254, S-70-36, S-70-201, S-70-206, S-70-248, S-70-253, S-70-257, concrete pavement, HMA Pavement, storm sewer and erosion control. The work under this contract has schedule and work zone overlap.

Project 1517-07-79 IH 41 Interchange B-70-400 and USH 10 eastbound Grading/Paving, Winnebago County, Wisconsin under a department contract. Work under this contract (LET date of July 14, 2015) is anticipated to be complete in November 2016. The work under this contract consists of common excavation, borrow excavation, base aggregate dense, breaker run, concrete pavement, HMA pavement, concrete barrier, storm sewer, erosion control, pavement marking, signing and B-70-400. The work under this contract has schedule and work zone overlap. Coordinate activities with Project 1517-07-79 contractor.

Project 1517-75-75 Racine Road Interchange Construction, Winnebago County, Wisconsin under a department contract. Work under this contract (LET date of July 14, 2015) is anticipated to be complete in November 2016. The work under this contract consists of common excavation, roadway embankment, concrete pavement, HMA Pavement, curb and gutter, stormwater detention ponds, permanent signing and marking, storm sewer and erosion control. The work under this contract has schedule and work zone overlap. Coordinate activities with Project 1517-75-75 contractor.
(NER441-20141017)

1.4 Notice to Contractor – Project Storage and Staging Areas.

Supplement standard spec 106.4(2) and 107.9 with the following:

To accommodate stage construction of the department planned contracts for the WIS 441 Tri-County Expansion Project, the department will implement a review and approval process for use of storage and staging areas within the right-of-way and adjacent to the project.

Equipment and materials can be stored within the slope intercepts shown on the plan and within the footprint of the roadway or structures within the project limits. Storage of equipment and materials will not be allowed in areas which are restricted by traffic and other requirements provided in the special provisions.

Make any requests for storage and staging areas located outside of the slope intercepts or outside of the proposed roadway and structure footprints to the engineer. The request should include the anticipated date for occupying the area, the anticipated date for vacating the area, and a proposed restoration plan for the area. Review by the department does not constitute approval.
(NER441-20150117)

1.5 Notice to Contractor – Street Sweeping.

All street sweeping due to contractors hauling operations is considered incidental to the contract. The contractor is responsible in keeping all public roadways clean and free from dirt and debris at all times. For this work provide a self-contained mechanical or air conveyance street sweeper and dispose the accumulated material.

Cleaning of the roadway before traffic switches or cleaning of roadways from non-contractor vehicle traffic will be paid for under the contract item Street Sweeping.
(NER441-20150117)

1.6 Notice to Contractor – Right-of-Way Fencing.

Maintain all existing freeway right-of-way fencing or temporary fencing that is disturbed by your operations. At no time leave a site where the fencing is inadequate to protect the general public. Notify property owners 5 working days in advance of existing fence removal and 30 working days in advance of temporary fence removal.
(NER441-20150117)

1.7 Notice to Contractor – Work by Railroad.

Wisconsin Central Ltd. will be performing crossing work concurrently with this project as outlined in 5.1 Railroad Insurance and Coordination. Coordination with the railroad work is required.

1.8 Field Facilities.

The department will provide primary field facilities for this project located at W6214 Aerotech Drive, Appleton, WI 54914.
(WIS 441-20141017)

2. Prosecution and Progress.

2.1 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 start date, 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 proposed schedule of operations indicates that a large force and adequate equipment will be needed to assure that the work will be completed within the established contract time.

Winter weather work, excavation of frozen ground, high ground water, dewatering during winter months, and mitigation efforts for high water table elevations shall not be considered adverse weather delays to construction. Cost for dewatering is considered incidental to construction.

Anticipate cold weather and early spring concrete paving and ancillary concrete work (curb, median barrier, etc). Plan to heat aggregates and water for mixes, and that the heating of the aggregate and water is considered incidental to those concrete items. There will be no adverse weather delay for cold weather construction.

When engaged in roadway cleaning operations, use equipment having vacuum or water spray mechanisms to eliminate the dispersion of particulate matter into the atmosphere. If vacuum equipment is employed, it must have suitable self-contained particulate collectors to prevent discharge from the collection bin into the atmosphere.

Excess fill material and cleared and grubbed material shall be stockpiled on upland areas an adequate distance away from wetlands, storm sewer inlets, floodplains, and the waterways. Provide erosion control devices for stockpiled soil to avoid erosion and nuisance dust emissions.

After written notice to proceed, and prior to Final Acceptance of the work, assist with maintenance of existing roadways and bridges as specified in section 104.6.1 of the standard specifications. This assistance may include performance of work covered under pay items or accommodating local repair forces within the work zones. Maintain all newly constructed work as specified in 104.6.1 of the standard specifications. Various pay items may be required to maintain the freeway and local streets during construction.

The contractor is advised that there may be multiple mobilizations for such items as erosion control, traffic control, detours, signing items, temporary pavement markings and other incidental items related to the staging. The department will make no additional payment for said mobilizations.

Place final pavement markings on final roadway pavement surface course. In instances where work zone pavement markings are required for maintaining traffic, they shall be placed on intermediate surface courses, as noted on the plans or otherwise approved by the engineer.

There will be only non-peak lane closures allowed under this contract.

Do not begin or continue any work that closes the freeway or ramps, unless otherwise shown in the plans. Work may be performed, provided such work operations do not include ingress and egress of vehicles and equipment which would obstruct the flow of traffic on the freeway.

An assumed duration of specific traffic control set up and related construction activities have been included for information only. The contractor can elect to complete individual construction stages and traffic phases any time during the project contract, provided the prerequisites have been met and interim and final completion dates are met.

Fence Installation Notification
Notify the department's maintenance section a minimum of two (2) weeks prior to permanent fence installation for final installation location. Contact Kurt Wranovsky, Maintenance Supervisor, at (920) 492-5645.

Formliners
Develop all unique non-standard formliner patterns that are required under this contract. All such costs associated with developing unique non-standard formliner patterns are considered incidental to the appropriate bid item.

Traffic/Construction Overview
Follow the construction operations as outlined in the staging overview sheets and other plan details. Items listed below are not limited to, but only highlight construction activities, that are subject to interim completion dates, liquidated damages, or penalties.

Stage 1A
- Mill and pave median shoulder on IH 41 northbound and southbound
- Construct American Drive and Jameson Street
- Construct Pond 6
- Construct Pond 7
- Construct structures B-70-129, B-70-131, B-70-132

Stage 1B
- Construct median sign structures S-70-247, S-70-245, S-70-243, S-70-246, S-70-244
- Continue structures B-70-129, B-70-131, B-70-132
- Continue American Drive and Jameson Street construction
- Continue Pond 6 construction
- Continue Pond 7 construction
- Construct Storm Sewer across FES Ramp Structure 160 to 161.

Stage 2A
- Construct IH 41SB station 1247SB+13.05 to 1311SB+50.00
- Construct IH 41NB station 1263NB+99.67 to 1307NB+89.42
- Construct FWS Ramp
- Construct structures R-70-106, R-70-107, R-70-108, R-70-109, R-70-110
- Construct S-70-202
- Continue structures B-70-129, B-70-131, B-70-132 construction
- Continue structures S-70-247, S-70-245, S-70-243, S-70-246, S-70-244 construction

Stage 2B
- Construct WNE Ramp, WSW Ramp, and WNW Ramp
- Continue IH 41SB station 1233SB+64.52 to 1311SB+50.00 construction

- Continue IH 41NB station 1263NB+99.67 to 1307NB+89.42 construction
- Continue FWS Ramp construction
- Continue structures R-70-106, R-70-107, R-70-108, R-70-109, R-70-110 construction
- Continue structures B-70-129, B-70-131, B-70-132 construction
- Continue Structures S-70-247, S-70-245, S-70-243, S-70-202, S-70-246, S-70-244 construction

Stage 2C

- Construct IH 41NB station 1306NB+00.00 to 1310NB+84.86

Construction Sequencing

Do not close any system interchange ramp concurrently with any other system interchange ramp without approval from the engineer.

Close coordination between construction projects (1517-07-79, 1517-07-76, 1517-75-75 and 1517-07-77) is required to ensure schedules; construction activities and traffic control are in alignment. Interim completion dates are known and that schedule changes are conveyed.

Lane Rentals

The Lane Rental Fee Assessment will be measured in 15-minute increments. All lane, roadway, or ramp closure event increments less than 15 minutes will be assessed as a 15-minute increment.

Lane Rental Fee Assessments 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 Fee Assessment.

Lane Rental Fee Assessments will not be assessed for closures due to crashes, accidents or emergencies not initiated by the contractor.

The total dollar amount of Lane Rental Fee Assessment will be computed by multiplying the Lane Rental Assessment Rate by the number of 15-minute increments of each lane closure event.

Lane Rental Fee Assessment will be in effect from the time of the Notice to Proceed until the department issues final acceptance.

IH 41

Do not close traffic lanes or the entire roadway on IH 41, outside the allowed time periods specified in the Traffic article. If the contractor fails to open all lanes within the specified timeframe, the department will assess lane rental charges as shown below:

$2,500 per 15 minute increment, per lane, per direction of travel

The department will administer lane rental charges under the Failing to Open Road to Traffic administrative item.

USH 10, STH 441

Do not close traffic lanes or the entire roadway on USH 10/STH 441, outside the allowed time periods specified in the Traffic article. If the contractor fails to open all lanes within the specified timeframe, the department will assess lane rental charges as shown below:

$750 per 15 minute increment, per lane, per direction of travel

The department will administer lane rental charges under the Failing to Open Road to Traffic administrative item.

IH 41 and STH 441 System Ramp Closures

Do not close system ramps outside the allowed time periods specified in the Traffic article. If the contractor fails to open the closed ramp or ramp lane within the specified timeframe, the department will assess lane rental charges as shown below:

$750 per 15 minute increment, per lane, per direction of travel

Provide for a Portable Changeable Message Sign (PCMS) seven days in advance of the closures notifying the travelling public of the ramp closure. Coordinate ramp closures with work being performed under separate contracts and should be discussed during traffic meetings. The contractor must place a portable changeable message sign during the closure at a location determined by the engineer to advise traffic about the closure of the specific ramp.

The department will administer lane rental charges under the Failing to Open Road to Traffic administrative item.

Local Road Closures

CTH II (Winchester Road) and Green Bay Road are allowed to be closed for 5 nights for B-70-129 and 5 nights for B-70-131. The closure is allowed for girder erection, falsework placement, and existing structure demolition. Allowable closure hours are identified in the traffic article. Provide for a Portable Changeable Message Sign (PCMS) seven days in advance of the closures notifying the travelling public of the closure.

American Drive/Jameson Road are allowed to be closed for 30 consecutive calendar days for reconstruction. Provide for a Portable Changeable Message Sign (PCMS) seven days in advance of the closure notifying the travelling public of the closure.

Liquidated Damages

If the contractor fails to complete all work and coordination measures necessary to open American Drive/Jameson Road to traffic under this contract within 30 consecutive

calendar days, the department will assess the contractor $2,500 in interim liquidated damages for each calendar day over the deadline after 12:01 AM, after the 30th day. An entire calendar day will be charged for any period of time within a calendar day that the road remains closed beyond 12:01 AM for the remainder of the contract.

If the contractor fails to open the CTH II (Winchester Street) southbound entrance ramp within 30 consecutive calendar days the department will assess the contractor $2,500 in interim liquidated damages for each calendar day over the deadline after 12:01 AM, after the 30th day. An entire calendar day will be charged for any period of time within a calendar day that the road remains closed beyond 12:01 AM for the remainder of the contract.

If the contractor fails to open the CTH II (Winchester Street) southbound exit ramp, within 45 consecutive calendar days the department will assess the contractor $2,500 in interim liquidated damages for each calendar day over the deadline after 12:01 AM, after the 45th day. An entire calendar day will be charged for any period of time within a calendar day that the road remains closed beyond 12:01 AM for the remainder of the contract.

If the contractor fails to open the CTH II (Winchester Street) northbound entrance ramp, within 45 consecutive calendar days the department will assess the contractor $2,500 in interim liquidated damages for each calendar day over the deadline after 12:01 AM, after the 45th day. An entire calendar day will be charged for any period of time within a calendar day that the road remains closed beyond 12:01 AM for the remainder of the contract.

If the contractor fails to complete all work under this contract, coordination measures necessary, and all incidentals necessary except for B-70-131 & B-70-132 (STA 1266NB+25/1267SB+50 to STA 1270NB+00/1271SB+00) prior to 12:01 AM, October 31, 2016, the department will assess the contractor $5,000 in interim liquidated damages for each calendar day that the work remains incomplete after 12:01 AM, October 31, 2016. An entire calendar day will be charged for any period of time within a calendar day that the work remains incomplete beyond 12:01 AM for the remainder of the contract.

If the contractor fails to open four lanes of IH 41 SB, once IH 41 SB has been reduced to three lanes for B-70-131 superstructure construction, within 45 consecutive calendar days the department will assess the contractor $2,500 in interim liquidated damages for each calendar day over the deadline after 12:01 AM, after the 45th day. An entire calendar day will be charged for any period of time within a calendar day that the road remains closed beyond 12:01 AM for the remainder of the contract.

The department will not grant time extensions to the interim completion dates specified above for the following:

1. Severe weather as specified in standard spec 108.10.2.2.
2. Labor disputes that are not industry wide.
3. Delays in material deliveries.

If contract time expires prior to completing all work specified in the contract, additional liquidated damages will be affixed according to standard spec 108.11.

Northern Long-eared Bat (*Myotis septentrionalis*)
Northern Long-eared Bats (NLEB) have the potential to inhabit the project limits because they roost in trees and structures (bridges, culverts, buildings). Roosts may not have been observed on this project, but conditions to support the species exist. The species and all active roosts are protected by the Federal Endangered Species Act.

In order to avoid adverse impacts upon the NLEBs, no clearing within the identified clearing and grubbing limits will be allowed from June 1 to project completion.

If the required clearing and removal is not completed by May 31, the department will suspend all clearing and associated work directly impacted by clearing. The department will issue a notice to proceed with clearing and associated work directly impacted by clearing after consulting with the United States Fish and Wildlife Service (USFWS).

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

Notify the Project Leader 14 days in advance of any work on box culverts or bridges between April 1 and September 30 to allow time for department to complete the Bat Presence Structure Inspection Form.

If bats or evidence of bats are not found during the inspection, construction may proceed.

If bats or evidence of bats are found during the inspection, construction activities affecting the structure's roosting potential must stop until the WisDOT Regional Environmental Coordinator completes consultation with the Wisconsin Department of Natural Resources (WDNR) and/or United States Fish and Wildlife Service (USFWS).

2.2 Bar Chart Progress Schedule.

Complete a Bar Chart Progress Schedule according to standard spec 108.4 and herein provided:

Replace standard spec 108.4.2.2 with the following:

Weekly Progress Meetings and Bar Chart Progress Updates
The contractor and the engineer will meet weekly to assess progress schedule and jointly update information to the initial schedule. At a minimum, updates will include the actual start and finish of each activity, percentage complete, and remaining durations of activities started but not yet completed.

At each weekly progress meeting, submit a Three-Week Look-Ahead Schedule. The Three-Week Look-Ahead schedules can be hand drawn or generated by computer. With each Three-Week Look-Ahead include:

1. Activities underway and as-built dates for the past week.

2. Planned work for the upcoming two-week period.

3. Include in the Three-Week Look-Ahead schedule the activities underway and critical RFIs and submittals, based on the schedule. The Three-Week Look-Ahead may also include details on other activities not individually represented in the schedule.

4. On a weekly basis, the department and the contractor shall agree on the as-built dates depicted in the Three-Week Look-Ahead schedule or document any disagreements. Use the as-built dates from the Three-Week Look-Ahead schedules for the month when updating the schedule.

Replace standard spec 108.4.2.5 with the following:

Bar Chart Progress Schedule Measurement and Payment
Include the cost for the schedule, weekly progress meetings, and Three-Week Look-Ahead schedules in the total bid. The schedule, weekly progress, and Three-Week Look-Ahead schedules are incidental to the contract.

3. Meetings.

3.1 Timely Decision Making Manual.

Use the Timely Decision Making Manual (TDM) on this contract. Coordinate with the department to modify the various published tools as necessary to meet the particular project needs and determine how to implement those tools under the contract. Ensure the full participation of the contractor and its principal subcontractors throughout the term of the contract.

Forms and associated guidance are published in the TDM available at the department's Highway Construction Contract Information (HCCI) web site at:

Timely Decision Making Manual (TDM)

105-005 (20151210)

3.2 Traffic Meetings and Traffic Control Scheduling.

Every Wednesday by 10:00 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.

As scheduled by the engineer, attend a 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.
(NER441-20141017)

3.3 Coordination with Businesses.

The contractor will arrange and conduct meetings between the department, local officials and business people to discuss the project schedule of operations including vehicular and pedestrian access during construction operations. The first meeting shall be held prior to the start of work under this contract and as needed or directed by the engineer.
(NER441-20141017)

4. Alternate Dispute Resolution (Vacant)

5. Insurance.

5.1 Railroad Insurance and Coordination.

A Description
Comply with standard spec 107.17 for all work affecting Wisconsin Central Ltd. 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 Wisconsin Central Ltd. (d.b.a. Canadian National).

Notify evidence of the required coverage, and duration to Jackie Macewicz at Manager Public Works at 1625 Depot St., Stevens Point, WI, 54481. Include the following information on the insurance document:

Project: 1517-07-74
Route Name: USH 10, STH 441 and Racine Road Interchange
Crossing ID: 693752L, 693753T, and 693749D
Railroad Subdivision: Manitowoc Subdivision, Banta Spur
Railroad Milepost: 186.62, 186.66, and 186.74

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.

A.3 Names and addresses of Railroad Representatives for Consultation and Coordination
Contact Jackie Macewicz, Manager Public Works, 1625 Depot St., Stevens Point, WI, 54481; TELEPHONE (715) 345-2503; FAX (715) 345-2507; email jackie.macewicz@cn.ca for consultation on railroad requirements during construction.

Contact Mary Ellen Carmody, Audit Officer, Administration Service Center, 24002 Vreeland Road, Flat Rock, MI, 48134; TELEPHONE (734) 783-4533 (no FAX number); email maryellen.carmody@cn.ca for flagging arrangements. Advise Ms. Carmody that the flagging services are to be billed at the rate for a public highway project.

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
Approximately 6 through freight trains operate weekly through the construction site. Through freight trains operate at up to 10 mph.

A.6 Rail Security Awareness and Contractor Orientation
All employees of contractors who work on Canadian national properties are required to have minimum CN Safety and Security Awareness training. This training can be obtained through eRailSafe.com. If not done before, the contractor must contact CN Special Agent James Conroy at 708-332-5947 or James.Conroy@cn.ca to be issued a vendor number prior to access the e-RailSafe website. This training is good for a period of two years.

a. Contractor employees have been exempted from undergoing the background check portion of the eRailSafe.com process, but must take and pass the required Safety and Security Awareness exam portion.

b. Exception: CN has exempted from this training those it classifies as “Delivery Persons”. Delivery Persons include contractors such as UPS, FedEx, trucking companies, etc. who merely access the property to supply materials or equipment.

The security awareness and contractor orientation certification must be renewed for projects that will carry over beyond the two year period. Contractor and subcontractor employees shall wear the identification badge issued by e-RAILSAFE when on railroad right-of-way. Costs associated with training and registration are incidental to other items in the contract.

B Railroad Flagging

Arrange with the railroad for the flagging of trains and safety of railroad operations if clearances specified in standard spec 107.17.1 are not maintained during construction operations. The following conditions may also warrant flagging:

1. Cranes swinging or handling materials or equipment within 25 feet of the centerline of any track.
2. Construction operations that are in proximity of power lines or railroad signal and communication lines, underground cables, fuel oil facilities or pipe lines and which might result in fire or damage to such facilities, danger to railroad operations or danger to the public in the transaction of business on railroad premises.
3. Excavation, tunneling, blasting, pile driving, placing, or removing cofferdams or sheeting, or similar activities might cause the railroad's tracks or buildings to be undermined, heaved out of normal level, shifted out of alignment, or otherwise impaired.
4. Bridge painting activities including rigging of falsework, scaffolding or similar activities within 25 feet of the centerline of any track.
5. Deck removal activities within 25 feet of the centerline of any track.
6. Pouring of bridge decks in spans over an operated track.
7. At any other time in railroad representative's judgment the contractor's work or operations constitute an intrusion into the track zone and create an extraordinary hazard to railroad traffic, and at any other time when flagging protection is necessary for safety to comply with the operating rules of the railroad.

Projects with concurrent activity may require more than one flagger.

Projects with heavy contractor activity within 25 feet of the centerline of any track or unusual or heavy impact on railroad facilities will normally require a full-time flagger.

The department and railroad will monitor operations for compliance with the above flagging requirements. Violations may result in removal from railroad property until arrangements to adhere to the flagging requirements are satisfied. If the railroad imposes additional flagging requirements beyond the above flagging requirements due to the previous violations, the contractor shall bear all costs of the additional flagging requirements.

C Flagging by Railroad– Railroad Does Not Pay Flagging Costs

C.1 General

Replace paragraph (3) of standard spec 107.17.1 with the following:

Comply with the railroad's rules and regulations regarding operations on railroad right-of-way. If the railroad's chief engineering officer requires, arrange with the railroad to obtain the services of qualified railroad employees to protect railroad traffic through the work area. Bear the cost of these services and make payment directly to the railroad. Notify the appropriate railroad representative as listed in section A.3 above, in writing, at least five business days before starting work near a track. Provide the specific time planned to start the operations.

Work that requires railroad flaggers to occupy the work zone for longer duration or longer than the normal work day will require 40 day written notice to the railroad.

C.2 Rates – Canadian National (WCL, SSMBrCo, DM&IR, DWP)

The following rates, reimbursement provisions, and excluded conditions will be used to determine the contractor's cost of flagging:

$1,000 daily rate (including wages, labor surcharges, meals, lodging, vehicle and mileage expenses) for a minimum eight-hour flagging day at the job site;

$1,200 daily rate (including wages, labor surcharges, meals, lodging, vehicle and mileage expenses) for a minimum eight-hour flagging day at the job site on Saturdays, Sundays or holidays;

$150 per hour overtime rate for all time worked before or after the eight hour flagging day.

The flagger is required to set flags each day in advance of the contractor commencing work that will require flagging. The flagger must also remove the flags each day after the completion of work that required flagging. Any time worked before or after the minimum eight-hour flagging day to set or remove flags will be billed at the overtime rate. The contractor is responsible for knowing the requirements of the railroad for arranging and terminating flagging services and for the associated costs of those services.

C.3 Reimbursement Provisions

The actual cost for flagging will be billed by the railroad. After the completion of the work requiring flagging protection as provided in section B above, the department will reimburse 50% of the cost of such services up to the rates provided above based on paid railroad invoices, except for the excluded conditions enumerated below. In the event actual flagging rates exceed the rates stated above, the department will reimburse 100% of the portion of the rate that is greater than the rates stated above.

C.4 Excluded Conditions
The department will not reimburse any of the cost for additional flagging attributable to the following:

1. Additional flagging requirements imposed by the railroad beyond the flagging requirements provided in subsection B above due to violations by the contractor.
2. Temporary construction crossings arranged for by the contractor.

Contractor bears all costs of the additional flagging requirements for the excluded conditions.

C.5 Payment for Flagging
Railroads may issue progressive bills. Notify the railroad when the work is completed and request a final bill from the railroad. The railroad will issue a final bill. Promptly pay railroad-flagging bills, less any charges that may be in dispute. The department will pay for flagging reimbursement under the Railroad Flagging Reimbursement administrative item. The department will withhold flagging reimbursement until any disputed charges are resolved and the final bill is paid. No reimbursement for flagging will be made by the department if a violation of subsection B is documented.
107-034 (20130615)

6. Environmental.

6.1 Environmental Protection.

Supplement standard spec 107.18 follows:

Wetlands
Do not disturb nor store materials or topsoil within the nearby wetlands as shown on the erosion control sheets unless areas are designated to be filled or impacted as permitted in the project's U.S. Army Corps of Engineers Section 404 Permit. The work area shall be separated from the wetlands by silt fence, as shown on the plans, to avoid siltation and inadvertent fill into the wetland areas.

Invasive Plant Species
Phragmites and Loosestrife, an invasive species plant, exists within the IH 41 / USH 10 corridor. All soils outside of the median areas along IH 41 / USH 10 containing plant or root fragments that will be disturbed as part of the work within the contract shall be incorporated into the salvaged topsoil within the immediate area of the work. Excavation and waste of Phragmites and Loosestrife infested soil from the median areas, other areas shown on the plans, and any other areas that may be approved by the engineer will be paid for under the Common Excavation item. Waste material shall be placed in upland locations in the general area where the plant currently exists. All other areas where Phragmites and Loosestrife soil is left on site will be paid for as Salvaged Topsoil.

For all equipment that comes into contact with Phragmites and Loosestrife infested areas, follow the guidelines established under the Environmental Protection, Aquatic Exotic Species Control section of this special provision for inspection and cleaning of equipment prior to leaving the project site. Additional information on this plant can be found at the following website: www.dnr.wi.gov/invasives/plants.asp.
(NER441-20150117)

6.2 Notice to Contractor – Archaeological Survey Coordination.

The department will conduct archaeological surveys for borrow sites, batch plants, waste sites, and staging areas to be used for the project. If significant discoveries of non-burial related archaeological properties are discovered, Section 106 procedures pursuant to 36 CFR 800 will be followed or another area shall be obtained for borrow, batch plants, waste sites, and staging areas.

Notify the department as soon as possible to allow time for archaeological surveys to be completed in advance of your work.
(NER441-20141017)

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

The department obtained the U.S. Army Corps of Engineers Section 404 Permit. Comply with the requirements of the permit in addition to requirements of the special provisions. A copy of the permit is available from the regional office by contacting Scott Ebel at (920) 492-2240.

6.4 Environmental Protection, Aquatic Exotic Species Control.

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

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

Ensure that all equipment that has been in contact with waters of the state, or with infested or potentially infested waters, has been decontaminated for aquatic plant materials and zebra mussels prior to being used in other waters of the state. Before using equipment on this project, thoroughly disinfect all equipment that has come into contact with potentially infested waters. Use the following inspection and removal procedures (guidelines from the Wisconsin Department of Natural Resources http://dnr.wi.gov/topic/fishing/documents/vhs/disinfection_protocols.pdf for disinfection:

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

Complete the inspection and removal procedure before equipment is brought to the project site and before the equipment leaves the project site.
107-055 (20130615)

7. Traffic and Restrictions to Work.

7.1 Traffic.

Clear Zone Working Restrictions
Do not store materials or equipment within the clear zone of traffic lanes which are not protected by temporary precast barrier. Remove materials from the clear zone prior to opening lane closures. Do not leave any slopes steeper than 3:1 or any drop offs at the edge of the traveled way greater than 2 inches within the clear zone which are not protected by temporary precast barrier prior to opening lane closures.

Do not perform heavy equipment work in the median at any time unless protected by concrete barrier in both directions except as allowed during night work with lane closures.

Do not perform heavy equipment work within 18 feet of the edge of the traveled way unless protected by concrete barrier or a lane closure during the allowed closure periods.

Park equipment a minimum of 30-feet from the edge of the traveled way. Equipment may be parked in the median if it meets the minimum distance requirement from both traveled ways or if it is protected by concrete barrier.

If the contractor is unsure whether an individual work operation will meet the safety requirements for working within the clear zone, review the proposed work operation with the engineer before proceeding with the work.
(NER441-20141017)

Freeway Service Team (FST)
As part of a traffic mitigation program called Freeway Service Team (FST), the department has contracted with a private towing vendor to patrol parts of IH 41 and WIS 441 during peak hours, holidays and special events. To improve safety and minimize delay, contact 911 immediately for breakdowns or incidents in or near the construction work zone. FST will be dispatched directly to the scene to aid the vehicles that need to be removed.
(NER441-20141017)

Expressway / Freeway Traffic Control Meeting
Conduct a traffic control meeting prior to:
1. Initial traffic control set up.
2. Intermediate traffic switches.
3. Reopening of the highway to traffic.

Notify Susan Paulus, 414-460-3409; 7-business days prior to setting up the meeting.
(NER441-20141017)

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

TABLE 108-1 CLOSURE TYPE AND REQUIRED MINIMUM ADVANCE NOTIFICATION

Closure type with height, weight, or width restrictions (available width, all lanes in one direction ≤16')	MINIMUM NOTIFICATION
Lane and shoulder closures	14 calendar days
Full roadway closures	14 calendar days
System and service ramp closures	14 calendar days
Full system and service ramp closures	14 calendar days
Detours	14 calendar days
Closure type without height, weight, or width restrictions (available width, all lanes in one direction >16')	MINIMUM NOTIFICATION
Lane and shoulder closures	3 business days
System and service ramp closures	3 business days
Modifying all closure types	3 business days

Discuss LCS completion dates and provide changes in the schedule to the engineer at weekly project meetings in order to manage closures nearing their completion date.
108-057 (20150630)

Portable Changeable Message Signs – Message Prior Approval
After coordinating with department construction field staff, notify Susan Paulus at 414-460-3409, 7 business days prior to deploying or changing a message on a PCMS to obtain approval of the proposed message.
(NER441-20141017)

Traffic Impact Response Time Credit
Provide a preferred method of notification and a designated person that is available 24 hours per day, 7 days per week, to respond to any event that impacts the free flow of traffic during non-working hours. The designated person shall respond within 2 hours of being notified by the engineer. Notification is defined as the first phone call/voice message, text message or e-mail. Impacts to traffic may include, but are not limited to, temporary barrier wall that has been moved from its original position, water ponding on the travel lanes, or temporary pavement deterioration. The contractor designated person needs to be able to promptly address the issues impacting traffic once notified by the engineer.

Failure to respond onsite and start implementation of corrective actions within 2 hours will result in the department issuing a deduction of $500 per hour at the start of the third hour beyond the initial notification by the engineer. The department will administer the deduction for the road, or portion thereof, not being open to traffic under the Failing to Open Road to Traffic administrative item.

Temporary Regulatory Speed Limit Reduction
A reduction of the posted regulatory speed limit from 70 mph to 55 mph is allowed during approved lane closures and when workers are present and active in close proximity to an open lane. At all other times the posted regulatory speed limit shall be 70 mph.

If the following conditions are allowed by project documents a temporary 55 mph regulatory speed zone is also warranted: 1. Lanes narrowed to less than 12 feet and adjacent shoulder width is reduced. 2. Traffic is shifted partly or completely onto a shoulder and/or temporary pavement and shoulder width is reduced. Changing temporary and existing/permanent signs between 70 mph and 55 mph shall be considered incidental to the project. Be advised that sign changes could occur two or more times daily.

During approved temporary regulatory speed limit reductions, install regulatory speed limit signs on the inside and outside shoulders of the roadway at the beginning of the reduced regulatory speed zone, after all locations where traffic may enter the highway segment or every ½ mile within the reduced regulatory speed zone. Signs shall be installed at the end of the temporary regulatory speed zone to inform drivers the posted regulatory speed limit reverts back to 70 mph. To minimize possible confusion to the traveling public and to ensure appropriate speed enforcement, enhanced attention to placement and changing of speed limit signs is necessary.

In coordination with Department construction field staff, notify the Susan Paulus at (414) 460-3409 if temporary traffic control field conditions meet the above criteria at least 14-calendar days prior to installation of a temporary 55 mph regulatory speed zone. After notification, Northeast Region Traffic will create a "Temporary Speed Zone Declaration" to meet statutory requirements, allowing enforcement of this temporary regulatory speed limit.

When construction activities impede the location of a post mounted regulatory speed limit sign, mount the regulatory speed limit sign on portable supports that meet the "crashworthy" definition and height criteria in the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD).
(NER441-20141017)

Roadside Hazard Protection During Construction
Conduct existing beam guard removal in several phases to allow timely installation of temporary barriers. Bridge pier columns and parapets are to remain protected at all times throughout construction. Removal of existing guardrail shall be done concurrently with the placement of the temporary concrete barrier or temporary barrier left in place so that the bridge pier columns/parapets remain protected at all times. Placement of new beamguard shall be completed to a point to provide protection for the pier columns/parapet before the temporary concrete barrier is removed. Railing connecting to structure parapet should be in place prior to opening the lanes for traffic. Remaining beamguard shall be placed within 24 hours of the temporary concrete barrier being removed.
(NER441-20141017)

Construction Access
Restrict work on IH 41 and USH 10 / STH 441 Ramps within closed shoulders or closed lanes as allowed by the plans or engineer. Provide, utilize and maintain temporary deceleration and acceleration lanes to/from the work zones. All construction access is subject to approval of the engineer.

During the period when lane closures are allowed on IH 41, access into the work zones from IH 41, can be made from the closed lane, subject to the approval of the engineer. Construction traffic from the work zone entering IH 41, must run out of the closed lane. Once construction traffic is within a lane closure, all construction traffic re-entering IH 41, must come to within 10 mph of posted speed before re-entering the live travel lane.

During the period when lane closures are not allowed on IH 41 access into the work zones from IH 41 must be made with a deceleration lane. The length of the deceleration lane is subject to review and approval by the engineer to ensure work zone traffic is exiting safely. Construction traffic from the work zone entering live traffic on IH 41 must use an acceleration lane with a minimum length of 1000-feet and must come to within 10 mph of posted speed before re-entering the live travel lane. The acceleration lane entrance to IH 41 cannot be placed within 1500-feet of an interchange ramp.

Construction traffic cannot travel counter-directional adjacent to IH 41 and system ramp traffic except behind temporary concrete barrier.

Contractor access locations to the construction work zones are defined in the traffic control plan. Locations identified are approved by agreement of the NE Region traffic and construction staff. Any locations that enter, cross, or impede railroad right-of-way require NE Region approval.

General Access
Construction operations affecting the traveling public's safety on IH 41 and IH 41, USH 10 / STH 441 Ramps will not be allowed during snow and ice conditions, or any other adverse weather conditions, unless approved by the engineer.

Close one lane along entire project during hours when lane closures are required or provide 2-mile minimum spacing between lane closures. Coordinate lane closures between projects to ensure a continuous closure or 2-mile minimum spacing.

Delivery of equipment to IH 41 requiring the use of a semi-tractor and trailer shall only occur through the use of the deceleration/acceleration lanes or during those hours identified as non-peak work periods for use of a lane closure.

Ramp Access
Access on and off of service or system ramps will only be allowed if approved by the engineer. Crossing ramps with construction equipment/vehicles needs to be approved by the engineer. Crossing system ramps with construction equipment, or vehicles, will only be allowed during non-peak hours and needs to be approved by the engineer. For crossing of service or system ramps with equipment that is not tire equipped, an engineer approved rolling road block, ramp closure, or flagging will be required during non-peak hours associated with the ramp area on USH 10/STH 441 and USH 10/STH 441 ramps.
(NER441-20150117)

Winter Maintenance
During winter months park equipment at a safe distance (at a minimum of 30 feet from the edge of travel lane, equipment may be parked in the median if it meets the minimum 30 feet from both traveled ways or if it is protected by concrete barrier) from the active travel lanes to prevent damage to equipment from snow plowing operations. Do not store equipment or materials within the work zone which may interfere with horizontal sight distances along IH 41, STH 441, and USH 10 or any ramps.

Snow may be plowed from the traveled roadway into the work site by the maintaining authority. The contractor is responsible for any snow removal from the work site that may be required to continue work operations and to provide access to properties within the work area.

The contractor is responsible for plowing any areas which may need to be cleared of snow or ice to accommodate changes in traffic control and to facilitate construction staging

during winter months. Winnebago County or the local maintaining authority will not provide snow plowing operations in areas outside of the active travel lanes.

Reinstall or adjust any traffic control devices that may be damaged, removed, or shifted as part of normal winter maintenance operations. Clean and maintain traffic control devices as necessary or directed as a result of winter maintenance operations.

Anticipated locations of traffic control devices are shown in the plans. Review the work site with the engineer for locations where additional area may be available to maximize lane and shoulder widths over winter months to aid in winter maintenance operations and to maximize snow storage area. Adjust traffic control devices in these areas.

Snow plowing, ice removal including any road salt which may be required, maintenance and cleaning of traffic control devices, and other winter maintenance activities are incidental other items of work under this contract.
(NER441-20141017)

Snowplowing
Winnebago County and the Town of Menasha will perform snow removal operations for freeway and local roads that are open to through traffic during construction. Provide for snow removal in those areas closed to through traffic as required to facilitate safe construction activities and to provide access to properties within the work area.
(NER441-20141017)

Lane/Ramp Closures
The contractor will incur a Lane Rental Charge, as shown in the Prosecution and Progress article, for each lane closure outside of the allowable lane closure times.

Submit any traffic control change request to the engineer at least 72 hours prior to an actual traffic control change. A request does not constitute approval.

Maintain the following lanes during work on each roadway unless otherwise allowed. Each hour shown in the lane requirement tables is defined as a sixty minute period (example: Hour 7 is the period from 7:00 to 7:59).

Freeway/Expressway Lane Requirements																									
Limits:	Northbound IH 41: CTH II – CTH BB																								
	AM												**PM**												
From Hour to Hour	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Monday through Thursday	1	1	1	1	1	1	3	3	3	2	2	2	2	2	3	3	3	3	2	2	1	1	1	1	1
Fridays	1	1	1	1	1	1	3	3	3	3	3	3	3	3	3	3	3	3	2	2	1	1	1	1	1
Saturdays	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1
Sundays	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1
Legend																									
1	Provide at least one through freeway lane open in each direction of travel																								
2	Provide at least two through freeway lanes open in each direction of travel (provide 3 freeway lanes where an auxiliary lane is present, except when the NB Entrance ramp from County II is closed)																								
3	Open all IH 41 lanes to travel																								
REMARKS:																									

Freeway/Expressway Lane Requirements																									
Limits:	Southbound IH 41: CTH BB – CTH II																								
	AM												**PM**												
From Hour to Hour	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Monday through Thursday	1	1	1	1	1	2	3	3	3	2	2	2	2	2	3	3	3	3	2	2	2	1	1	1	1
Fridays	1	1	1	1	1	2	3	3	3	3	3	3	3	3	3	3	3	3	2	2	2	2	1	1	1
Saturdays	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1
Sundays	1	1	1	1	1	1	1	1	1	1	2	2	3	3	3	3	3	3	2	2	2	1	1	1	1
Legend																									
1	Provide at least one through freeway lane open in each direction of travel																								
2	Provide at least two through freeway lanes open in each direction of travel (provide 3 freeway lanes where an auxiliary lane is present, except when the SB Exit ramp from County II is closed)																								
3	Open all IH 41 lanes to travel																								
REMARKS:																									

Freeway/Expressway Lane Requirements																									
Limits:	WIS 441 and IH 41 interchange ramps																								
	AM												**PM**												
From Hour to Hour	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
SB to EB	C	C	C	C	C	C	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	C	C	C	C
WB to SB	C	C	C	C	C	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	C	C	C
NB to EB	C	C	C	C	C	C	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	C
WB to NB	C	C	C	C	C	C	O	O	O	O	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C
SB to WB	C	C	C	C	C	C	O	O	O	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C
EB to SB	C	C	C	C	C	C	O	O	O	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C
Legend																									
C	Ramps may be closed completely																								
O	Open ramps to travel																								

REMARKS:
Do no close the IH 41 SB to US 10 EB ramp concurrent with IH 41 SB to US 10 WB & US 10/CTH CB ramps
Do not close the US 10 WB to IH 41 SB ramp concurrent with US 10/CTH CB ramps & US 10 EB to IH 41 SB
Do not close the IH 41 NB to US 10 EB ramp concurrent with IH 41/CTH II ramps, IH 41/CTH BB ramps
Do not close the US 10 WB to IH 41 NB ramp concurrent with US 10/CTH CB ramps
Do not close the IH 41 SB to US 10 WB ramp concurrent with IH 41/CTH BB ramps, IH 41 / CTH II ramps
Do not close the US 10 EB to IH 41 SB ramp concurrent with US 10/CTH CB ramps, US 10 WB to IH 41 SB

Freeway Work Restrictions

Freeway Lane Closures: Single lane and multilane closures are permitted during the hours as shown in this traffic article.

Freeway Service Ramp Closures: Freeway entrance and exit ramps may be closed for construction operations during off peak and night time hours as described in the traffic article. Open all ramps to traffic during peak hours. Coordinate ramp closures with work being performed under separate contracts.

No lane, shoulder, or ramp closures will be permitted on any freeway segment (except the permanent lane and/or shoulder closures required for staged construction), service interchange ramp, or system interchange ramp that may restrict traffic during holiday and other work restrictions as identified in the special provision article.

Local Street Work Restrictions

Existing trees, street light poles, hydrants and other utility poles are to remain in place during construction unless otherwise noted in the plan. Conduct an on-site visit prior to bidding to determine any special measures required for proper clearance between the trees, hydrants and poles and the paving equipment.

Keep sidewalks open unless otherwise shown on the plans, or to facilitate the removal of structures and erection of girders or as approved by the engineer. Maintain pedestrian access to adjacent properties, businesses, schools, and at bus stops or provide where necessary, as directed by the engineer. Protect pedestrians from falling debris at all times when sidewalks are open.

Inform property owners and tenants at least 48 hours prior to removing a driveway approach that serves that property. Schedule sidewalk and driveway approach removal and replacement so that the time lapse between removal and replacement is minimal.

Do not close residential approaches or remove from service without sufficient notice given to the occupants of the premises to remove their vehicles prior to driveway removal or closing of the driveway approach access. If necessary, make other access arrangements, agreed to in writing and signed by the contractor and the property owner serviced by the driveway. Obtain approval from the engineer prior to alternating construction sequencing.

Local Street Closures: Green Bay Road and Winchester Street (CTH II) may be closed for girder setting during non-peak hours. Open Green Bay Road and Winchester Street (CTH II) to traffic during peak hours. The contractor must place a portable changeable message sign before the previous through street to advise traffic about the closure of Green Bay Road and Winchester Street (CTH II). American Drive/Jameson Road may be closed for 30 consecutive calendar days for reconstruction. Maintain access to American Drive businesses during the 30 consecutive calendar day reconstruction. Complete closures of all other local streets will not be permitted.

Local Street Lane Closures:

CTH II (Winchester Street)

Long Term Closure of WB CTH II Left Turn Lane under I-41 (for median pier build), current WB CTH II Left Thru Lane will become a combination Left/Thru movement

Off-Peak Right Lane Closures along CTH II (for island construction for both ramp intersections)

WB CTH II: 9:00 AM to 2:30 PM, 6:30 PM to 7:00 AM daily

EB CTH II: 8:30 AM to 4:00 PM, 5:30 PM to 7:00 AM daily

Full Closure Allowed of CTH II (for demo, girder pick/setting)

WB CTH II: 8:00 PM to 6:00 AM daily

EB CTH II: 7:00 PM to 6:00 AM daily

Green Bay Road: 6:00 PM to 6:30 AM, 8:30 AM to 11:30 AM daily

If the WNE, WSW and WSE ramps are all concurrently closed, signals shall be covered at the ramp intersections and let WNE Ramp traffic operate under a stop control condition.

Retiming of signals for I-41 & CTH II intersections may be needed if issues come about, but shouldn't be any overwhelming changes and doesn't look like any major issues should arise looking at the modeling.

Do not close CTH II WB right lane during off- peak hours concurrently with the long term WB CTH II left turn lane closure. (NER441-20150117)

7.2 Holiday and Other Work Restrictions.

Do not perform work on, nor haul materials of any kind along or across any portion of the highway carrying IH 41, USH 10/STH 441 and System Interchange ramp traffic, and entirely clear the traveled way and shoulders of such portions of the highway of equipment, barricades, signs, lights and any other material that might impede the free flow of traffic during the following holiday periods:

- From noon Friday, July 1, 2016 to 6:00 AM Tuesday, July 5, 2016, for Independence Day;
- From noon Friday, September 2, 2016 to 5:00 AM Tuesday, September 6, 2016, for Labor Day;
- Maintain 3 lanes on IH 41 during Green Bay Packers home games and Packers Family Scrimmage: From five (5) hours prior to game until five (5) hours after the game

Prior to preparing bids, verify the dates of each festival, game, or event listed to obtain current dates for work restrictions.
(NER441-20150117)

7.3 Hauling Restrictions.

Do not haul materials of any kind on any local roads without approval of the local Maintaining Authority and the department. Provide any proposals to haul on local roads with a written agreement between the contractor and the respective Maintaining Authority. Contact the respective Maintaining Authority prior to bidding for approval of haul routes.

At all times, conduct operations in a manner that will cause minimum disruption to traffic on existing roadways.

This provision does not reduce or eliminate the contractor responsibility from restoring local roads under the item maintenance and repair of haul roads.

7.4 Public Convenience and Safety.

Revise standard spec 107.8(6) as follows:

The Municipality agrees to waive any noise ordinances/restrictions pertaining to the construction of the WIS 441 Project, for the duration of the WIS 441 Project, with the following exceptions:

- Do not perform pile driving between 10:00 PM and 7:00 AM.
- Do not perform any demolition work with hydraulic excavator mounted hammers between 10:00 PM and 7:00 AM.

Delete standard spec 107.8 (4) and replace with the following:

Notify the following organizations and departments at least 72 hours before road closures or detours are put into effect:

Wisconsin State Patrol	(920) 929-3700
Winnebago County Sheriff's Department	(920) 236-7334
Town of Menasha Fire Department	(920) 720-7125
Town of Menasha Police Department	(920) 720-7109
Menasha School District	(920) 967-1400

The Winnebago County Sheriff's Department 911 dispatches all area police, fire and ambulance services, and will relay any notification given by the contractor in the event of an emergency.
(NER441-20141017)

7.5 Traffic Control.

After written notice to proceed, and prior to Final Acceptance of the work, assist with maintenance of existing roadways and bridges as specified in standard spec 104.6.1. This assistance may include performance of work covered under pay items or accommodating local repair forces within the work zones. Maintain all newly constructed work as specified in standard spec 104.6.1 of the standard specifications. Various pay items may be required to maintain the freeway and local streets during construction.

Perform this work according to the requirements of standard spec 643, and as shown on the plans or as approved by the engineer, except as hereinafter modified.

Submit to engineer for approval a detailed traffic control plan for any changes to the proposed traffic control detail as shown on the plans. Submit this plan ten days prior to the preconstruction conference.

Provide 24 hours-a-day availability of equipment and forces to expeditiously restore lights, signs, or other traffic control devices that are damaged or disturbed. The cost to maintain and restore the above items shall be considered incidental to the item as bid and no additional payment will be made therefore.

Supply the name and telephone number of a local contact person for traffic control repair before starting work.

Have available at all times sufficient experienced personnel to promptly install, remove and reinstall the required traffic control devices to route traffic during the construction operations.

The turning of traffic control devices when not in use to obscure the message will not be allowed under this contract.

Obtain prior approval from the engineer for the location of egress and ingress for construction vehicles to prosecute the work.

Cover existing signs which conflict with traffic control as directed by the engineer.

Conduct operations in such a manner that causes the least interference and inconvenience to the free flow of vehicles on the roadways. This includes the following:

a. Do not park or store any vehicle, piece of equipment, or construction materials on the right-of-way without approval of the engineer.
b. All construction vehicles and equipment entering or leaving live traffic lanes shall yield to through traffic and shall enter live traffic within 10 mph of the posted speed limit.
c. Equip all vehicles and equipment entering or leaving the live traffic lanes with a hazard identification beam (flashing yellow signal) capable of being visible on a sunny day when viewed without the sun directly on or behind the device from a distance of 1000 feet. Activate the beam when merging into or exiting a live traffic lane.

Provide a minimum seven working day notice to the business management personnel prior to entering or working within the TLE area.

Do not disturb, remove or obliterate any traffic control signs, advisory signs, shoulder delineators or beam guard in place along the traveled roadways without the approval of the engineer. Immediately repair or replace any damage done to the above during the construction operations at contractor expense.

The traffic requirements are subject to change at the direction of the engineer in the event of an emergency.
(NER441-20141017)

7.6 Traffic Control Close-Open Freeway Entrance Ramp, Item SPV.0060.200.

A Description

The work under this item consists of furnishing required labor, material and equipment for closing and subsequently opening or opening and subsequently closing ramps according to standard spec 643, the plans, and as directed by the engineer.

Drums, barricades and signs may remain along the roadway when the ramp is open to traffic pending engineer approval to verify adequate offsets from traffic location are provided. Ensure that all inappropriate signs, dates or times are not visible to traffic when the ramp is open. A deduction of one each will be made from the project total for this item for each day any inappropriate sign is visible to traffic when the ramp is open. Drums, barricades, 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 Close-Open Freeway Entrance Ramp as a unit every time a freeway ramp is setup and subsequently removed within a 24-hour period that has been authorized by the engineer. Closure to a ramp not deemed necessary for construction does not constitute payment.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.200	Traffic Control Close-Open Freeway Entrance Ramp	Each

Payment is full compensation for providing and placing all materials, excluding the cost for the material themselves; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work. Drums, Barricades, Arrow Boards, and Signs, will be paid for under separate bid items in the contract.

7.7 Repositioning Traffic Control Devices for Mainline Closures, Item SPV.0060.201.

A Description
This special provision describes repositioning traffic control devices as required to close mainline lanes to traffic.

B Materials
Use traffic control devices conforming to standard spec standard spec 643 that have been delivered and placed within the project limits under other contract bid items.

C Construction
Reposition traffic control devices as required to close one or more lanes to public traffic along IH 41 and USH 10/441. Monitor and maintain the traffic control device configuration for the duration of the closure. Upon conclusion of the allowable lane closure timeframes, return the devices to their previous configuration or an engineer-approved position within the project limits.

D Measurement
The department will measure Repositioning Traffic Control Devices for Mainline Closures as each individual reposition/return cycle acceptably completed, measured as the number of reposition/return cycles the engineer deems necessary to conform to the traffic control plan, contract staging plan, and other contract requirements. The department will not measure additional moves or configuration changes as might be required solely to accommodate the contractor's operations.

The department will measure each change in configuration on a nightly basis regardless of the overall duration of the interruption to traffic at that location. Each direction of travel shall be measured separately.

Changes between single and double lane closures during the same night are incidental to the contract. Longitudinal gaps in lane closures shall not constitute measurement of multiple closures, and are incidental to the contract. Mobilization and shifting of traffic control devices for side road lane or full closures are incidental to the contract.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.201	Repositioning Traffic Control Devices for Mainline Closures	Each

Payment is full compensation for providing the required closure including placing and maintaining the required closure configuration as well as returning the traffic control devices to their previous or other engineer-approved location when the closure is no longer required. The department will pay separately for furnishing, and maintaining the condition of, required traffic control devices under other contract bid items.
(NER441-20141017)

7.8 Maintain Crash Cushion Temporary Left In Place, Item SPV.0060.202.

A Description
This special provision describes maintaining temporary crash cushion left in place according to standard spec 614.

The crash cushion left in place becomes the property of the contractor upon notice to proceed.

B (Vacant)

C Construction
Maintain the temporary crash cushion according to standard spec 614.3.4.

D Measurement
The department will measure Maintain Crash Cushion Temporary Left In Place as each individual crash cushion location, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.200	Maintain Crash Cushion Temporary Left In Place	Each

Payment is full compensation for maintaining the crash cushions.
(NER441-20141017)

7.9 Maintain Temporary Concrete Barrier Precast Left In Place, Item SPV.0090.200.

A Description
This special provision describes leaving in place temporary precast reinforced concrete barrier conforming to the shape, dimensions, and details the plans show and in accordance to the pertinent provisions of standard spec 603, these special provisions, and as hereinafter provided.

Concrete Barrier Temporary Precast Contractor Left In Place becomes the property of the department upon substantial completion.

B (Vacant)

C Construction
Complete work in accordance with standard spec 603.3.3. Maintain the barrier until the contract is substantially complete.

D Measurement
The department will measure Maintain Temporary Concrete Barrier Precast Left in Place by the linear foot, acceptably completed, measured along the base of the barrier after final installation in its left-in-place location.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.200	Maintain Temporary Concrete Barrier Precast Left In Place	LF

Payment is full compensation for leaving Concrete Barrier Temporary Precast on the project site including any necessary anchoring and anchoring devices.

Delivery, installation, and anchoring of the barrier will be paid for under the pertinent items included in the contract.

8. Utilities and Railroads.

8.1 Utilities.

(1) This contract comes under the provision of Administrative Rule Trans 220. 107-065 (20080501)

(2) There are utility facilities within the construction limits of this project. Additional detailed information regarding the location of discontinued, relocated, and/or removed utility facilities is available in the work plan provided by each utility company. View these documents at the Regional Office during normal working hours.

(3) Work around or remove and dispose of any discontinued utility conduits, cables, and pipes encountered during excavation. Any removal and disposal shall be incidental to common excavation, unless specified otherwise in this contract as a separate bid item.

(4) **Town of Menasha Utility District** has **Sewer** facilities underneath American Drive throughout the project limits.

(5) During construction, the Town of Menasha Utility District will adjust manhole rims to final grade. Provide the Town of Menasha Utility District notification per Trans 220.05(10) prior to needing final adjustment. The Town of Menasha Utility District anticipates this work will take approximately one day per location.

(6) **Town of Menasha Utility District** has **water** facilities underneath American Drive throughout the project limits. Prior to construction the Town of Menasha Utility District plans to lower the facility, at approximately Station 13+06AD, 15+45AD, 16+45AD, 18+75AD, 20+21AD and 22+18AD, below the inlet leads. No conflicts are anticipated.

(7) Prior to construction the Town of Menasha Utility District plans to relocate the hydrant at approximately Station 16+63AD further west. No Conflicts are anticipated.

(8) During construction, the Town of Menasha Utility District will adjust valves and hydrants to final grade. Provide the Town of Menasha Utility District notification per Trans 220.05(10) prior to needing final adjustment. The Town of Menasha Utility District anticipates this work will take approximately one day per location.

(9) Notify the Town of Menasha Utility District per Trans. 220.05(10) prior to **Storm Sewer Rock Excavation or Excavation Rock** to determine any restrictions based on the location of the facilities and rock excavation methods.

(10) **We Energies** has **gas** facilities along the left side of American Drive. Notify the We Energies per Trans. 220.05(10) prior to **Storm Sewer Rock Excavation or**

Excavation Rock to determine any restrictions based on the location of the facilities and rock excavation methods.

(11) The following utilities are either not in conflict or relocated their facilities in 2015 and no additional conflicts are anticipated:

a. AT&T Wisconsin

b. TDS Metrocom

c. Time Warner Cable

d. WE Energies – Electric

9. Clear – Demolition – Removal.

9.1 Clearing and Grubbing.

Complete work according to standard spec 201 and as herein provided.

Revise standard spec 201.3 as follows:

Burning of stumps, roots, brush, waste logs and limbs, timber tops, and debris resulting from clearing and grubbing is not allowed.
(NER441-20141017)

9.2 Removing Concrete Apron Endwall for Pipe Underdrain, Item 204.9060.S.001.

A Description
This special provision describes removing concrete apron endwall for pipe underdrain according to the pertinent provisions of standard spec 204 and as hereinafter provided.

B (Vacant)

C (Vacant)

D Measurement
The department will measure removing concrete apron endwall for pipe underdrain as each unit, acceptably completed.

E Payment
Add the following to standard spec 204.5:

ITEM NUMBER	DESCRIPTION	UNIT
204.9060.S.001	Removing Concrete Apron Endwall for Pipe Underdrain	Each

204-025 (20150630)

9.3 Removing Endwalls, Item 204.9060.S.002.

A Description
This special provision describes removing endwalls according to the pertinent provisions of standard spec 204 and as hereinafter provided.

B (Vacant)

C (Vacant)

D Measurement
The department will measure Removing Endwalls as each unit, acceptably completed.

E Payment
Add the following to standard spec 204.5:

ITEM NUMBER	DESCRIPTION	UNIT
204.9060.S.002	Removing Endwalls	Each

204-025 (20150630)

9.4 Removing Sign Structure Base, Item 204.9105.S.003.

A Description
This special provision describes Removing Sign Structure Base in accordance to the pertinent provisions of standard spec 204 and as hereinafter provided.

B (Vacant)

C (Vacant)

D Measurement
The department will measure Removing Removing Sign Structure Base as a lump sum unit of work, acceptably completed.

E Payment
Add the following to standard spec 204.5:

ITEM NUMBER	DESCRIPTION	UNIT
204.9105.003	Removing Sign Structure Base	LS

204-025 (20150630)

9.5 Removing Sign Structure Cantilever S-70-142, Item SPV.0105.002; Removing Sign Structure Cantilever S-70-143, Item SPV.0105.003.

A Description
This special provision describes removing the full sign support structure, completely removing the footings below existing ground, covering the disturbed area and surroundings with top soil and seeding at the location of the sign structure removal, as directed by the engineer, and as hereinafter provided.

B (Vacant)

C Construction
Remove the existing steel work and the single or double steel columns at each end of the mast arm.

Completely remove the existing concrete footings and reinforcement according to standard spec 204.

Dispose of all structural steel columns, mast arms and footings off the project site.

See 'Salvage Existing Sign Structure S-70-143, Truss' item for proper salvaging requirements for S-70-143.

D Measurement
The department will measure Removing Cantilever Sign Support S-70-142, S-70-143 as a single lump sum unit of work for each sign support structure, 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.0105.002	Removing Sign Structure Cantilever S-70-142	LS
SPV.0105.003	Removing Sign Structure Cantilever S-70-143	LS

Payment is full compensation for disassembling, removing, properly disposing of materials not salvaged for pickup by state forces.

9.6 Removing Cantilever Sign Support S-70-37, Item SPV.0105.005; Removing Sign Bridge S-70-32, Item SPV.0105.006; Removing Sign Structure Pole S-70-33, Item SPV.0105.007.

A Description
This special provision describes removing the full sign support structure, completely removing the footings below existing ground, covering the disturbed area and surroundings with top soil and seeding at the location of the sign structure removal, as directed by the engineer, and as hereinafter provided.

B (Vacant)

C Construction
Remove the existing steel work and the single or double steel columns at each end of the mast arm.

Completely remove the existing concrete footings and reinforcement according to standard spec 204.

Dispose of all structural steel columns, mast arms and footings off the project site.

D Measurement
The department will measure Removing Cantilever Sign Support S-70-37, as well as Sign Bridge S-70-32 as a single lump sum unit of work for each sign support structure, 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.0105.005	Removing Cantilever Sign Support S-70-37	LS
SPV.0105.006	Removing Sign Bridge S-70-32	LS
SPV.0105.007	Removing Sign Structure Pole S-70-33	LS

Payment is full compensation for disassembling, removing, properly disposing of materials not salvaged for pickup by state forces.

9.7 Removing Rumble Strips, Item SPV.0180.001.

A Description
This special provision describes removing existing rumble strips located in existing concrete shoulder along IH 41 as shown on the plans and according to the pertinent provisions of standard spec 204 and as hereinafter provided. The milled area shall be filled with asphaltic concrete pavement.

B Materials
Asphaltic concrete pavement shall be Type E-30 and be according to the pertinent provisions of standard spec 465.

C Construction
The existing rumble strips shall be milled to a 0.75 inches minimum depth below the lowest corrugation. The milled area shall be cleaned prior to placing of tack coat. Fill the milled area with asphaltic concrete pavement, Type E-30, to provide for a smooth driving surface as directed by the engineer.

D Measurement
The department will measure Removing Rumble Strips by the square yard of existing rumble strip, between the limits specified, 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.0180.001	Removing Rumble Strips	SY

Payment is full compensation for milling existing rumble strips, cleaning, tacking, placing and compacting HMA concrete pavement, disposal of all materials.

10. Earthwork.

10.1 Embankment Construction.

Replace standard spec 205.3.2(4) with the following:

If placing embankment on side slopes 10 feet high or higher and steeper than one vertical to three horizontal, provide vertically-faced, horizontal benches at least 2 feet wide into the existing embankment slope every 4-foot of vertical height.

If constructing embankment on only one side of abutments, wing walls, piers, or culvert headwalls, construct the embankment so that the area immediately adjacent to the structure is not compacted in a manner that causes overturning of or excessive pressure against the structure. If constructing embankment on both sides of a concrete wall, pipe, or box type structure, construct the embankment so that the elevation on both sides of the structure is always approximately the same.
(NER441-20150117)

10.2 Borrow.

Replace standard spec 208.1(1) with the following:

This section describes constructing embankments and other portions of the work consistent with the earthwork summary and defines the contract requirements for borrow material if required by the plans or if the contractor elects to utilize off-site material to complete the roadway embankments.

Delete standard spec 208.2.2(2).

Add the following to standard spec 208.3:

The contractor shall be responsible for complying with all permit requirements in obtaining borrow materials.

Replace standard spec 208.4 with the following:

The department will not measure borrow.

Replace standard spec 208.5 with the following:

The department will not pay directly for work specified under this section. This work is incidental to the Roadway Embankment bid item.
(NER441-20141017)

10.3 Preparing the Foundation.

Add the following to standard spec 211.3.1:

Plan construction activities so the earth subgrade is covered by the roadway base in a timely manner upon completion of preparation of the subgrade or as directed by the engineer. The contractor is responsible for the removal of any excess water from the subgrade as a result of rainfall events, natural drainage and construction induced drainage.
(NER441-20150117)

10.4 Roadway Embankment, Item SPV.0035.001.

Replace standard spec 207.1(1) with the following:

This section describes placing in embankments and in miscellaneous backfills, material obtained under the bid items in the roadway and drainage excavation or excavation for structure sections.

Supplement standard spec 207.2(1) with the following:

The contractor may not place excess topsoil or other unstable soil in embankments when the embankment fill height exceeds 10 feet.

Replace standard spec 207.4(1) with the following:

The department will measure roadway embankment by the cubic yard, acceptably completed in its final location using the method of average end areas, with no correction for curvature or settlement, except as follows:

a) The engineer and contractor mutually agree to an alternative volume calculation method;
b) The method of average end areas is not feasible;
c) Other methods are specified herein standard spec 207.4.

If it is not possible to compute volumes of the various classes of roadway and drainage embankment by the method of average end areas due to erratic location of isolated deposits, the department may compute the volumes by alternative methods involving three-dimensional measurements.

The department will not measure embankment material beyond the limits of the required slopes.

Replace standard spec 207.5(1) with the following:

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.002	Roadway Embankment	CY

The work includes forming, compacting, shaping, sloping, trimming, finishing, maintaining the embankments, and all other incidental work required under this section.

ASP-5 will be applied to this item. The fuel usage factor for this item is 0.23.

11. Bases, Subbases and Pavements.

11.1 Aggregate Quality Testing for High-Performance Concrete (HPC) Mixes.

A Description

(1) This provision describes additional requirements for testing the quality of coarse aggregates being used in modified high-performance concrete mixes for structures and pavements.

(2) Conform to the standard specifications and modified high-performance concrete provisions contained within the contract, as modified in this provision.

B Materials

B.1 Personnel

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

B.2 Laboratory

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

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

B.3 Equipment

(1) Furnish the necessary equipment and supplies for performing quality control testing. The engineer may inspect the measuring and testing devices to confirm both calibration and condition. Calibrate all testing equipment according to the CMM and maintain a calibration record at the laboratory.

B.4 Records

(1) Document all observations, inspection records, and test results. Submit testing records to the engineer.

B.5 Contractor Testing

(1) Perform all quality control tests necessary to control the production processes applicable to this special provision. Use the test methods identified below, or other methods the engineer approves, to perform the following tests:

LA Wear (100 and 500 revolutions) ..... AASHTO T 96
Sodium Sulfate Soundness (R-4, 5 cycles) ..... AASHTO T 104
Freeze-Thaw Soundness ..... AASHTO T 103
Chert[1] ..... AASHTO T 113

[1]Material classified lithologically as chert and having a bulk specific gravity (saturated surface-dry basis) of less than 2.45. Determine the percentage of chert by dividing the weight of chert in the sample retained on the 3/8-inch sieve by the weight of the total sample.

(2) The department may periodically observe contractor sampling and testing, and direct additional contractor sampling and testing for department evaluation. Ensure that all test results are available for the engineer's review at any time during normal working hours.

(3) In addition to the requirements of standard spec 106.3.4.2.2, perform tests for LA wear, sodium sulfate soundness, freeze-thaw soundness and chert at least once per calendar year when producing coarse aggregates for use in modified high-performance concrete mixes.

(4) Randomly test the percentage of chert at least once per 10,000 tons during production of coarse aggregates to be used in modified high-performance concrete mixes.

B.6 Department Testing

(1) The department will have a HTCP certified technician, or ACT working under a certified technician, perform verification testing. The department will sample randomly at locations independent of the contractor's QC work. In all cases, the department will conduct the verification tests with separate personnel and equipment from the contractor's QC tests. The department will perform verification testing of chert at a frequency of 10 percent of the random quality control tests or a minimum of once per project, or at greater frequency if determined to be necessary by the engineer.

C (Vacant)

D (Vacant)

E Payment

(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.

(NER441-20141217)

11.2 Breaker Run.

Replace standard spec 311.3 (1) with the following:

Place breaker run where the plans show or as the engineer directs. The contractor may substitute select crushed material conforming to standard spec 312.2 for breaker run.
(NER441-20141017)

11.3 Concrete Pavement.

Supplement standard spec 415 as follows:

415.3.3 Preparing the Foundation

Add the following text:

(3) Place multiple layers of polyethylene sheets over entire area where concrete pavement contacts the concrete masonry associated with the MSE wall. Total thickness of the sheets shall be at least 0.03 inches.

415.5.1 General

Add the following text:

(6) Payment for multiple layers of polyethylene sheets placed at locations where concrete pavement contacts the concrete masonry associated with the MSE wall is considered incidental to the Concrete Pavement bid items or HPC Concrete Pavement bid items included in the contract.

(NER441-20141017)

11.4 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://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/rdwy/default.aspx

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://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/tools/appr-prod/qual-labs.aspx

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 two 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 two 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 (20151210)

11.5 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)

11.6 Concrete Pavement Joint Layout, Item SPV.0105.004.

A Description

This special provision describes designing the joint layout and staking the location of all joints on the project, including mainline and intersections (traditional and roundabouts) to accommodate the concrete paving operation.

B (Vacant)

C Construction

Design the joint layout and stake the location of all joints on the project, including mainline and intersections (traditional and roundabouts), to accommodate the concrete paving operation. Plan and set all points necessary to establish the horizontal position of the transverse and longitudinal joints in the concrete pavement according to the plans, the American Concrete Pavement Association Intersection Joint Layout Guidelines, and as directed by the engineer. Establish the joint layout in a manner to best-fit field conditions, construction staging, the plan, and as directed by the engineer.

D Measurement

The department will measure Concrete Pavement Joint Layout, completed according to the contract and accepted, as a single complete lump sum unit of work.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.002	Concrete Pavement Joint Layout	LS

Payment is full compensation for designing the joint layout on the mainline and all traditional and roundabout intersections; for completing all surveying work necessary to locate all transverse and longitudinal joints; for making adjustments to match field conditions and construction staging.

(NER441-20141017)

11.7 Resin Binder High Friction Surface Treatment, Item SPV.0180.002.

A Description

This special provision describes providing a high friction surface treatment (HFST) composed of aggregate in a resin binder on HMA or concrete pavements.

B Material

B.1 Resin Binder

Supply a two-part thermosetting resin binder which is compatible with the pavement type, bonds to the pavement surface, holds the aggregate firmly in place in a broad range of climates including below-freezing temperatures, and meets the requirements specified in Table 1. Supply a primer if recommended by the resin binder manufacturer.

Table 1. Resign Binder Properties

Property	Requirements	Test Method*
Viscosity	7 – 30 poises	ASTM D2556 1-pint specimen
Gel Time	10-minute minimum	ASTM C881 60g mass
Ultimate Tensile Strength	2,000 – 5,000 psi @ 7 days	ASTM D638 Type 1 specimen
Elongation at Break	30% - 70% @ 7 days	ASTM D638 Type 1 specimen
Compressive Strength	≥ 1000 psi @ 3 hrs and ≥ 5000 psi @ 24 hours	ASTM D695**
Water Absorption	≤ 1.0 % @ 24-hr	ASTM D570 24-hr immersion
Shore D Hardness	60 – 80 @ 7 days	ASTM D2240*** Type 1 precision, Type D method
Cure Rate	≤ 3 hours (Dry Through Time)	ASTM D1640 50-55 wet mil thickness***
Adhesive Strength	250 psi @ 24 hours or 100% substrate failure	ASTM C1583***

* Prepare samples per manufacturer's recommendations; cure all specimens 73 ± 2° F and at 50 ± 2° F; and test all specimens at 73 ± 2° F

** 2" x 2" cubes made of 2.75 parts of 20-30 mesh sand to 1 part mixed resin binder; use plastic inserts in oversized molds to produce 2" cubes

*** Conduct testing on applicable pavement type

B.2 Aggregates

Furnish calcined bauxite aggregate that is fractured or angular in shape; resistant to polishing and crushing; clean and free of surface moisture; free from silt, clay, asphalt, or other organic materials; compatible with the resin binder; and meet the properties and gradation requirements in Tables 2 and 3. Check with resin binder manufacturer for any compatibility requirements or concerns.

Table 2. Aggregate Properties

Property	Requirements	Test Method*
Moisture Content	≤ 0.2%	AASHTO T 255
Fine Aggregate Angularity	≥ 45%	AASHTO T 304, Method A
Micro-Deval	≤ 15% loss	ASTM D7428
LA Wear	≤ 10% loss @ 100 revolutions and ≤ 25% loss @ 500 revolutions	AASHTO T 96
Freeze-Thaw Soundness	≤ 9% loss @ 50, 16, or 25 cycles using Procedure A, B, or C, respectively	AASHTO T 103

Table 3. Aggregate Gradation (AASHTO T27)

Sieve Size	% Passing by Weight
No. 4	100
No. 6	95
No. 16	0-5
No. 30	0-1

B.3 Approval of High Friction Surface Treatment

A minimum of 20 working days before applying HFST, submit product data sheets and specifications from the manufacturer, and a certified test report from an independent laboratory verifying that the resin binder and the calcined bauxite aggregate meet all the requirements specified in Tables 1, 2 and 3. Documents must be dated within three years.

If resin binder has not been previously used in Wisconsin, also submit a list of at least five reference projects where the resin binder has been used for similar applications and in locations that have similar climatic conditions as Wisconsin. Supply a description of the projects along with contact information of the facility owner.

If the engineer requests, provide samples of the resin binder and aggregate for department testing before applying HFST.

C Construction

C.1 General

The contractor will provide documentation showing HFST application experience from at least three previous projects completed for WisDOT or other agencies.

Conduct a meeting with the resin binder manufacturer representatives before applying HFST to establish procedures for maintaining optimum working conditions and coordination of the work. Submit recommended application procedures, including quality control practices, to the engineer for approval. Ensure that a resin binder manufacturer representative is on site to provide technical assistance and quality assurance during surface preparation and for application of HFST.

Ensure that the resin binder components maintain their original properties during storage and handling. Store all aggregate in a dry environment and protect from contaminants on the job site.

C.2 Pavement Surface Preparation

C.2.1 Pavement Surface Repair

Remove visibly unsound or disintegrated areas of the pavement surface as the plans show or the engineer directs.

Check with resin binder manufacturer to ensure that products used for pavement repairs or patches are compatible with the resin HFST. Ensure that any new concrete or repairs have cured for 14 days before placing the HFST.

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. Cover existing pavement markings adjacent to the application if they are to remain in place.

Seal all joints and cracks, or any portion of cracks, that are greater than 1/4 inch wide, with a joint sealant conforming to ASTM D6690. Apply sealant flush with, or just below, the pavement surface. Do not overfill and ensure excess joint sealant is not visible on the pavement surface.

After all pavement repairs or patches have cured for 14 days, and no more than 24 hours before HFST application, prepare a concrete pavement surface by shot blasting to roughen the surface texture. Ensure the pavement surface has no grease, oil, curing compound, loosely bonded mortar, pavement marking, or other foreign matter resting on the pavement surface.

Completely remove any grease, oil, pavement marking, or other foreign matter resting on an HMA pavement surface that could prevent proper bonding of the resin binder by shot blasting. Shot blast entire HMA pavement surfaces that are less than 30 days old prior to cleaning and installing HFST.

Sufficiently clean HMA and concrete pavement surfaces by vacuum-sweeping and blowing, with oil-free compressed air, just before applying HFST. Compressors must be equipped with functioning oil/water separators. Cleaning must be done the same day that HFST will be applied. Ensure the surface is clean, completely dry, and free of all dust, oil, debris and other material that might interfere with the bond between the resin binder and the existing pavement surface.

If the engineer requires additional verification of adequate surface preparation of the pavement, test the bond strength according to ASTM C1583. The surface is acceptable if the tensile bond strength is greater than or equal to 250 psi, or failure is in the substrate. Repeat shot blasting, cleaning, and testing, if needed, until passing test results are obtained or the surface is acceptable to the engineer.

Keep vehicles and unnecessary equipment off the cleaned surface; only allow HFST application equipment on the clean surface. Apply HFST as soon as possible after pavement surface preparations are completed.

Abide by the established quality control practices and adhere to any additional manufacturer recommendations for surface preparation. Request that the engineer inspect and approve the pavement surface immediately prior to placing the HFST.

C.3 Application of HFST

Do not apply the HFST if any of the following exists:

- Pavement surface is wet, damp, or has received rainfall in the previous 24 hours.
- Pavement surface is not sufficiently clean.
- Ambient air or pavement surface temperature is below 50^{o} F or below the manufacturer's recommendations
- If the anticipated weather conditions would prevent adequate curing of the HFST.
- Rain is predicted before HFST completion or proper cure is achieved.
- Pavement preparation is inadequate or didn't pass pull-off test.

Close treatment areas to traffic until HFST is completely cured and pavement surface has been vacuum-swept.

Construct HFST to the full width of the existing pavement surface, or as the plans show or engineer directs. Extend the HFST application 2'-3' into the shoulders if application site is on a curve, Apply as a single layer 1/8 inch to 1/4 inch thick.

Apply a primer to the pavement surface if recommended by the resin binder manufacturer, and according to their application recommendations. Abide by the established quality control practices and adhere to any additional manufacturer recommendations for HFST application.

Blend and mix the resin binder components at the manufacturer's specified ratio using equipment capable of providing the desired results.

Apply the resin binder uniformly over the pavement surface manually or with automated equipment at a uniform thickness of 50-65 mils (25-32 ft2/gal). Use enough resin to cover the pavement surface and sufficiently embed half the thickness of the aggregate; do not apply so much that it covers the aggregate and creates a slick surface. Adjust application rate, as needed, based on the pavement surface type, profile, and condition.

If using automated equipment, 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. Adjust the pressure and the speed of the equipment to achieve the proper application thickness. If applying the binder by hand, use a serrated edged squeegee to spread the resin binder and provide uniform coverage at the proper thickness.

Do not contaminate the wet binder or allow the binder material to separate or cure, and impair bonding of the aggregate.

Immediately after applying the resin binder, distribute a sufficient quantity of dry calcined bauxite aggregate to completely cover the resin binder by hand broadcasting or by using a standard chip spreader or equivalent machine. Ensure aggregate is placed within 5 minutes of the resin binder placement, before it begins to cure. When broadcasting, sprinkle or drop the aggregate onto the resin binder vertically. Do not distribute aggregate in a way

that will cause it to roll in the resin binder before coming to a rest; do not push the aggregate into position with a broom or any other hand tool. If using a chip spreader, the machine shall follow closely behind the crew or equipment applying the resin binder. Immediately cover any visible wet or bare spots, or areas with excessive binder, with additional calcined bauxite aggregate before the resin binder begins to set.

Allow the HFST to properly cure, adhering to manufacturer recommendations for minimum cure times at applicable temperatures.

After the HFST is fully cured, remove excess loose surface aggregate by sweeping, blowing, or vacuuming. Do not tear or otherwise damage the surface. Excess calcined bauxite aggregate that is recovered by a vacuum sweeper can be reused if clean, uncontaminated and dry. Remove and replace 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, vacuum sweep the pavement surface to remove loosened aggregate from the high friction surface area, the shoulders, and any other areas within and immediately adjacent to the HFST site.

D Measurement
The department will measure Resin Binder High Friction Surface Treatment by the square yard, 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.0180.002	Resin Binder High Friction Surface Treatment	SY

Payment for Resin Binder High Friction Surface Treatment is full compensation for testing materials; for preparing the pavement surface; for providing the HFST; for cleanup; and for vacuum sweeping and disposing of excess material after the completion and again 3 to 7 days after completion.

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.

11.8 HMA Pavement.

Append standard spec 460.3.2 with the following addition:

(2) The maximum lower layer thickness for 12.5 mm nominal size mixtures for HMA pavement is revised to 5 inches when constructing HMA shoulder pavement only. Apply the standard table for all other HMA pavement locations.

11.9 HMA Pavement 4 MT 58-28 S, Item 460.6224.

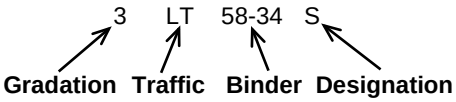
A Description

This special provision describes providing HMA pavement including the binder under a combined bid item.

Define gradations, traffic levels, and asphaltic binder designation levels as follows:

GRADATIONS (NMAS)		TRAFFIC VOLUME		DESIGNATION LEVEL	
1	37.5 mm	LT	Low	S	Standard
2	25.0 mm	MT	Medium	H	Heavy
3	19.0 mm	HT	High	V	Very Heavy
4	12.5 mm			E	Extremely Heavy
5	9.5 mm				
6	4.75 mm				

Construct HMA pavement of the type the bid item indicates encoded as follows:



Conform to standard spec 460 as modified in this special provision.

B Materials

Replace standard spec table 460-1 with the following to change the footnotes to refer to LT and MT mixes instead of E-0.3 and E-3 mixes:

TABLE 460-1 AGGREGATE GRADATION MASTER RANGE AND VMA REQUIREMENTS

SIEVE	PERCENTS PASSING DESIGNATED SIEVES						
	NOMINAL SIZE						
	37.5 mm (#1)	25.0 mm (#2)	19.0 mm (#3)	12.5 mm (#4)	9.5 mm (#5)	SMA 12.5 mm (#4)	SMA 9.5 mm (#5)
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 LT and MT mixes
[2] 15.5 for LT and MT mixes

Replace standard spec table 460-2 with the following to switch from E mixes to LT, MT, and HT mixes; and change the tensile strength ratio requirements to 0.75 without antistripping additive and 0.80 with antistripping additive:

TABLE 460-2 MIXTURE REQUIREMENTS

Mixture type	LT	MT	HT	SMA
ESALs x 106 (20 yr design life)	<2.0	2 - <8	>8	> 5 mil
LA Wear (AASHTO T96)				
100 revolutions(max % loss)	13	13	13	13
500 revolutions(max % loss)	50	45	45	40
Soundness (AASHTO T104) (sodium sulfate, max % loss)	12	12	12	12
Freeze/Thaw (AASHTO T103) (specified counties, max % loss)	18	18	18	18
Fractured Faces (ASTM 5821) (one face/2 face, % by count)	65/ __	75 / 60	98 / 90	100/90
Flat & Elongated (ASTM D4791) (max %, by weight)	5 (5:1 ratio)	5 (5:1 ratio)	5 (5:1 ratio)	20 (3:1 ratio)
Fine Aggregate Angularity (AASHTO T304, method A, min)	40	43	45	45
Sand Equivalency (AASHTO T176, min)	40	40	45	50
Gyratory Compaction				
Gyrations for Nini	6	7	8	8
Gyrations for Ndes	40	75	100	65
Gyrations for Nmax	60	115	160	160
Air Voids, %Va (%Gmm Ndes)	4.0 (96.0)	4.0 (96.0)	4.0 (96.0)	4.0 (96.0)
% Gmm Nini	<= 91.5[1]	<= 89.0[1]	<= 89.0	___
% Gmm Nmax	<= 98.0	<= 98.0	<= 98.0	___
Dust to Binder Ratio[2] (% passing 0.075/Pbe)	0.6 - 1.2	0.6 - 1.2	0.6 - 1.2	1.2 - 2.0
Voids filled with Binder (VFB or VFA, %)	68 - 80[4] [5]	65 – 75[3] [4]	65 - 75[3] [4]	70 - 80

Mixture type	LT	MT	HT	SMA
Tensile Strength Ratio (TSR) (ASTM 4867)				
no antistripping additive	0.75	0.75	0.75	0.75
with antistripping additive	0.80	0.80	0.80	0.80
Draindown at Production Temperature (%)	—	—	—	0.30

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

[2] For a gradation that passes below the boundaries of the caution zone (ref. AASHTO MP3), the dust to binder ratio limits are 0.6 - 1.6.

[3] For #5 (9.5mm) and #4 (12.5 mm) nominal maximum size mixtures, the specified VFB range is 70 - 76%.

[4] For #2 (25.0mm) nominal maximum size mixes, the specified VFB lower limit is 67%.

[5] For #1 (37.5mm) nominal maximum size mixes, the specified VFB lower limit is 67%.

Replace standard spec 460.2.8.2.1.7 paragraph six with the following to base payment adjustment on the combined bid item unit price:

(6) The department will reduce payment for nonconforming QMP HMA mixtures, starting from the stop point to the point when the running average is back inside the warning limits, as follows:

PAYMENT FOR MIXTURE*[1] [2]*

ITEM	PRODUCED WITHIN WARNING BANDS	PRODUCED OUTSIDE JMF LIMITS
Gradation	90%	75%
Asphalt Content	85%	75%
Air Voids	70%	50%
VMA	90%	75%

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

[2] Payment is in percent of the contract unit price for the HMA Pavement bid item. The department will reduce pay based on the nonconforming property with lowest percent pay. The department will administer pay reduction under the Nonconforming QMP HMA Mixture administrative item.

C Construction

Replace standard spec table 460-3 with the following to switch from E mixes to LT, MT, and HT mixes:

TABLE 460-3 MINIMUM REQUIRED DENSITY[1]

LOCATION	LAYER	PERCENT OF TARGET MAXIMUM DENSITY		
		MIXTURE TYPE		
		LT AND MT	HT	SMA[5]
TRAFFIC LANES[2]	LOWER	91.5[3]	92.0[4]	____
	UPPER	91.5	92.0	____
SIDE ROADS, CROSSOVERS, TURN LANES, & RAMPS	LOWER	91.5[3]	92.0[4]	____
	UPPER	91.5	92.0	____
SHOULDERS & APPURTENANCES	LOWER	89.5	89.5	____
	UPPER	90.5	90.5	____

[1] The table values are for average lot density. If any individual density test result falls more than 3.0 percent below the minimum required target maximum density, the engineer may investigate the acceptability of that material.

[2] Includes parking lanes as determined by the engineer.

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

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

[5] The minimum required densities for SMA mixtures are determined according to CMM 8-15.

D Measurement

Add the following to standard spec 460.4:

The department will measure HMA Pavement (type) conforming to standard spec 460.4.

E Payment

Add the following to standard spec 460.5 to switch from E mixes to LT, MT, and HT mixes; to combine the pavement and binder bid items; and to specify a pay reduction for pavement placed with nonconforming binder:

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

ITEM NUMBER	DESCRIPTION	UNIT
460.6224	HMA Pavement 4 MT 58-28 S	TON

Payment is full compensation for providing HMA Pavement including asphaltic binder.

In addition to any pay adjustment under standard spec 460.2.8.2.1.7(6), the department will adjust pay for nonconforming binder under the Nonconforming QMP Asphaltic Material administrative item. The department will deduct 25 percent of the contract unit price of the HMA Pavement bid item per ton of pavement placed with nonconforming PG binder the engineer allows to remain in place.

460-025 (20151210)

11.10 Linear Delineation System, Item SPV.0060.006.

A Description
This special provision describes furnishing and installing barrier wall delineation as shown on the plans, in accordance with standard specs 633 and 637, and as hereinafter provided.

B Materials
Furnish a barrier delineation system that consists of type ASTMD4956 type XI reflective white sheeting laminated to a 0.040 corrugated aluminum base. The aluminum base shall be 4-inches high and 36-inches long prior to corrugation, with a finished size of 4-inches by 34-inches. The aluminum base shall have six pre-punched holes ¼-inch in diameter, located near both ends and centered on the base. Screws used for mounting bases to the barrier wall shall be ¼" x 1" stainless steel anchors with 5/16" nylon washer placed between the screw head and the base.

C Construction
The section of delineation system shall be mounted 3" below the top of the barrier wall. Install delineation against a clean and flat surface. Care must be taken to insure a uniform height through the length of the installation. Sections of the delineation system shall be mounted as shown on the plan.

D Measurement
The department will measure Linear Delineation System by each individual section of the system, 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.0060.006	Linear Delineation System	Each

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

12. Bridges.

12.1 Notice to Contractor, Notification of Demolition and/or Renovation No Asbestos Found.

John Relke, License Number All-119523, inspected Structures B-70-129 and B-70-131 for asbestos on September 10-11, 2013. No regulated Asbestos Containing Material (RACM) was found on this structure. A copy of the inspection report is available from: Kathie VanPrice, (920) 492-7175.

According to NR447 and DHS159, ensure that DNR or DHS receives a completed Notification of Demolition and/or Renovation (DNR Form 4500-113 (R 4/11), or

subsequent revision) via U.S. mail, hand-delivery, or using the online notification system at least 10 working days prior to beginning any construction or demolition. Pay all associated fees. Provide a copy of the completed 4500-113 form to Kathie VanPrice, (920) 492-7175 and DOT BTS-ESS attn: Hazardous Materials Specialist PO Box 7965, Madison, WI 53707-7965. In addition, comply with all local or municipal asbestos requirements.

Use the following information to complete WisDNR form 4500-113 :

- Site Name: Structure B-70-129, IH 41 SB over CTH II
- Site Address: Section 17 T20N R17E
- Ownership Information: WisDOT Transportation NE Region, 1940 West Mason Street, Green Bay, WI, 54303
- Contact: Kurt Peters
- Phone: (920) 362-1157
- Age: 22 years old. This structure was constructed in 1994.
- Area: 12,307 SF of deck

- Site Name: Structure B-70-131, IH 41 SB over Wisconsin Central Limited RR and Green Bay Rd.
- Site Address: Section 16 T20N R17E
- Ownership Information: WisDOT Transportation NE Region, 1940 West Mason Street, Green Bay, WI, 54303
- Contact: Kurt Peters
- Phone: (920) 362-1157
- Age: 22 years old. This structure was constructed in 1994.
- Area: 19,617 SF of deck

- Site Name: Structure B-70-132, IH 41 NB over Wisconsin Central Limited RR and Green Bay Rd.
- Site Address: Section 16 T20N R17E
- Ownership Information: WisDOT Transportation NE Region, 1940 West Mason Street, Green Bay, WI, 54303
- Contact: Kurt Peters
- Phone: (920) 362-1157
- Age: 22 years old. This structure was constructed in 1994.
- Area: 20,036 SF of deck

Insert the following paragraph in Section 6.g.:

- If asbestos not previously identified is found or previously non-friable asbestos becomes crumbled, pulverized, or reduced to a powder, stop work immediately, notify the engineer, and the engineer will notify the department's Bureau of Technical Services at (608) 266-1476 for an emergency response according to standard spec 107.24. Keep material wet until it is abated or until it is determined to be non-asbestos containing material.

107-125 (20120615)

12.2 Debris Containment B-70-131, Item 203.0225.S.001; B-70-132, Item 203.0225.S.002.

A Description

This special provision describes providing a containment system to prevent debris from structure removal, reconstruction, or other construction operations from falling onto facilities located under the structure. Using this containment system does not relieve the contractor of requirements under standard spec 107.17 and standard spec 107.19 or requirements under a US Army Corps of Engineers Section 404 Permit.

B (Vacant)

C Construction

Prior to starting work, submit a debris containment plan to the engineer and Wisconsin Central Ltd. railroad for review. Incorporate modifications requested by the engineer and the railroad. Do not start work over CTH II (Winchester Rd.) or Green Bay Rd. and WCL RR until the engineer and Wisconsin Central Ltd. railroad approve the debris containment plan.

Maintain adequate protection throughout construction for people and property within the potential fall zone. Ensure that a containment system capable of protecting underlying facilities from falling construction debris is in place before beginning deck and parapet removal, or other operations that may generate debris.

At least 15 working days before conducting potential debris generating operations, contact the following owners or lessees:

1. CTH II: Randy Gallow, Street Superintendent, (920) 720-7110

2. WCL RR: Jackie Macewicz, Manager Public Works, 1625 Depot St., Stevens Point, WI, 54481; TELEPHONE (715) 345-2503; FAX (715) 345-2534; email jackie.macewicz@cn.ca

D Measurement

The department will measure Debris Containment B-70-129, B-70-131, and B-70-132 as a single lump sum unit of work for each structure, 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
203.0225.S.001	Debris Containment B-70-131	LS
203.0225.S.002	Debris Containment B-70-132	LS

Payment is full compensation for furnishing, installing, maintaining, and removing a debris containment system.

203-010 (20080902)

12.3 Ice Hot Weather Concreting, Item 501.1000.S.

Conform to standard spec 501.3.8.2 except the department will pay for ice at the contract unit price under the Ice Hot Weather Concreting bid item. This special provision only applies to work done under the following contract bid items:

Concrete Masonry Bridges	Concrete Masonry Retaining Walls
Concrete Masonry Bridges HES	Concrete Masonry Retaining Walls HES
Concrete Masonry Culverts	Concrete Masonry Endwalls
Concrete Masonry Culverts HES	Concrete Masonry Overlay Decks

High Performance Concrete (HPC) Masonry Structures

Replace standard spec 501.4 and 501.5 with the following:

501.4 Measurement

(1) The department will measure Ice Hot Weather Concreting by the pound, acceptably completed, measured only if the conditions prescribed in standard spec 501.3.8.2 are met.

501.5 Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
501.1000.S	Ice Hot Weather Concreting	LB

(2) Payment for Ice Hot Weather Concreting is full compensation for ice used to cool concrete placed in hot weather as specified in standard spec 501.3.8.2.

(3) The department will not pay directly for the concrete specified under this section. Concrete is incidental to the various bid items using it. Payment under those bid items includes providing all materials, including aggregates and associated aggregate source testing, cement, fly ash, slag, and admixtures; for preparing, transporting, storing, protecting and curing concrete; and for contractor requirements related to testing specified in standard spec 501.3.10.

(4) If required to remove and replace any concrete damaged by lack of proper protection. Perform this work at no expense to the department.

501-010 (20151210)

12.4 Expansion Device, B-70-131 and B-70-132.

A Description

This special provision describes furnishing and installing an expansion device in accordance to standard spec 502, as shown on the plans, and as hereinafter provided.

B Materials

The minimum thickness of the polychloroprene strip seal shall be ¼-inch for non-reinforced elastomeric glands and 1/8-inch for reinforced glands. Furnish the strip seal gland in lengths suitable for a continuous one-piece installation at each individual expansion joint location. Provide preformed polychloroprene strip seals that conform to the requirements ASTM D3542, and have the following physical properties:

Property Requirements	**Value**	**Test Method**
Tensile Strength, min.	2000 psi	ASTM D412
Elongation @ Break, min	250%	ASTM D412
Hardness, Type A, Durometer	60 ± 5 pts.	ASTM D2240
Compression Set, 70 hours @212˚F, max.	35%	D395 Method B Modified
Ozone Resistance, after 70 hrs. at 100˚F under 20% Strain with 100 pphm ozone	No Cracks	ASTM D1149 Method A
Mass Change in Oil 3 after 70 hr. 212˚F Mass Change, max.	45%	ASTM D471

Install the elastomeric strip seal gland with tools recommended by the manufacturer, and with a lubricant adhesive conforming to the requirements of ASTM D4070.

The manufacturer and model number shall be one of the following approved strip seal expansion device products:

	Model Number Strip Seal Gland Size*		
Manufacturer	**4-Inch**	**5-Inch**	**6-Inch**
D.S. Brown	SSA2-A2R-400	SSA2-A2R-XTRA	SSA2-A2R-XTRA
R.J. Watson	RJA-RJ400	RJA-RJ500	RJA-RJ600
Watson Bowman Acme	A-SE400	A-SE500	A-SE800
Commercial Fabricators	A-AS400	-----	-----

*Expansion device strip seal gland size requirement of 4”, 5”, and 6” shall be as shown on the plans.

Furnish manufacturer’s certification for production of polychloroprene represented showing test results for the cured material supplied, and certifying that it meets all specified requirements.

The steel extrusion or retainer shall conform to ASTM designation A 709 grade 36 steel. After fabrication, steel shall be galvanized conforming to the requirements ASTM A123.

Manufacturer's certifications for adhesive and steel shall attest that the materials meet the specification requirements.
502-020 (20110615)

12.5 Polymer Overlay, Item 509.5100.S.

A Description

This special provision describes furnishing and applying two layers of a two-component polymer overlay system to the bridge decks shown on the plans. The minimum total thickness of the overlay system shall be ¼".

B Materials

B.1 General

Furnish materials specifically designed for use over concrete bridge decks. Furnish polymer liquid binders from the department's approved product list.

B.2 Polymer Resin

The polymer resin base and hardener shall be composed of two-component, 100% solids, 100% reactive, thermosetting compound with the following properties:

Property	Requirements	Test Method
Gel Time [A]	15 - 45 minutes @ 73° to 75° F	ASTM C881
Viscosity [A]	7 - 70 poises	ASTM D2393, Brookfield RVT, Spindle No. 3, 20 rpm
Shore D Hardness [B]	60-75	ASTM D2240
Absorption [B]	1% maximum at 24 hr	ASTM D570
Tensile Elongation [B]	30% - 70% @ 7 days	ASTM D638
Tensile Strength [B]	>2000 psi @ 7 days	ASTM D638
Chloride Permeability [B]	<100 coulombs @ 28 days	AASHTO T277

[A] Uncured, mixed polymer binder
[B] Cured, mixed polymer binder

B.3 Aggregates

Furnish natural or synthetic aggregates that have a proven record of performance in applications of this type. Furnish aggregates that are non-polishing, clean, free of surface moisture, fractured or angular in shape; free from silt, clay, asphalt, or other organic materials; and meet the following properties and gradation requirements:

Aggregate Properties:

Property	Requirement	Test Method
Moisture Content*	½ of the measured aggregate absorption, %	ASTM C566
Hardness	≥6.5	Mohs Scale
Fractured Faces	100% with at least 1 fractured face and 80% with at least 2 fractured faces of material retained on No.16	ASTM 5821
Absorption	≤1%	ASTM C128

* Sampled and tested at the time of placement.

Gradation:

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

B.4 Required Properties of Overlay System

The required properties of the overlay system are listed in the table below:

Property	Requirement [A]	Test Method
Minimum Compressive Strength at 8 Hrs. (psi)	1,000 psi @ 8 hrs 5,000 psi @ 24 hrs	ASTM C 579 Method B, Modified [B]
Thermal Compatibility	No Delaminations	ASTM C 884
Minimum Pull-off Strength	250 psi @ 24 hrs	ACI 503R, Appendix A

[A] Based on samples cured or aged and tested at 75°F

[B] Plastic inserts that will provide 2-inch by 2-inch cubes shall be placed in the oversized brass molds.

B.5 Approval of Bridge Deck Polymer Overlay System

A minimum of 20 working days prior to application, submit product data sheets and specifications from the manufacturer, and a certified test report to the engineer for approval. The engineer may request samples of the polymer and/or aggregate, prior to application, for the purpose of acceptance testing by the department.

For materials not pre-qualified, in addition to the above submittals, submit product history/reference projects and a certified test report from an independent testing laboratory showing compliance with the requirements of the specification.

The product history/reference projects consist of a minimum of five bridge/roadway locations where the proposed overlay system has been applied in Wisconsin or in locations with a similar climate - include contact names for the facility owner, current phone number or e-mail address, and a brief description of the project.

Product data sheets and specifications from the manufacture consists of literature from the manufacturer showing general instructions, application recommendations/methods, product properties, general instructions, or any other applicable information.

C Construction

C.1 General

Conduct a pre-installation conference with the manufacturer's representative prior to construction to establish procedures for maintaining optimum working conditions and coordination of work. Furnish the engineer a copy of the recommended procedures and apply the overlay system according to the manufacturer's instructions. The manufacturer's representative familiar with the overlay system installation procedures shall be present at all times during surface preparation and overlay placement to provide quality assurance that the work is being performed properly.

Store resin materials in their original containers in a dry area. Store and handle materials according to the manufacturer's recommendations. Store all aggregates in a dry environment and protect aggregates from contaminants on the job site.

C.2 Deck Preparation

C.2.1. Deck Repair

Remove all asphaltic patches and unsound or disintegrated areas of the concrete decks as the plans show, or as the engineer directs. Work performed to repair the concrete deck will be paid for under other items. Ensure that products used for deck patching are compatible with the polymer overlay system.

NOTE: Some polymer systems require concrete patch material to be in place a minimum of 28-days before overlaying - contact polymer manufacturer before completing deck patching/repair.

C.2.2 Surface Preparation

Determine an acceptable shotblasting machine operation (size of shot, flow of shot, forward speed, and/or number of passes) that provides a surface profile meeting CSP 5 according to the International Concrete Repair Institute Technical Guideline No. 03732. If the engineer requires additional verification of the surface preparation, test the tensile bond strength according to ACI 503R, Appendix A of the ACI *Manual of Concrete Practice*. The surface preparation will be considered acceptable if the tensile bond strength is greater than or equal to 250 psi or the failure area at a depth of ¼ inches or more is greater than 50% of the test area. Continue adjustment of the shotblasting machine and necessary testing until the surface is acceptable to the engineer or a passing test result is obtained.

Prepare the entire deck using the final accepted adjustments to the shotblasting machine as determined above. Thoroughly blast clean with hand-held equipment any areas inaccessible by the shotblasting equipment. Do not perform surface preparation more than 24 hours prior to the application of the overlay system.

Prepare the vertical concrete surfaces adjacent to the deck a minimum of 2" above the overlay according to SSPC-SP 13 by sand blasting, using wire wheels, or other approved method.

Just prior to overlay placement, clean all dust, debris, and concrete fines from the prepared surfaces including the vertical surfaces with compressed air. When using compressed air, the air stream must be free of oil. Any grease, oil, or other foreign matter that rests on or has absorbed into the concrete shall be removed completely. If any prepared surfaces (including the first layer of the polymer overlay) are exposed to rain or dew, lightly sandblast (breeze blast) the exposed surfaces.

Protect drains, expansion joints, access hatches, or other appurtenances on the deck from damage by the shot and sand blasting operations and from materials adhering and entering. Tape or form all construction joints to provide a clean straight edge.

Create a transitional area approaching transverse expansion joints and ends of the deck using the shotblasting machine or other approved method. Remove 5/16" to 3/8" of concrete adjacent to the joint or end of deck and taper a distance of 3 feet.

The engineer may consider alternate surface preparation methods per the overlay system manufacture's recommendations. The engineer will approve the final surface profile and deck cleanliness prior to the contractor placing the polymer overlay.

C.3 Application of the Overlay

Perform the handling and mixing of the polymer resin and hardening agent in a safe manner to achieve the desired results according to the manufacturer's instructions. Do not apply the overlay system if any of the following exists:

a. Ambient air temperature is below 50°F.
b. Deck temperature is below 50°F.
c. Moisture content in the deck exceeds 4.5% when measured by an electronic moisture meter or shows visible moisture after 2 hours when measured according to ASTM D4263.
d. Rain is forecasted during the minimum curing periods listed under C.5.
e. Materials component temperatures below 50°F or above 99°F.
f. Concrete age is less than 28 days unless approved by the engineer.
g. The deck temperature exceeds 100°F.
h. If the gel time is 10 minutes or less at the predicted high air temperature for the day.

After the deck has been shotblasted or during the overlay curing period, only necessary surface preparation and overlay application equipment will be allowed on the deck. Begin overlay placement as soon as possible after surface preparation operations.

The polymer overlay shall consist of a two-course application of polymer and aggregate. Each of the two courses shall consist of a layer of polymer covered with a layer of aggregate in sufficient quantity to completely cover the polymer. Apply the polymer and aggregate according to the manufacturer's requirements. Apply the overlay using equipment designed for this purpose. The application machine shall feature positive displacement volumetric metering and be capable of storing and mixing the polymer resins at the proper mix ratio. Disperse the aggregate using a standard chip spreader or equivalent machine that can provide a uniform, consistent coverage of aggregate. First course applications that do not receive enough aggregate before the polymer gels shall be removed and replaced. A second course applied with insufficient aggregate may be left in place, but will require additional applications before opening to traffic.

After completion of each course, cure the overlay according to the manufacturer's instructions. Follow the minimum cure times listed under C.5 or as prescribed by the manufacturer. Remove the excess aggregate from the surface treatment by sweeping, blowing, or vacuuming without tearing or damaging the surface; the material may be re-used if approved by the engineer and manufacturer. Apply all courses of the overlay system before opening the area to traffic. Do not allow traffic on the treated area until directed by the engineer.

After the first layer of coating has cured to the point where the aggregate cannot be pulled out, apply the second layer. Prior to applying the second layer, broom and blow off the first layer with compressed air to remove all loose excess aggregate.

Prior to opening to traffic, clean expansion joints and joint seals of all debris and polymer. If required by the engineer, a minimum of three days following opening to traffic, remove loosened aggregates from the deck, expansion joints, and approach pavement.

C.4 Application Rates

Apply the polymer overlay in two separate courses according to the manufacturer's instructions, but not less than the following rate of application.

Course	Minimum Polymer Rate [A] (GAL/100 SF)	Aggregate [B] (LBS/SY)
1	2.5	10+
2	5.0	14+

[A] The minimum total applications rate is 7.5 GAL/100 SF.

[B] Application of aggregate shall be of sufficient quantity to completely cover the polymer.

C.5 Minimum Curing Periods
As a minimum, cure the coating as follows:

	Average temperature of deck, polymer and aggregate components in °F							
Course	**50-54**	**55-59**	**60-64**	**65-69**	**70-74**	**75-79**	**80-84**	**85-99**
1	6 hrs.	5 hrs.	4 hrs.	3 hrs.	2.5 hrs	2 hrs	1.5 hrs.	1 hr.
2	8 hrs.	6.5 hrs.	6.5 hrs.	5 hrs.	4 hrs.	3 hrs.	3 hrs.	3 hrs.

C.6 Repair of Polymer Overlay
Repair all areas of unbonded, uncured, or damaged polymer overlay for no additional compensation. Submit repair procedures from the manufacturer to the engineer for approval. Absent a manufacturer's repair procedures and with the approval of the engineer, complete repairs according to the following: Saw cut the limits of the area to the top of the concrete; remove the overlay by scarifying, grinding, or other approved methods; shot blast or sand blast and air blast the concrete prior to placement of polymer overlay; and place the polymer overlay according to section C.3.

D Measurement
The department will measure Polymer Overlay in area 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
509.5100.S	Polymer Overlay	SY

Payment is full compensation for preparing the surface; for tensile bond testing; for providing the overlay; for cleanup; and for sweeping/vacuuming and disposing of excess materials. Concrete Deck Repair will be paid for separately.
509-030 (20150630)

12.6 Structure Overcoating Cleaning and Priming B-70-131, Item 517.3000.S.001; B-70-132, Item 517.3000.S.002.

A Description
This special provision describes cleaning and painting with two or three coats of paint the metal surfaces as hereinafter provided.

A.1 Areas to be Cleaned and Painted

Structure B-70-131

1. Two Coat Area: 0 SF with SP 1 cleaning.
2. Three Coat Area:
   0 SF with SP 2 cleaning.
   7,200 SF with SP 3 cleaning.
   0 SF with SP 11 cleaning.
   7,200 SF total three-coat area.

Structure B-70-132

1. Two Coat Area: 0 SF with SP 1 cleaning.
2. Three Coat Area:
   0 SF with SP 2 cleaning.
   3,800 SF with SP 3 cleaning.
   0 SF with SP 11 cleaning.
   3,800 SF total three-coat area.

B (Vacant)

C Construction

C.1 Surface Preparation

Prior to overcoating or power tool cleaning, solvent clean all surfaces to be coated according to SSPC-SP1. A SSPC-SP Choose an item. power Tool Cleaning according to Steel Structures Painting Council Specification Choose an item. will be required on all metal surfaces to be painted with a three-coat system. Prime the same day, or re-clean before application, all metal surfaces receiving a No. Choose an item. cleaning.

Remove all abrasive or paint residue from steel surfaces with a High Efficiency Particulate Abatement (HEPA-VAC) vacuum cleaner equipped with a brush-type cleaning tool, or by double blowing. If the double blowing method is used, vacuum the exposed top surfaces of all structural steel, including flanges, longitudinal stiffeners, splices, plates, and hangers, after the double blowing operations are completed. The air line used for blowing the steel clean shall have an inline water trap and the air shall be free of oil and water as it leaves the air line.

Take care to protect freshly coated surfaces from subsequent cleaning operations. Thoroughly wire brush damaged primed surfaces with a non-rusting tool. Clean and re-prime the brushed surfaces within the time recommended by the manufacturer.

C.2 Painting

Paint by applying two or three coats of an approved coating system as specified herein to the surfaces as described in A.1 from the department's approved products list.

C.3 Coating Application
Apply paint in a neat, workmanlike manner. The resultant paint film shall be smooth and uniform without skips or areas of excessive paint. Apply coating according to the manufacturer's recommendations.

Prior to applying the prime coat, coat with primer all edges, rivet and bolt heads, nuts and washers by using either a brush, roller, or spray application.

Dry Film Thickness per coat shall be a minimum of 3-mil. The dry film thickness shall be determined by use of a magnetic film thickness gage. The gage shall be calibrated for dry film thickness measurement according to SSPC-PA 2.

During surface preparation and coating application, the ambient and steel temperature shall be between 39 and 100 degrees F. The steel temperature shall be at least 5 degrees F above the dew point temperature, and the relative humidity shall not exceed 85%.

D Measurement
The department will measure Structure Overcoating Cleaning and Priming (Structure), completed according to the contract and accepted, as a single complete unit of work.

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

ITEM NUMBER	DESCRIPTION	UNIT
517.3000.S.001	Structure Overcoating Cleaning and Priming B-70-131	LS
517.3000.S.002	Structure Overcoating Cleaning and Priming B-70-132	LS

Payment is full compensation for preparing and cleaning the designated surfaces; and for furnishing and applying the paint.
517-036 (20080501)

12.7 Containment and Collection of Waste Materials B-70-131, Item 517.4000.S.001; B-70-132, Item 517.4000.S.002.

A Description
This special provision describes furnishing and erecting tarpaulins to contain, collect and store the spent material from surface preparation of steel surfaces, collecting such spent material, and labeling and storing the spent material in waste containers according to the contract and as hereinafter provided.

B Materials
Provide 5-gallon lidded plastic containers for containing the spent material.

C Construction
Erect tarpaulins or other materials to collect all of the spent material from power tool cleaning. Consider and treat all spent material as hazardous waste because it contains lead.

Collect and store all waste material collected by this operation at the bridge site for disposal. Collect and store all waste materials at the end of each workday or more often if needed. Store materials in 5-gallon lidded plastic containers.

Label each container with the date the first waste was placed in the container and the words "Hazardous Waste – EPA Waste Code D008." Lock and secure all containers at the end of each workday. Keep the containers covered at all times except to add or remove waste material. Store the containers in an accessible and secured area, not located in a storm water runoff course, flood plain or exposed to standing water.

Collect the spent debris by vacuuming, shoveling, sweeping, or by channeling it directly to disposal containers. The enclosure shall be thoroughly cleaned at the end of each work day.

D Measurement
The department will measure Containment and Collection of Waste Materials (Structure), completed according to the contract and accepted, as a single complete unit of work for each structure designated in the contract.

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

ITEM NUMBER	DESCRIPTION	UNIT
517.4000.S.001	Containment and Collection of Waste Materials B-70-131	LS
517.4000.S.002	Containment and Collection of Waste Materials B-70-132	LS

Payment is full compensation for designing, erecting, operating, maintaining and disassembling the containment devices; collecting, labeling and storing spent materials in appropriate containers.
517-037 (20080902)

12.8 Anchor Assemblies Light Poles on Structures, Item 657.6005.S.

A Description
This special provision describes furnishing and installing anchor bolt assemblies for light poles as shown on the plans, and as hereinafter provided.

B Materials
Furnish anchors of the size and spacing as given on the plans, and that conform to ASTM A449 or AASHTO M314 GR 55. The upper 8 inches of the bolts, nuts, and washers shall be hot-dipped galvanized according to ASTM A153, Class C. Provide enlarged threads on nuts for proper fit after galvanizing.

C Construction
Provide two nuts and two washers per anchor bolt, and install per light standard manufacturer's recommendations.

D Measurement
The department will measure Anchor Assemblies Light Poles on Structures as a unit for each individual anchor bolt 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
657.6005.S	Anchor Assemblies Light Poles on Structures	Each

Payment is full compensation for furnishing and installing the anchorages.
657-060 (20100709)

12.9 Modified High Performance Concrete (HPC) Masonry Bridges, Item SPV.0035.700.

This special provision describes specialized material and construction requirements to be utilized on all concrete masonry bridges. Conform to standard spec 501 and 502 as modified in this special provision. Conform to standard spec 715 for QMP, as modified in this special provision.

MODIFY STANDARD SPEC 501 AS FOLLOWS:

501.2.5.4.1 General
Replace the entire text with the following:

(1) Use clean, hard, durable crushed limestone with 100% fractured surfaces and free of an excess of thin or elongated pieces, frozen lumps, vegetation, deleterious substances or adherent coatings considered injurious.

(2) Use virgin aggregates only.

501.2.5.4.2 Deleterious Substances
Replace standard spec 501.2.5.4.2(1) with the following:

(1) The amount of deleterious substances must not exceed the following percentages:

DELETERIOUS SUBSTANCE	PERCENT BY WEIGHT
Shale	1.0
Coal	1.0
Clay lumps	0.3
Soft fragments	5.0
Any combination of above	5.0
Thin or elongated pieces based on a 3:1 ratio	15.0
Materials passing the No. 200 sieve	1.5
Chert	1.0

501.2.5.4.3 Physical Properties
Replace standard spec 501.2.5.4.3(1) with the following:

(1) The percent wear must not exceed 30, the weighted soundness loss must not exceed 6 percent, and the weighted freeze-thaw average loss must not exceed 15 percent.

501.2.9 Concrete Curing Materials
Replace standard spec 501.2.9(3) with the following:

(3) Furnish burlap conforming to AASHTO M 182, class 1, 2, 3 or 4.

501.3.2.4.3.3 Extended Delivery Time
Delete standard spec 5014.3.2.4.3.3(1).

501.3.5.2 Delivery
Replace standard spec 501.3.5.2(3) with the following:

(3) Deliver and completely discharge concrete within one hour beginning when adding water to the cement, or when adding cement to the aggregates. A decrease in air temperature below 60° F or the use of department-approved retarders does not increase the discharge time.

501.3.7.1 Slump
Replace the entire text with the following:

(1) Use a 2-inch to 4-inch slump.

(2) Perform the slump tests for concrete according to AASHTO T 119.

501.3.8.2.1 General
Replace the entire text with the following:

(1) The contractor is responsible for the quality of the concrete placed in hot weather for concrete placed under this special provision. Submit a written temperature control plan at or before the pre-pour meeting. In that plan, outline

the actions the contractor will take to control concrete temperature if the concrete temperature at the point of placement exceeds 80° F. Do not place concrete under the items in this special provision without the engineer's written acceptance of that temperature control plan. Perform the work as outlined in the temperature control plan.

(2) If the concrete temperature at the point of placement exceeds 80° F, do not place concrete for items covered in this special provision.

(3) Any additive or action taken by the contractor to control the temperature of the concrete to within the limits of this special provision, including but not limited to the addition of ice to the concrete mix, is considered incidental to the work and will not be measured or paid for separately.

501.3.8.2.2 Bridge Decks
Replace the entire text with the following:

(1) Do not place concrete for bridge decks when the ambient air temperature is above 80° F.

(2) For concrete placed in bridge decks, submit a written evaporation control plan at each pre-pour meeting. In that plan, outline the actions the contractor will take to maintain concrete surface evaporation at or below 0.15 pounds per square foot per hour. Do not place concrete for bridge decks without the engineer’s written acceptance of that evaporation control plan. Perform the work as outlined in the evaporation control plan.

(3) If predicting a concrete surface moisture evaporation rate exceeding 0.15 pounds per square foot per hour, do not place concrete for bridge decks.

(4) Provide evaporation rate predictions to the engineer 24 hours prior to each bridge deck pour.

(5) Compute the evaporation rate from the predicted ambient conditions at the time and place of the pour using the nomograph, or computerized equivalent, specified in CMM 5.25, figure 1. Use weather information from the nearest national weather service station. The engineer will use this information to determine if the pour will proceed as scheduled.

(6) At least 8 hours before each pour, the engineer will inform the contractor in writing whether or not to proceed with the pour as scheduled. If the actual computed evaporation rate during the pour exceeds 0.15 pounds per square foot per hour, at the sole discretion of the engineer, the contractor may be allowed to implement immediate corrective action and complete the pour.

MODIFY STANDARD SPEC 502 AS FOLLOWS:

502.3.5.4 Superstructures
Delete standard spec 502.3.5.4(6).

502.3.7.8 Floors
Replace standard spec 502.3.7.8(5) with the following:

(5) The contractor shall set the rails or tracks, that the machine finisher rides on, to the required elevation; and ensure they adjust to allow for settlement under load. The rails or tracks shall be supported outside the limits of the finished riding surface. Rails or tracks are not allowed to be supported within the finished riding surface, without written permission of the engineer.

Delete standard spec 502.3.7.8(13), 502.3.7.8(14) and 502.3.7.8(15). Add the following 502.3.7.8(19), 502.3.7.8(20) and 502.3.7.8(21).

(19) Do not place bridge deck concrete more than 10 feet ahead of the finishing machine. If there is a delay of more than 10 minutes during the placement of a bridge deck, cover all concrete (unfinished and finished) with wet burlap to protect the concrete from evaporation until placement operations resume.

(20) Hand finishing, except for the edge of deck, must be kept to a minimum. The finishing machine must be equipped with a pan behind the screed. Apply micro texture using a broom or turf drag following the use of a 10-foot straight edge. Only finish by hand as necessary to close up finished concrete. Begin wet curing the deck immediately following the micro texture.

(21) For bridge decks with a design speed of 40 mph or greater, provide longitudinal grooving according to the provision included in this contract.

502.3.8.1 General
Replace standard spec 502.3.8.1(1) with the following:

(1) Maintain adequate moisture throughout the concrete mass to support hydration for a minimum of 14 days.

502.3.8.2.1 General
Replace the entire text with the following:

(1) Wet-cure the concrete for bridge decks, approach aprons, sidewalks and raised medians for 14 days by use of a soaker hose system, or other engineer-approved methods. Cover the finished surface of bridge decks and overlays with one layer of wetted burlap or wetted cotton mats within 10 minutes after the finishing machine has passed. Apply the burlap/cotton gently so as to minimize marking of the fresh concrete. Keep the first layer of burlap/cotton

continuously moist by means of fogging equipment until the bridge deck or overlay is sufficiently hard to apply a second layer of wetted burlap/cotton. Care shall be taken to not apply too much water to the fresh concrete surface. Any and all damage to the concrete surface shall be the responsibility of the contractor to correct to the engineer's approval. The intent is to keep the surface moist until the soaker hose system is in place. Free standing water shall not be on or running off the deck surface. Immediately after applying the second layer of burlap/cotton, continue to keep the deck moist until placing and activating the soaker hose system. Throughout the remainder of the curing period, keep the burlap/cotton continuously wet with soaker hoses hooked up to a continuous water source. Inspect the burlap/cotton twice daily to ensure the entire surface is moist. If necessary, alter the soaker hose system as needed to ensure the entire surface is completely covered and stays moist. After 48 hours from the time of completion of the bridge deck or overlay pour, the soaker hose system and burlap/cotton may be covered with polyethylene sheeting. Provide a continuous flow of water through the soaker hose system for the entire curing period.

(2) Do not uncover any portion of the deck at any time for any reason during the first seven days of the curing period.

(3) Set up and test the fogging system before each bridge deck, raised median and sidewalk pour. The fogging system must remain set up and in operating condition for the duration of the pour.

502.3.8.2.3 Decks
Delete the entire text.

502.3.8.2.4 Parapets
Replace the entire text with the following:

(1) Cure the inside and outside concrete faces and tops of railings or parapets by covering with wetted burlap immediately after form removal and surface finish application. Keep the burlap thoroughly wet for a minimum of seven days; or by covering for the same period with thoroughly wet polyethylene-coated burlap conforming to standard spec 501.2.9.

(2) Secure coverings along all edges to prevent moisture loss.

502.3.9.6 Bridge Decks
Replace standard spec 502.3.9.6(2) with the following:

(2) Protect the underside of the deck, including the girders, for bridge deck and overlay pours by housing and heating when the national weather service forecast predicts temperatures to fall below 32° F during the cold weather

protection period. Maintain a minimum temperature of 40° F in the enclosed area under the deck for the entire 14-day curing period.

502.5.1 General

Replace standard spec 502.5.1(1) with the following:

(1) The department will pay for measured quantities at the contract unit price and incidentals necessary to complete the work under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.700	Modified High Performance Concrete (HPC) Masonry Bridges	CY

MODIFY STANDARD SPEC 710 AS FOLLOWS:

Add the following subsection:

710.5.7 Chloride Penetration Resistance

(1) For each new or changed mix design, measure chloride penetration resistance according to AASHTO T 259 (Salt Ponding Test)

(2) For each new or changed mix design, measure chloride penetration resistance according to AASHTO T 277 (Rapid Chloride Permeability Test) at a frequency of 1 test per 3 months (quarterly) of production.

•

(3) Permeability samples for AASHTO T 277 testing must be stripped of their molds and wet cured to an age of 7 days in a standard moist room or water tank. After 7 days, submerge the samples in water heated to 100° F until an age of 28 days. Upon completion of the curing process, obtain one sample from each cylinder and test according to AASHTO T 277.

(4) Ensure that the initial accepted mix designs meet the chloride penetration resistance limit of 1500 coulombs based on the AASHTO T 277 Rapid Chloride Permeability test. Chloride resistance testing conducted quarterly using AASHTO T 277 Rapid Chloride Permeability Test during production will not be used for acceptance of previously accepted mixes and concrete masonry mixed and placed according to the contract requirements. For quarterly chloride resistance test results exceeding 1500 coulombs, the department may require adjustment of the concrete mix going forward to improve the chloride penetration resistance.

MODIFY SUBSECTION 715 AS FOLLOWS:

715.2.3.2 Structures

Replace standard spec 715.2.3.2(2) with the following:

(2) Provide a minimum cementitious content of 540 pounds per cubic yard and a maximum cementitious content of 600 pounds per cubic yard. For all superstructure and substructure concrete, unless the engineer approves otherwise in writing, conform to one of the following:

1. Use class C fly ash or grade 100 or 120 slag as a partial replacement for Portland cement. For binary mixes use 15% to 30% fly ash or 20% to 30% slag. For ternary mixes use 15% to 30% fly ash plus slag in combination. Replacement value are in percent by weight of the total cementitious material in the mix.
2. Use a type IP, IS, or I(SM) blended cement.

Add the following subsection:

715.2.3.3 Trial Mixes

(1) Develop and test each mix to be used for Modified HPC Masonry Bridges. Produce a laboratory trial mix for each mix, as well as a trial mix from each plant used to supply the project. Test all mixes at a department-qualified laboratory.

(2) The laboratory trial mix data must include the results of the following tests:

1. AASHTO T 119 Slump of Hydraulic Cement Concrete.
2. AASHTO T 121 Mass per Cubic Foot, Yield
3. AASHTO T 152 Air Content.
4. AASHTO T 22 Compressive Strength.
5. AASHTO T 277 Rapid Determination of the Chloride Permeability of Concrete, using the modified curing procedure according to 710.5.7(3) herein.
6. AASHTO T 309 Temperature.
7. Water Cement Ratio.

(3) The 28-day compressive strength must be greater than or equal to 4000 psi. The 28-day results of the permeability test must be less than or equal to 1500 coulombs.

(NER441-20141217)

12.10 Junction Boxes Stainless Steel 24x18x6-Inch, Item SPV.0060.700.

A Description

This special provision describes furnishing, installing and connecting Junction Boxes Stainless Steel of the size and type specified on the plans.

B Material
Install Junction Box Stainless Steel with a cover, gasket, and hardware. Furnish stainless steel hardware for the cover.

Furnish box covers that have a continuous formed, seamless, urethane, oil-resistant gasket. Place the gasket directly onto the junction box cover. Adhere the gasket to the cover without the use of adhesives. Attach junction box covers to the box with un-slotted hex head screws unless otherwise specified. For boxes mounted on bridge structures, furnish the cover with a retaining chain and captive screws.

Provide Type 304 stainless steel, not less than 14 gauge with all seams continuously welded with stainless steel weld wire and ground smooth. Provide exterior surfaces having a smooth polished finish. Provide box in conformance with UL 50 and NEMA Type 4X. Furnish box suitable for surface mounting when specified for attachment to a structure, complete with external stainless steel mounting lugs or brackets welded to the box. Furnish an overlapping stainless steel cover that is secured to the box with a continuous stainless steel hinge and a minimum of four captive stainless steel clamps utilizing captive stainless steel hex-head bolts or deep slotted stainless steel screws.

C Construction
Install exposed junction boxes on structures on ½-inch long stainless steel or brass spacers with the hinge on bottom of the box and the cover lying in the vertical plane when closed. The exact orientation is shown on the plans or as directed by the engineer. Take care to assure proper orientation of mounting lugs.

Make field cut conduit openings uniform and smooth. File smooth all burrs and rough edges prior to the installation of conduits into the junction box. Field cut conduit openings to be fitted with the appropriate conduit fittings and accessories.

D Measurement
The department will measure Junction Boxes by Each unit, 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.0060.700	Junction Boxes Stainless Steel 24x18x6-Inch	Each

Payment is full compensation for furnishing and installing Junction Boxes Stainless Steel, of the size and type indicated on the plans.

12.11 Cleaning and Painting Bearings, Item SPV.0060.701.

A Description
This special provision describes cleaning and painting the existing steel bearings on structures as shown on the plans, as directed by the engineer, and according to standard spec 517.

B Materials

Furnish a complete epoxy coating system from the department's approved product list. Use the same coating system for all repairs due to handling, shipping and erecting, and for all other uncoated areas. The color of epoxy shall be white and the urethane coating material shall match the color number shown on the plans according to Federal Standard Number 595B, as printed in 1989. Supply the engineer with the product data sheets before any coating is applied. The product data sheets shall indicate the mixing and thinning directions, the minimum drying time for shop or field applied coats, and the recommended procedures for coating galvanized bolts, nuts, and washers.

C Construction

C.1 Surface Preparation

Clean areas of loose paint and rust by wire brushing, grinding, or other mechanical means. Sound paint does not need to be removed.

After clean up and storage of waste material, blast cleaning is allowed for only those areas where paint has been removed. Shield adjacent painted areas during blast cleaning operations. The blasting sand does not have to be collected.

Furnish adequate containment methods as required to contain and collect waste material resulting from the preparation of painted steel surfaces for painting. All clean up activities should minimize dust. Store waste materials in hazardous waste containers provided by the department.

C.2 Coating Application

Apply paint in a neat, workmanlike manner, and according to the manufacturer's instructions and recommendations. Paint application shall be brushed on.

D Measurement

The department will measure Cleaning and Painting Bearings as each individual bearing 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.0060.701	Cleaning and Painting Bearings	Each

Payment is full compensation for preparing and cleaning the designated bearings; furnishing and applying the paint; cleaning up, and containing and collecting all waste materials.

12.12 Salvage Existing Sign Structure S-70-143, Truss, Item SPV.0105.950.

A Description

This special provision describes removing the truss from cantilever sign bridge S-70-143 from the location shown in the plans, and reinstalling the truss at a new location, S-70-202, as shown in the plans, according to the applicable provisions of standard spec 204 and standard spec 641.

B (Vacant)

C Construction

Inspect the sign bridge prior to removing from the existing foundation base. Inform the engineer of any items of concern or potential problems that may interfere with the reuse of the sign bridge. Minimize the time between removal from the existing sign support foundation and reinstallation on the new sign support column for S-70-202. The new sign support column and foundation for S-70-202 will be paid for under separate items and are not included herein. Removal of the column and foundation for S-70-143 is paid for under a separate bid item.

D Measurement

The department will measure Salvage Existing Sign Structure S-70-143, Truss as a lump sum unit of work for each individual relocation, 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.0105.950	Salvage Existing Sign Structure S-70-143, Truss	LS

Payment is full compensation for removing, hauling, storing, and reinstalling cantilever sign bridge S-70-143 truss, including supplying new connecting hardware for attachment to the S-70-202 support column, as set forth above.

13. Retaining Walls.

13.1 Wall Concrete Panel Mechanically Stabilized Earth LRFD/QMP, Item SPV.0165.850.

A Description

This special provision describes designing, furnishing materials and erecting a permanent earth retention system according to the lines, dimension, elevations and details as shown on the plans and provided in the contract. The design life of the wall and all wall components shall be 75 years minimum.

This special provision describes the quality management program (QMP) for MSE walls. A quality management program is defined as all activities, including process control, inspection, sampling and testing, and necessary adjustments in the process that are related to the construction of the MSE wall, which meets all the requirements of this provision.

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

Chapter 8 of the department's construction and materials manual (CMM) provides additional detailed guidance for QMP work and describes 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

B Materials

B.1 Proprietary Mechanically Stabilized Earth Concrete Panel Wall Systems

The supplied wall system must be from the department's approved list of Concrete Panel Mechanically Stabilized Earth Wall systems (Concrete Panel MSE Walls).

Proprietary wall systems may be used for this work, but must conform to the requirements of this specification and be pre-approved for use by the department's Bureau of Structures, Structures Design Section. The department maintains a list of pre-approved Concrete Panel Mechanically Stabilized Earth Wall systems. To be eligible for use on this project, a system must have been pre-approved and added to that list prior to the bid opening date. The name of the pre-approved proprietary wall system selected shall be furnished to the engineer within 25 days after the award of contract. The location of the plant manufacturing the concrete panels shall be furnished to the engineer at least 14 days prior to the start of panel production.

To receive pre-approval, the retaining wall system must comply with all pertinent requirements of this provision. Applications for pre-approval may be submitted at any time. Applications must be prepared according to the requirements of Chapter 14 of the department's LRFD Bridge Manual. Information and assistance with the pre-approval process can be obtained by contacting the Structures Design Section in Room 601 of the Hill Farms State Transportation Building in Madison or by calling (608) 266-8494.

B.2 Design Requirements

It is the responsibility of the contractor to supply a design and supporting documentation as required by this special provision, for review by the department, to show the proposed wall design is in compliance with the design specifications. Four copies of the following shall be submitted to the engineer for review and acceptance no later than 60 days from the date of notification to proceed with the project.

The plans and shop drawings shall be prepared on reproducible sheets 11 inch x 17 inch, including borders. Each sheet shall have a title block in the lower right corner. The title block shall include the project identification number and structure number. Design calculations and notes shall be on 8 ½ inch x 11 inch sheets, and shall contain the project identification number, name or designation of the wall, date of preparation, initials of designer and checker, and page number at the top of the page. All plans, shop drawings, and calculations shall be signed, sealed and dated by a professional engineer licensed in the State of Wisconsin.

The design of the Concrete Panel MSE Wall shall be in compliance with the *AASHTO LRFD Bridge Design Specifications 5th Edition 2010*, (AASHTO LRFD) with latest interim specifications for Mechanically Stabilized Earth Walls, WisDOT's current *Standard Specifications for Highway and Structure Construction* (Standard Specifications), Chapter 14 of the WisDOT LRFD Bridge Manual and standard engineering design procedures as determined by the department. Loads, load combinations, load and resistance factors shall be as specified in AASHTO LRFD Section 11. The associated resistance factors shall be defined according to Table11.5.6-1 LRFD.

Design and construct the walls according to the lines, grades, heights and dimensions shown on the plans, as herein specified, and as directed by the engineer. Where walls or wall sections intersect with an included angle of 130 degrees or less, a vertical corner element separate from the standard panel face shall abut and interact with the opposing standard panels. The corner element shall have ground reinforcement connected specifically to that panel and shall be designed to preclude lateral spread of the intersecting panels. If the wall is installed in front of a bridge abutment or wing, it shall also be designed to resist the applied abutment/bridge lateral forces specified on the contract plans.

Walls parallel to supporting highway traffic shall be designed for the effects of highway surcharge loading equivalent of 2 feet soil surcharge weight or 240 psf. The design shall also consider the traffic barrier impact where applicable. Walls that do not carry highway traffic shall be designed for a live load surcharge of 100 psf according to Chapter 14 of the WisDOT LRFD Bridge Manual or as stated on the plans.

A maximum value of the angle of internal friction of the wall backfill material used for design shall be assumed to be 30 degrees without a certified report of tests. If a certified report of tests yields an angle of internal friction greater than 30 degrees, the larger test value may be used for design, up to a maximum value of 36 degrees.

An external stability check at critical wall stations showing Capacity Demand Ratios (CDR) for sliding, eccentricity, and bearing checks is performed by the department and are provided on the wall plans.

The design of the Concrete Panel Mechanically Stabilized Earth Wall by the contractor shall consider the internal and compound stability of the wall mass according to AASHTO LRFD 11.10.6. The internal stability shall include soil reinforcement pullout, soil

reinforcement rupture, and panel-reinforcement connection failure at each soil reinforcement level. The design shall be performed using the Simplified Method or Coherent Gravity Method. Calculations for factored stresses and resistances shall be based upon assumed conditions at the end of the design life. Compound stability shall be computed for the applicable strength limits.

Facing panels shall meet the design requirements of AASHTO LRFD 11.10.2.3. The Facing panels shall also be designed to resist compaction stresses that occur during the wall erection. The minimum thickness of the Facing panel shall be 5.5 inches. The surface area of a standard single panel cannot exceed 60 square feet. The maximum height of a standard panel shall be 5 feet. The top and bottom panels may exceed 5 foot in height based on site topography subject to the approval by the Structures Design Section. The design of the steel reinforcement within the panels shall be based on one-way bending action. Design the wall panels and joints between panels to accommodate a maximum differential settlement of 1 foot over a 100-foot length, unless the plans indicate other.

The minimum length of soil reinforcement measured from the back face of the wall shall be equal to 0.7 the wall height or as shown on the plan. In no case shall this length be less than 8 feet. The soil reinforcement length shall be the same from the bottom to the top of the wall. The soil reinforcement shall extend a minimum of 3.0 feet beyond the theoretical failure plane in all cases. The maximum vertical spacing of soil reinforcement layers shall be 31 inches. The uppermost layer of the reinforcement shall be located between 6 inches and 18 inches below the bottom of an overlying slab, footing or top of the wall. The upper layers of the soil reinforcement shall also be checked to verify that they have sufficient tensile resistance against traffic barrier impact where applicable.

All soil reinforcement steel required for the reinforced soil zone shall be connected to the face panels. The reinforcement and the reinforcement/facing connection strength shall be designed to resist maximum factored reinforcement loads according to AASHTO LRFD Section 11.10.6. Facing connection strength shall be defined as the resistance factor times the failure load, or the load at 0.5 inch deformation times 0.9, whichever is less. The nominal long term design strength in steel reinforcement and connections shall be based upon assumed conditions at the end of the design life.

Soil reinforcement shall be prefabricated into single or multiple elements before galvanizing. Soil reinforcement shall be fabricated or designed to avoid piling, drainage structures or other obstacles in the fill without field modifications. Cutting or altering of the basic structural section of either the strip or grid at the site is prohibited unless approved by the Structures Design Section. A minimum clearance of 3” shall be maintained between any obstruction and reinforcement unless otherwise approved by the Structures Design Section. Splicing steel reinforcement is not allowed, unless approved by the Structures Design Section.

MSE facing panels shall be installed on concrete leveling pads. The minimum cross section of the leveling pad shall be 6-inches deep by 1-foot wide. Potential depth of frost penetration at the wall location shall not be considered in designing the wall for depth of leveling pad.

Submit the following to the engineer for review: complete design calculations, explanatory notes, supporting materials, specifications, and detailed plans and shop drawings for the proposed wall system. Sample analyses and hand output shall be submitted to verify the output by the software. The design calculations and notes shall clearly indicate the Capacity to Demand Ratios (CDR) for all internal stabilities as defined in AASHTO LRFD.

The wall submittal package shall be submitted electronically to the project engineer and Structures Design Section. Submit all required information no later than 30 days prior to beginning construction of the wall. The detailed plans and shop drawings shall include all details, dimensions, quantities and cross-sections necessary to construct the walls.

B.3 Wall System Components

Materials furnished for wall system components under this contract shall conform to the requirements of this specification. All certifications related to material and components of the wall systems specified in this subsection shall be submitted to the engineer.

B.3.1 General

The walls shall have modular precast concrete face panels produced by a wet cast process, and have cast-in-place concrete pads or footings. The concrete panels shall have a minimum strength of 4000 psi at 28 days. The concrete for the panels shall be air entrained, with an air content of 6% +/- 1.5%. All materials for the concrete mixture for the panels shall meet the requirements of standard spec 501. The panel edges shall be configured so as to conceal the joints. The detail shall be a shiplap, tongue and groove or other detail adequate to prevent vandalism or ultraviolet light damage to the backside of the wall joint covering. Joints between panels shall be no more than 0.75 inch. Use full wall height slip joints at points of differential settlement when detailed on the plan. Horizontal joints must be provided with a compressible bearing material to prevent concrete to concrete contact.

A minimum of two bearing pads shall be used per panel. The allowable bearing stress shall not exceed 900 psi. The bearing pads shall be preformed EPDM rubber conforming to ASTM D-2000, Grade 2, Type A, Class A with a minimum Durometer Hardness of 80, or high- density polyethylene pads with a minimum density of 0.034 lb/in^3 according to ASTM 1505.

An 18-inch wide geotextile shall be used on the backface of the wall panels to cover all panel joints. The geotextile shall meet the physical requirements stated in standard spec 645.2.4 for Geotextile Fabric, Type DF, Schedule B, except that the grab tensile strength shall be a minimum of 180 pounds in both the machine and cross-machine directions. The geotextile shall be attached with a standard construction adhesive suitable for use on

concrete surfaces and cold temperatures. The adhesive shall be applied to the panels, not to the geotextile.

All steel portions of the wall system exposed to earth shall be galvanized. All soil reinforcement and attachment devices shall be carefully inspected to ensure they are true size and free from defects that may impair the strength and durability.

For cast in place sections of cap and coping, use poured concrete masonry Grade A, A-FA, A-S, A-T, A-IS or A-IP concrete conforming to standard specification standard spec 501 as modified in standard spec 716. Provide QMP for cast in place cap and coping concrete as specified in standard spec 716, Class II Concrete.

Use a wall leveling pad that consists of poured concrete masonry, Grade A, A-FA, A-S, A-T, A-IS or A-IP concrete conforming to standard spec 501 as modified in standard spec 716. Provide QMP for leveling pad concrete as specified in standard spec 716, Class II Concrete.

The minimum embedment to the top of the leveling pad shall be 1 foot 6 inches or as given on the contract plan. Step the leveling pad to follow the general slope of the ground line. The leveling pad's steps shall keep the bottom of the wall within one half the panel heights of the minimum embedment i.e. the minimum embedment plus up to one half the height of one panel. Additional embedment may be detailed by the contractor, but will not be measured for payment.

B.3.2 Backfill

Furnish and place backfill for Concrete Panel MSE Walls as shown on the plans and as hereinafter provided.

Provide and use backfill that consists of natural sand or a mixture of sand with gravel, crushed gravel or crushed stone. It shall not contain foundry sand, bottom ash, blast furnace slag, crushed/recycled concrete, crushed/milled asphaltic concrete or other potentially corrosive material.

Provide material conforming to the following gradation requirements as per AASHTO T27.

Sieve Size	% by Weight Passing
1 inch	100
No. 40	0 - 60
No. 200	0 - 15

The material shall have a liquid limit not greater than 25, as per AASHTO T89, and a plasticity index not greater than 6, as per AASHTO T90. Provide the percent by weight, passing the #4 sieve.

In addition, backfill material shall meet the following requirements.

Test	Method	Value
pH	AASHTO T-289	5 – 10.0
Sulfate content	AASHTO T-290	200 ppm max.
Chloride content	AASHTO T-291	100 ppm max.
Electrical Resistivity	AASHTO T-288	3000 ohm/cm min.
Organic Content	AASHTO T-267	1.0% max.
Angle of Internal Friction	AASHTO T-236*	30 degrees min. (At 95.0% of maximum density and optimum moisture, per AASHTO T99, or as modified by C.2.)

*If the amount of P-4 material is greater than 60%, use AASHTO 236 with a standard-size shear box. Test results of this method may allow the use of larger angles of internal friction, up to the maximum allowed by this specification.

If the amount of P-4 material is less than or equal to 60%, two options are available to determine the angle of internal friction. The first method is to perform a fractured faces count, per ASTM 5821, on the R-4 material. If more than 90% of the material is fractured on one face and more than 50% is fractured on two faces, the material meets the specifications and the angle of internal friction can be assumed to be 30 degrees. The second method allows testing all P-1" material, as per AASHTO T-236, with a large shear box. Test results of this second method may allow the use of larger angles of internal friction, up to the maximum allowed by this specification.

Prior to placement of the backfill, obtain and furnish to the engineer a certified report of test results that the backfill material complies with the requirements of this specification. Specify the method used to determine the angle of internal friction. This certified report of test shall be less than 6 months old. Tests will be performed by a certified independent laboratory. In addition, when backfill characteristics and/or sources change, provide a certified report of tests for the new backfill material. Additional certified report of tests (except Angle of Internal Friction test), are also required. These additional backfill tests may be completed at the time of material production or material placement, with concurrence of the engineer. If this additional testing is completed at the time of material production, complete testing for every 2000 cubic yards of backfill or portion thereof. If this additional testing is completed at the time of material placement, complete testing for every 2000 cubic yards of backfill, or portion thereof, used per wall. All certified report of test results shall be less than 6 months old and performed by a certified independent laboratory.

C Construction

C.1 Excavation and Backfill

Excavation will encompass preparing the leveling pad foundation and the area below the reinforcing strips according to standard spec 206. The volume of excavation covered is

limited to the width of the reinforced mass and to the depth of the leveling pad unless shown or noted otherwise on the plan. At the end of each working day, provide good temporary drainage such that the backfill shall not become contaminated with run-off soil or water if it should rain. Do not stockpile or store materials or large equipment within 10 feet of the back of the wall.

C.2 Compaction Compact all backfill behind the wall as specified in standard spec 207.3.6. Compact the backfill to 95.0% of maximum dry density as determined by AASHTO T-99, or as modified as follows. If the gradation of the granular backfill is such that the P-200 material is less than 7% and the P-40 is less than 30%, a one-point Proctor test can be conducted in place of the 5-point Proctor. To complete this one-point test, compact the sample at a moisture content of 6%, then compute the actual (as-tested) sample moisture after completion of the test. Use Method B or D, and perform this test without removing oversize particles and without correction for coarse particles, as per AASHTO T224. The one-point as-tested moisture content represents the optimum moisture, and the measured one-point density represents the maximum wet density of the material. From these values, the maximum dry density can be computed.

Ensure adequate moisture is present in the backfill during placement and compaction to prevent segregation and to help achieve compaction.

Compaction of backfill within 3 feet of the back face of the wall should be accomplished using lightweight compaction devices. Use of heavy compaction equipment or vehicles should be avoided within 3 feet of the panels.

Place and compact the MSE backfill to the level of the next higher layer of MSE reinforcement before placing the MSE reinforcement or connecting it to the wall facing. The MSE reinforcement shall lay horizontally on the top of the most recently placed and compacted layer of MSE backfill. Bending of MSE reinforcement that result in a kink in the reinforcement shall not be allowed. If skewing of the reinforcement is required due to obstructions in the reinforced fill, the maximum skew angle shall not exceed 15 degrees from the normal position unless a greater angle is shown on the plans. The adequacy of the skewed reinforcement in such a case shall be addressed by supporting calculations.

C.3 Panel Tolerances

As backfill material is placed behind a panel, maintain the panel in its proper inclined position according to the supplier specifications and as approved by the engineer. The supplier shall specify the back batter so that the final position of the wall is vertical. Vertical tolerances and horizontal alignment tolerances shall not exceed ¾-inch when measured along a 10-foot straight edge. The maximum allowable offset in any panel joint shall be ¾-inch. The overall vertical tolerance of the wall (plumbness from top to bottom) shall not exceed ½-inch per 10 feet of wall height. Erect the precast face panels to ensure that they are located within 1 inch from the contract plan offset at any location to ensure proper wall location at the top of the wall. Provide a ¾-inch joint separation between all adjacent face panels to prevent direct concrete-to-concrete contact. Maintain this gap by the use of bearing pads and/or alignment pins. Failure to meet this tolerance shall cause the

engineer to require the contractor to disassemble and re-erect the affected portions of the wall. In addition, imperfect molding, honeycombing, cracking or severe chipping of panels shall be cause of panel rejection.

C4 Quality Management Program

C.4.1 Quality Control Plan

Submit a comprehensive written quality control plan to the engineer at or before the pre-construction meeting. Do not perform MSE wall construction work before the engineer reviews and accepts the plan. Construct the project as the plan provides.

Do not change the quality control plan without the engineer's review and acceptance. Update the plan with changes as they become effective. Provide a current copy of the plan to the engineer and post in the contractor's laboratory 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 process that will be used, and action time frames.
3. A list of source locations, section and quarter descriptions, for all aggregate materials requiring QC testing.
4. Descriptions of stockpiling and hauling methods.
5. An outline for resolving a process control problem. Include responsible personnel, required documentation, and appropriate communication steps.
6. Location of the QC laboratory, retained sample storage, and other documentation.
7. A summary of the locations and calculated quantities to be tested under this provision.

C.4.2 Quality Control Personnel

Perform the quality control sampling, testing, and documentation required under this provision using HTCP certified technicians. Have a HTCP Level I Grading Technician, Level I Aggregate Technician, or Assistant Certified Aggregate Technician (ACT) present at the each grading site during all wall backfill placement, compaction, and nuclear testing activities. Have a HTCP Level I Nuclear Density Technician or Assistant Certified Nuclear Density Technician (ACT) perform field density and field moisture content testing.

If an Assistant Certified Technician (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.

C.4.3 Equipment

Furnish the necessary equipment and supplies for performing quality control testing. Ensure that all testing equipment conforms to the equipment specifications applicable to the required testing methods. The engineer may inspect the measuring and testing devices to confirm both calibration and condition. Calibrate all testing equipment according to the CMM and maintain a calibration record at the laboratory.

Furnish nuclear gauges from the department's approved product list at http://www.atwoodsystems.com/materials. Ensure that the gauge manufacturer or an approved calibration service calibrates the gauge the same calendar year it is used on the project. Retain a copy of the calibration certificate with the gauge.

Conform to ASTM D 6938 and CMM 8.15 for density testing and gauge monitoring methods. Perform nuclear gauge measurements using gamma radiation in the backscatter or direct transmission position. Perform each test for 4 minutes of nuclear gauge count time.

Split each Proctor sample and identify so as to provide comparison with the department's test results. Unless the engineer directs otherwise, retain the QC split samples for 14 calendar days and promptly deliver the department's split samples to the department

C.4.4 Quality Control (QC) Testing

Perform compaction testing on the backfill. Conform to CMM 8.15 for testing and gauge monitoring methods. Conduct testing at a minimum frequency of 1 test per 150 cubic yards of backfill, or major portion thereof. A minimum of one test for every lift is required. Deliver documentation of all compaction testing results to the engineer at the time of testing.

Perform 1 gradation test every 750 cubic yards of fill and one 5-point Proctor test (or as modified in C.2) every 2000 cubic yards of fill. Provide the region split samples of both within 72 hours of sampling, at the region laboratory. Test sites shall be selected using ASTM Method D3665. Provide Proctor test results to the engineer within 48 hours of sampling. Provide gradation test results to the engineer within 24 hours of sampling.

C.4.5 Department Testing

C.4.5.1 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 two business days after the department obtains the sample.

C.4.5.2 Quality Verification (QV) Testing

(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 C.4.2 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 at the minimum frequency of 30% of the required contractor density, Proctor and gradation tests.

(3) The department will locate density tests and gradation samples randomly, at locations independent of the contractor's QC work. The department will split each Proctor and gradation QV sample, testing half for QV, and retaining the remaining half for 10 business days.

(4) The department will conduct QV Proctor and gradation 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 this special provision, the department will take no further action. If density QV test results are nonconforming, the area shall be reworked until the density requirements of this special provision are met. If the gradation test results are nonconforming, standard spec 106.5 will apply. Differing QC and QV nuclear density values of more than 1.5 pcf will be investigated and resolved. QV density tests will be based on the appropriate QC Proctor test results, unless the QV and QC Proctor result difference is greater than 3.0 pcf. Differing QC and QV Proctor values of more than 3.0 pcf will be investigated and resolved.

C.4.5.3 Independent Assurance (IA)

(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 C.4.5.4.

C.4.5.4 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 or work, 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.5 Geotechnical Information

Geotechnical data to be used in the design of the wall is given on the wall plan. After completing wall excavation of the entire reinforced soil zone, notify the department and allow the Regional Soils Engineer two working days to review the foundation.

D Measurement

The department will measure Wall Concrete Panel Mechanically Stabilized Earth Wall by the square foot acceptably completed, measured as the vertical area within the pay limits the contract plans show. No other measurement of quantities shall be made in the field. Unless the engineer directs in writing, a change to the limits indicated on the contract plan, wall area constructed above or below these limits will not be measured for payment.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.850	Wall Concrete Panel Mechanically Stabilized Earth LRFD/QMP	SF

Payment is full compensation for supplying a design and shop drawings; preparing the site, including all necessary excavation and disposal of materials; supplying all necessary wall components to produce a functional system including cap and copings; constructing the retaining system including drainage system; providing backfill, backfilling, compacting, developing/completing/documenting the quality management program, performing compaction testing. Parapets, railings, abutment bodies and other items above the wall cap or coping will be paid for separately. Vehicle barrier and its support will be paid separately.

Any required topsoil, fertilizer, seeding or sodding and mulch will be paid for at the contract unit price of topsoil, fertilizer, seeding or sodding and mulch, respectively. (20140716)

14. Drainage and Erosion Control.

14.1 Erosion Control.

Supplement standard spec 107.20 as follows:

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

Immediately re-topsoil graded areas, as designated by the engineer, after grading is completed within those areas. Seed, fertilize, and mulch or erosion mat all topsoiled areas as per ECIP after placement of topsoil.

Restore as much disturbed area as possible or as directed by the engineer with topsoil, seeding, fertilizer, and mulching or erosion mat at the end of each construction season to minimize erosion due to spring melt. As directed by the engineer, stabilize areas that cannot be restored with permanent measures at the end of each construction season with the soil stabilizer item provided in the plan.

14.2 Maintaining Drainage.

Maintain drainage at and through worksite during construction according to standard spec 107.22, standard spec 204, and standard spec 520.

Use existing culvert pipes and existing drainage channels to maintain existing surface drainage.

Dewatering
If dewatering or pumping is required, treat the water to remove suspended solids before allowing it to enter any waterway or wetland. Filter pumped water through a media such as washed stone or allow settling in a sedimentation basin with sufficient capacity and size to provide an efficient means to filter the water from the dewatering operation before it is discharged back into the waterway or wetland. As part of the Erosion Control Implementation Plan (ECIP) submittal, supply all pertinent information and calculations used to determine the best management practice for dewatering at each location it is required.

Refer to the dewatering guidelines of WisDNR Storm Water Management Technical Standards, Code #1061, “Dewatering”. This document can be found at the WisDNR website: http://dnr.wi.gov/runoff/stormwater/techstds.htm

The cost of all work and materials associated with water treatment and/or dewatering is incidental the project.
(NER441-20150125)

14.3 Storm Sewer Backfill.

Replace standard spec 6083.5(1) with the following:

(1) Backfill all trenches and excavations immediately after completing sewer construction as shown in the storm sewer backfill construction details of the plans. Native material shall be selected material from excavation that is free from large lumps, clods, or rock. All other backfill material referenced in the storm sewer backfill construction details shall conform to the standard spec 209.

Replace standard spec 608.5.1(1) with the following:

(1) Payment for the Storm Sewer Pipe bid items is full compensation for providing all materials, including all special Y's, mitered sections, elbows and connections required; for excavating and wasting excess material, except rock excavation; for providing and removing sheeting and shoring; for forming foundation; for laying pipe; for sealing joints and making connections to new or existing features; for providing granular backfill material, native material, including bedding material; for backfilling; for cleaning out; and absent the pertinent contract bid items, for restoring the work site.
(NER441-20150117)

14.4 Temporary Ditch Checks.

Complete work according to standard spec 628 and as herein provided. Erosion bales will not be allowed for construction of temporary ditch checks.

Delete standard spec 628.3.14(2) and replace it with the following:

(2) Construct temporary ditch checks using a manufactured alternative from the PAL. Place temporary ditch checks across ditches at locations the plans show or as the engineer directs immediately after shaping the ditches or slopes. Excavate upstream sumps as the engineer directs.

Delete standard spec 628.4.17 and replace it with the following:

(1) The department will measure Temporary Ditch Checks by the linear foot acceptably completed.
(NER441-20141017)

14.5 Granular Backfill.

Replace standard spec 209.2.1(1) with the following:

(1) Furnish natural sand or a mixture of sand with gravel, crushed gravel or crushed stone.

Replace standard spec 209.2.1(2) with the following:

(2) For backfill for trench excavation, use a maximum size of any gravel or stone so that 100 percent passes a 6-inch sieve, not less than 85 percent by weight passes a 3-inch sieve, and not less than 25 percent by weight passes a No. 4 sieve. For bedding under a culvert pipe, use granular backfill that consists substantially of sand with all particles retained on a one-inch sieve removed.
(NER14-0205)

14.6 Structure Backfill.

Replace standard spec 210.2.1(1) with the following:

(1) Furnish and use sand, a mixture of sand and gravel, crushed gravel, crushed stone or crushed concrete. The maximum material size used shall have 100 percent pass a 3-inch sieve, not less than 25 percent by weight passes a No. 4 sieve and, of the material passing the No. 4 sieve, not more than 15.0 percent passes a No. 200 sieve.
(NER14-0205)

14.7 Pond Liner Clay, Item SPV.0035.002.

This section describes furnishing, installing and testing Pond Liner Clay at the areas shown on the plans.

B Materials
Samples from soil borings taken at the site show existence of acceptable material for re-use as Pond Liner Clay. (See table) Prior to placing clay, contractor must submit laboratory test results of the clay documenting that it meets or exceeds the clay material specifications. Conduct laboratory tests at the frequency listed below and perform them according to ASTM standard methods listed below. Submit test results to the engineer for review and approval prior to construction. These three (3) tests are required:

- A minimum of 50 percent by weight which passes the 200 sieve.
- Liquid Limit (LL): 22 percent or greater.
- Plasticity Index (PI): 11 percent or greater.

Remove and dispose any clay or other materials, at contractor's expense, not meeting these three requirements.

In addition to these three testing requirements, provide additional test results for any off-site clay furnished. Testing requirements are listed below.

Reference standards are listed as follows:

American Society for Testing and Materials (ASTM):

- ASTM D698 Test for Moisture-Density Relations of Soils and Soil Aggregate Mixtures Using 5.5 lb Rammer and 12 in. Drop (Standard Proctor).
- ASTM D1557 Test for Moisture-Density Relations of Soils and Soil Aggregate Mixtures Using 10 lb. Rammer and 18 in. Drop (Modified Proctor).
- ASTM D2922 Test for Density of Soil in Place by Nuclear Method (Shallow Depth).
- ASTM D1140 Test Method for Amount of Materials in Soils Finer than the No. 200 Sieve.
- ASTM D422 Method for Particle-Size Analysis of Soils.
- ASTM D4318 Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
- ASTM D2487 Classification of Soils for Engineering Purposes.

Table of Testing for Off-Site Clay

Test	Number of Required Tests		Minimum Requirement
	One Borrow Source Only	Multiple Borrow Sources	
Grain Size Analysis	3 (Total)	1 test/2,500 cy or less/site[(a)]	≥ 50% by Wt. Passing 200 Sieve
Hydrometer Analysis	3 (Total)	1 test/2,500 cy or less/site[(a)]	Info. Only
Atterberg Limits (ASTM D4318)	3 (Total)	1 test/2,500 cy or less/site[(a)]	LL ≥ 22% PI ≥ 11%
USCS Classification (ASTM D2487)	3 (Total)	1 test/2,500 cy or less/site[(a)]	Info. Only
Standard Proctor Analysis 5-Point Curve (Minimum) (ASTM D698)	2 (Total)	1 test/10,000 cy or less/site[(b)]	Info. Only
Permeability Test (use falling head method)	2 (Total)	1 test/10,000 cy or less/site[(b)]	1 x 10^{-7} cm/sec

[a] For each clay borrow site to be used, perform one test and provide the results to engineer for each 2,500 cubic yards or less of clay to be obtained from each of the borrow sources.
[b] For each clay borrow site to be used, perform one test and provide the results to engineer for each 10,000 cubic yards or less of clay to be obtained from each of the borrow sources.

C Construction

C.1 Subgrade

Compact subgrade to a minimum of 90 percent of Standard Proctor Maximum Density (ASTM D-698) prior to placing liner.

C.2 Pond Liner Clay

After fine grading is complete, place and compact approved clay material in four 6-inch lifts for a total compacted thickness of 2 feet over all pond areas, including a height of 1 foot above the normal pond water elevation. Put compacted Pond Liner Clay material for one pipe length along bedding material to a height of 6 inches above the normal pond elevation at all inlet and outlet pipes.

Notify the engineer at least three days prior to start of Pond Liner Clay construction.

Place clay in a continuous lift across the pond floor. See plans for Pond Liner Clay construction limits.

Maximum lift thickness after compaction is 6 inches.

Construct Pond Liner Clay to a minimum of 2 feet measured perpendicular to the surface.

Compact clay to a minimum of 95% Standard Proctor Maximum Density (ASTM D698) with a sheepsfoot roller or other suitable equipment.

Complete all required clay testing and documentation on a lift prior to placing the next lift.

Place clay with moisture control as follows:

- Moisture content between optimum and 7% wet of optimum as determined by ASTM D698.
- Properly moisture-condition any excessively dry or wet clay soil.
- Provide all equipment necessary to adjust clay to the proper moisture content for compaction.
- The maximum permeability of constructed clay samples collected and tested under Section B is $1x10^{-7}$ cm/sec.

Contractor is responsible for constructing the Pond Liner Clay according to the plans and specifications. If the in-place Pond Liner Clay fails to meet the requirements of this section, the contractor is responsible as follows:

- Remove and replace or rework any portion of the Pond Liner Clay not meeting the project specifications until project specifications are met.
- Contractor will not be compensated for removing, replacing and reworking clay not meeting the specification requirements.

C.3 Testing of Constructed Soils

As construction of the Pond Liner Clay proceeds, contractor will provide all required on-site quality control testing of installed materials as follows:

- Record thickness of Pond Liner Clay system as follows:
  - Four liner thickness tests per pond (minimum) or one liner thickness test every 10,000 sq. feet of pond constructed, whichever is greater; or method approved by the engineer.

- Provide density testing (ASTM D2922) as follows:
  - One test per lift (minimum) or one test for every 25,000 sq. feet of lift constructed, whichever is greater.

- One Standard Proctor (ATM D698) for each soil type used but no less than one Proctor analysis for each 5,000 cubic yards of clay placed.

- After Pond Liner Clay is placed and compacted, retrieve one Shelby tube sample and one bulk sample and analyze the following:
  - Grain size distribution and hydrometer analysis.
  - Moisture content.
  - Dry density.
  - Atterberg Limits.
  - Permeability.

- Contractor will provide a person certified as a HTCP Grading Technician I and Nuclear Density Technician I.

- HTCP certified person will perform all necessary sampling, testing, data analysis and documentation during all Pond Liner Clay placement and compaction.

- Contractor will provide department all testing results and required documentation within 30 days after completion of the pond.

Contractor will provide department access for on-site testing, inspection and documentation.

C.4 Pond Dewatering

Contractor is responsible for the temporary lowering of the water table below the pond bottom during construction and testing of the pond.

Water table elevation is unknown.

D Measurement
Department will measure Pond Liner Clay by the cubic yard, acceptably completed in its final position.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.002	Pond Liner Clay	CY

Payment is full compensation for dewatering areas of Pond Liner Clay; furnishing and placing Pond Liner Clay; any required testing; and all incidentals to complete the work. (NER41-20111110)

14.8 Pond Outlet Control Manhole, Item SPV.0060.002.

A Description
The specification covers all manhole structures with baffle walls for restrictor outlets from stormwater ponds. Furnish and install concrete manhole structure with baffle wall and restrictor holes, according to standard spec 501 and 611, as shown on the plan, and as hereinafter provided.

B Materials
Furnish and install reinforced concrete pipe (RCP) and fittings conforming to the requirements for Reinforced Concrete Pipe Storm Sewer and Fittings as set forth in AASHTO M 170 and standard spec 608.

C Construction
The contractor will be responsible for locating the Outlet Control Manhole and the associated storm sewer connections. The diameter and elevations of existing connections will be field verified by the contractor. Installation shall consist of ensuring the appropriate sump depth is achieved below the lowest pipe invert. No sump will be on the downstream side of the baffle restrictor wall. The sump downstream of the baffle can be filled in with concrete meeting the requirements of standard spec 501 and finished with a broom finish. The baffle restrictor wall shall be constructed out of concrete meeting the requirements of standard spec 501 and as shown on the plans. The inverts of the restrictor openings shall conform to the table in the detail and plans. The opening sizes and elevations do vary for each pond outlet.

Existing stormwater and utility drains that are to enter a structure shall be connected by extending them from the last undisturbed intact pipe to the outside face of the manhole, using RCP pipe of equal size laid on the same grade as the existing drain.

The manhole structure shall be sized as shown on the plans and shall have two Type L frame and lid in the flat top cover. Each frame and lid shall be on either side of the baffle wall to allow access to both sides for maintenance.

D Measurement
Pond Outlet Control Manhole shall be measured by each unit installed in place, and the quantity measured for payment shall be the number of units each of the various depths completed and accepted.

Manhole covers Type L shall be incidental to the installation of the Outlet Control Manhole. The baffle wall construction shall be incidental to the cost of the Outlet Control Manhole. Pipe connections and associated fittings shall be incidental to the installation of the Outlet Control Manhole.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.002	Pond Outlet Control Manhole	Each

Payment for Pond Outlet Control Manhole will be made according to standard spec 611.

14.9 Detention Pond Corrugated Metal Anti-Seep Collar, Item SPV.0060.003.

A Description
This item consists of furnishing and installing a corrugated metal aluminum coated collar as shown on the plans and as described herein.

B Materials
Fabrication shall be from Type 2 aluminum coated sheet steel conforming to AASHTO M 274. The steel plate shall be 1/4-inch minimum thickness. All anti-seep collars and their connections shall be watertight.

C Construction
Extend the collar dimensions a minimum of 2.25 feet in all directions around the outside of the conduits, measured perpendicular to the conduit, except the vertical limits of the collar need not exceed 1 foot above the top of pipes. Center the anti-seep collars around the conduits. The contractor will be responsible for installing the anti-seep collar at the appropriate locations and inverts, according to the plans.

D Measurement
The department will measure Detention Pond Corrugated Metal Anti-Seep Collar by each unit, complete in place and accepted according to the contract.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.003	Detention Pond Corrugated Metal Anti-Seep Collar	Each

Payment is full compensation for furnishing the aluminum coated corrugated steel collar.

14.10 Flared End Section with Trash Rack, Item SPV.0060.004.

A Description

The specification covers furnishing, fabricating, and installing reinforced concrete flared end sections and metalwork, including metal parts as necessary, to install Flared-end Sections with Trash Racks at the inlet end of culverts as shown on the plans and details.

B Materials

Furnish and install smooth steel bars, steel anchor strips, bolts, nuts, miscellaneous hardware and flared-end sections, as necessary to construct the Flared-End Section with Trash Rack, as shown on the plans.

All trash racks shall be constructed with a smooth steel tube as dimensioned on the plans and details. The tube steel and anchor strips shall be A36 and shall meet ASTM A500 Grade B requirements. Anchor strips and connection bolts shall be as shown on the details.

All trash racks components shall have a corrosion protective finish. All welds shall be ¼-inch welds.

Flared-end sections shall be furnished according to standard spec 522

C Construction

The contractor shall be responsible for installing the reinforced concrete flared-end sections with trash racks at the appropriate locations and inverts, according to the plans and standard spec 522.

D Measurement

Flared-End Section with Trash Rack shall be measured by each unit installed in place, and the quantity measured for payment shall be the number of units each of the various depths, completed and accepted according to the contract and plans.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.004	Flared End Section with Trash Rack	Each

Payment for Flared-end Section with Trash Grate will be made according to standard spec 522.

14.11 Street Sweeping, Item SPV.0075.001.

A Description
Remove small dirt and dust particles from the roadway using a street sweeper for cleaning the roadway before traffic switches or cleaning of roadways from non-contractor vehicle traffic.

B (Vacant)

C Construction
Provide a self-contained mechanical or air conveyance street sweeper and dispose the accumulated material.

D Measurement
The department will measure Street Sweeping by the hour that the street sweeper is on the project picking up and removing debris from the roadway.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0075.001	Street Sweeping	Hours

Payment is full compensation for furnishing all labor, tools, equipment, and incidentals necessary to complete the contract work.

All street sweeping due to the contractors hauling operations is considered incidental to the contract.
(NER441-20150117)

14.12 Pond Edge Seed, Item SPV.0085.001.

A Description
This special provision describes furnishing and installing a Pond Edge Seed at the locations shown on the plans and as hereinafter provided.

B.1 Materials
Provide Pond Edge Seed of the following composition with species composed of Pure Live Seed (PLS) with no named or improved varieties unless specifically listed below:

Spring and Early Summer Seeding Rates:

Grasses			
Common Name	**Latin Name**	**AMT / ACRE**	**Percentage of Mix**
Big Bluestem	*Andropogon gerardii*	*4.00 PLS lb*	*23.53%*
Canada Wild Rye	*Elymus canadensis*	*6.00 PLS lb*	*35.29%*
Switchgrass	*Panicum virgatum*	*2.00 PLS lb*	*11.76%*
Indiangrass	*Sorghastum nutans*	*5.00 PLS lb*	*29.41%*

Late Summer and Fall Seeding Rates (Warm Season Grass Seeding Rates Doubled):

Grasses			
Common Name	**Latin Name**	**AMT / ACRE**	**Percentage of Mix**
Big Bluestem	*Andropogon gerardii*	*8.00 PLS lb*	*47.06%*
Canada Wild Rye	*Elymus canadensis*	*6.00 PLS lb*	*35.29%*
Switchgrass	*Panicum virgatum*	*4.00 PLS lb*	*23.53%*
Indiangrass	*Sorghastum nutans*	*10.00 PLS lb*	*58.82%*

All PLS seed shall be from nurseries specializing in growing native species. All seed shall be cold, dry stratified. Minimum percent purity shall be 96 percent.

Contractor shall provide seed blend to engineer for final review and approval and shall include, from seed vendor, certification of seed showing mix composition and a guarantee of germination and the following information: Scientific name of genus and species (subspecies and variety as necessary) and guarantee that seeds are true to species, bulk weight of seed, PLS, supplier lot identification, calendar year in which seed was collected, seed origin (geographical location), seed supplier contact information including company name, address, phone number, contact person's name and e-mail address.

C Construction

Seeding shall occur between April 15 to June 30 or September 1 to October 15.

Remove any and all undesirable vegetation that has germinated in area to be seeded in a method that will not adversely affect the installation of new seed.

Scarify soils that have become compacted during construction operations. Ensure subgrades are aerated and disked to a minimum depth of 8 inches before proceeding with seeding operations.

Moisten prepared area before seeding if soil is dry. Water thoroughly and allow surface to dry before seeding. Do not create muddy soil.

No seeding shall occur on frozen ground or at temperatures lower than 32 degrees F.

Install Pond Edge Seed using Method A or Method B as outlined in Standard spec 630 at the rates given in the above or as recommended by seed supplier and approved by engineer.

D Measurement

The department will measure Pond Edge Seed by the pound, 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.0085.001	Pond Edge Seed	LB

Payment is full compensation for providing, handling, and storing all seed; for providing the required culture and inoculating seed as specified and as needed; and for preparing the seed bed, sowing, covering and firming the seed; for furnishing and installing all materials, including but not limited to seed.

14.13 Water for Seeded Areas, Item SPV.0120.001.

A Description
This special provision describes furnishing, hauling and applying water to seeded areas as directed by the engineer, and as hereinafter provided.

B Materials
When watering seeded areas, use clean water, free of impurities or substances that might injure the seed.

C Construction
If rainfall is not sufficient, keep all seeded areas thoroughly moist by watering or sprinkling. Water for 30 days after seed placement or as the engineer directs. Apply water in a manner to preclude washing or erosion. The topsoil shall not be left un-watered for more than 3 days during this 30-day period unless the engineer determines that it is excessively wet and does not require watering. The equivalent of one inch of rainfall per week shall be considered the minimum.

D Measurement
The department will measure Water for Seeded Areas by volume by the thousand gallon units (MGAL), acceptably completed. The department will determine volume by engineer-approved meters or from tanks of known capacity.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0120.150	Water for Seeded Areas	MGAL

Payment is full compensation for furnishing, hauling, and applying the water."
(NER12-1010)

15. Miscellaneous Concrete.

15.1 Concrete Barrier Curing.

Add the following to standard spec 603.3.1.4:

(2) When curing compound is applied to concrete barrier in proximity to live traffic, develop a construction plan which includes a containment system to avoid overspray onto traffic and to ensure complete coverage with the curing compound. Submit the construction plan to the engineer for review and approval.
(NER441-20141017)

15.2 Concrete Barrier Transition Sections.

This section pertains to the following bid items:

- Concrete Barrier Transition Type NJ32SF to S36, Item 603.3113
- Concrete Barrier Transition Type S 36 to S42, Item 603.3535

Replace standard spec 603.5.2(1) with the following:

Payment for the permanent barrier, fixed object protection, and transition bid items is full compensation for providing barrier or the specified transition; for excavating and backfilling for furnishing all types except roadside retaining wall; for disposing of excess material; for restoring the grade; for adjacent 9-inch concrete pavement conforming to standard spec 415; for furnishing all breaker run and base aggregate under the pavement; for sawing concrete pavement at the sign structure replacement locations: and for drilled tie bars required.

15.3 Concrete Barrier Transition Type I V33.5 to S42 Block, Item SPV.0060.001.

A Description
This special provision describes construction Concrete Barrier Transition Type 1 V33.5 To S42 Block according to standard spec 603, details shown in the plans and as hereinafter provided.

B Materials
Furnish materials conforming to standard spec 603.2. Concrete minimum strength to be 4000 psi.

C Construction
Use construction methods conforming to standard spec 603.3.

D Measurement
The department will measure Concrete Barrier Transition Type 1 V33.5 to S42 Block as each individual transition section, 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.0060.001	Concrete Barrier Transition Type 1 V33.5 to S42 Block	Each

Payment is full compensation according to standard spec 603.5.

15.4 Concrete Barrier Transition Type S42 to S56 Special, Item SPV.0060.005.

A Description
This work shall be according to the requirements of standard spec 603 and as hereinafter provided.

B (Vacant)

C Construction
Replace standard spec 603.3.1.1(3) with the following:

Cast permanent barrier and adjacent 2-foot shoulder section in place. Use construction methods conforming to standard spec 502. Use forms or engineer-approved slip form methods for barrier. Construct barrier on horizontal curves as a series of 12-foot or shorter chords.

D Measurement
The department will measure Concrete Barrier Transition Type S42 to S56 Special as each individual unit, 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.0060.005	Concrete Barrier Transition Type S42 to S56 Special	Each

Payment for the permanent barrier is full compensation for providing barrier or the specified transition; for excavating and backfilling for furnishing all types except roadside retaining wall; for disposing of excess material; for restoring the grade; for adjacent 9-inch concrete pavement conforming to standard spec 415; for furnishing all breaker run and base aggregate under the pavement; for sawing concrete pavement at the sign structure replacement locations: and for drilled tie bars required.

15.5 Concrete Barrier Type S56 Special, Item SPV.0090.001.

A Description
This work shall be according to the requirements of standard spec 603 and as hereinafter provided.

B (Vacant)

C Construction
Replace standard spec 603.3.1.1(3) with the following:

Cast permanent barrier and adjacent 2-foot shoulder section in place. Use construction methods conforming to standard spec 502. Use forms or engineer-approved slip form methods for barrier. Construct barrier on horizontal curves as a series of 12-foot or shorter chords.

D Measurement
The department will measure Concrete Barrier Type S56 Special by the linear foot, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.001	Concrete Barrier Type S56 Special	LF

Payment for the permanent barrier is full compensation for providing barrier or the specified transition; for excavating and backfilling for furnishing all types except roadside retaining wall; for disposing of excess material; for restoring the grade; for adjacent 9-inch concrete pavement conforming to standard spec 415; for furnishing all breaker run and base aggregate under the pavement; for sawing concrete pavement at the sign structure replacement locations: and for drilled tie bars required.

16. Signing and Marking.

16.1 Removing Pavement Marking.

Perform this work according to standard spec 646.3.4 and as hereinafter provided.

Pavement Markings required to be removed on permanent pavement (pavement that will remain at the completion of the contract) will be blasted off the pavement. Grinding the markings off the pavement will not be allowed except within the high friction surface treatment area (Station 1262SB+75 to Station 1280SB+00). Place final markings in the same location as the existing markings were located.
(NER441-20141017)

16.2 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 project 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 1-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 measure Pavement Marking Grooved Wet Reflective Contrast Tape (Width) for grooved applications in length by the linear foot of tape placed according to the contract and accepted.

E Payment
The department will pay for measured quantities 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)

16.3 Move and Install Overhead Sign on Temporary Supports, Item SPV.0060.203.

A Description
This special provision describes moving the overhead type I sign from existing sign structures to temporary wooden supports. The sign and corresponding supports are shown in the Traffic Control plans. The contractor shall assume move install the overhead sign prior to the start of Stage 2.

B Materials
The sign supports shall consist of wooden posts supports (4” x 6”) as found in the list of acceptable breakaway supports compiled by FHWA. Sign base material shall be according to standard spec 673 and 643.

C Construction
Install the sign at the height specified in standard spec 643.3.8.1, with the bottom of the sign at least 7 feet above the ground. Move the overhead sign to the temporary supports, and remove sign and supports upon completion of the project.

D Measurement
The department will measure Move and Install Overhead Sign on Temporary Supports by each individual unit, 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.0060.203	Move and Install Overhead Sign on Temporary Supports	Each

Payment is full compensation for moving, installing, and removing overhead signs; and for furnishing all labor, equipment, tools and incidentals necessary to complete the work.

16.4 Sign Blanks Left in Place, Item SPV.0165.950.

A Description
This special provision describes installing and leaving in place sign blanks for sign structures designated in the plans.

Sign Blanks Left in Place shall not be removed and become the property of the department upon completion of the project.

B Materials
The contractor will provide blank signs of a material suitable to endure weathering for the period of use.

C Construction
Sign blanks are attached to a minimum of one-fourth the truss length near its center. The blanks are to project an equal distance beyond the top and bottom chord members. The minimum sign blank dimensions are indicated on the sign structure plans. The minimum vertical clearance as indicated on the structure plans must be maintained.

D Measurement
The department will measure Sign Blanks Left in Place by the square foot, 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.0165.950	Sign Blanks Left in Place	SF

Payment is full compensation for furnishing, installing and maintaining sign blanks.
(NER41-20110217)

17. Lighting/Electrical.

17.1 General Requirements for Electrical Work.

Amend standard spec 651.2, Materials, by adding the following paragraphs:

(7) The approved products lists located at:
http://www.dot.state.wi.us/business/engrserv/electric/index.htm

Contact information for the Wisconsin Department of Transportation Northeast Region Electrical Unit: Robert Schuurmans, (920) 492-5710, Robert.schuurmans@dot.wi.gov.

17.2 Concrete Bases Type 7 on Steep Slopes, Item SPV.0060.350.

A Description
This work describes constructing a concrete light pole bases Type 7 that requires additional materials and labor above what is shown on the standard detail for Concrete Bases Type 7. This work includes concrete bases on steep slopes. Perform all work according to the requirements of standard spec 654, the plans, standard and special detail drawings, and as hereinafter provided.

B Materials
According to the plans and standard spec 654.2 and as hereinafter provided.

Furnish a rigid form as required to set the location of all concrete bases in areas with retaining wall backfill. A rigid form shall maintain the required shape without deflection during retaining wall backfill operations.

C Construction
According to the plans and standard spec 654.3 and as hereinafter provided.

Install a rigid form as required to set the location of all concrete bases in areas with retaining wall backfill. This item may require locating the horizontal and vertical position of the concrete base during the retaining wall backfill operation. Rigid forms shall be set plumb and shall be placed to avoid retaining wall soil stabilization straps. Excavation for the concrete bases may not be allowed after the retaining wall backfill is completed.

Verify the locations of all concrete bases are accurately represented on the contractor designed wall plans as submitted to the engineer. Coordinate all construction activities as required.

D Measurement
The department will measure Concrete Bases Type 7 on Steep Slopes as each individual unit, 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.0060.350	Concrete Bases Type 7 on Steep Slopes	Each

Payment is full compensation for installing concrete bases including all hardware and fittings necessary for installation; for furnishing and installing a rigid form; and for coordination with retaining wall construction operations.

17.3 Anchor Bolt Cover Shroud, Item SPV.0060.351.

A Description
This work shall be according to the requirements of standard spec 657 and as hereinafter provided.

B Materials
Furnish aluminum cover shroud according to the plans and standard spec 657.2.2.5 and as hereinafter provided:

Housing and cover plate shall be 12 gauge aluminum. Rivets or bolts shall be used to attach the cover plate to the housing. Rivets, if used, for attaching the cover plate to the housing shall be aluminum and sized according to the specifications determined by the fabricator of the unit. Bolts, if used, for attaching the cover plate to the housing shall be stainless steel. Provide non-metallic washers between the cover shroud and steel lock washer.

C Construction
According to the plans and standard spec 657.3 and as hereinafter provided:

Follow all manufacturer installation guidelines for installation of cover shroud and accessories. Apply silicone sealant between the top of the cover shroud body and the aluminum cover plate.

D Measurement
The department will measure Anchor Bolt Cover Shroud by each individual anchor bolt cover shroud, 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.0060.351	Anchor Bolt Cover Shroud	Each

Payment is full compensation for furnishing and installing anchor bolt cover shrouds.

17.4 Pull Box Non-Conductive 24x42-Inch, Item SPV.0060.352.

A Description
This special provision describes furnishing and installing Pull Box Non-Conductive 24x42-Inch shown on the plans.

B Materials
Furnish pull boxes, frames, and lids made of non-conductive material. Pull boxes, frames, and lids shall be suitable for Tier 15 loading as specified in ANSI/SCTE 77.

C Construction
Provide pull boxes, frames, and lids made of non-conductive materials. The contractor may extend Pull Box Non-Conductive 24x42-Inch as the plan details show using the same material as the pull box. Saw extensions parallel to the extension ring. Secure extension to original box as shown in the plan details. Excavate, place coarse aggregate drain material, and backfill as the plan details show. Dispose of surplus or unsuitable materials as specified under 205.3.12. Use covers stamped with "Electric" for traffic signal and lighting pull boxes or "WISDOT COMMUNICATIONS" for communications pull boxes.
Provide one (1) 24" length of #6 reinforcing steel to be driven vertically on the north side of the pull box.

D Measurement
The department will measure Pull Box Non-Conductive 24x42-Inch as each individual unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.352	Pull Box Non-Conductive 24x42-Inch	Each

Payment for Pull Box Non-Conductive 24x42-Inch is full compensation for providing and installing pull boxes, frames, lids, aggregate, fasteners, reinforcing steel; conduit extensions less than 10 feet long including fittings; and for furnishing all excavating, backfilling and disposing of surplus material. The department will pay separately for engineer-directed pull box drain duct under the Conduit Rigid Nonmetallic bid items as specified in standard spec 652.5.

18. Intelligent Transportation Systems.

18.1 Notice to Contractor – Work by Others.

Intelligent Transportation System (ITS)
Transmission of video and data to the STOC in Milwaukee and the Northeast Region Headquarters in Green Bay will be achieved through the use of relocated wireless radios.

18.2 Intelligent Transportation Systems – General Requirements.

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 state-furnished equipment includes the following:

- Cabinet, Pole Mounted, CCTV
- Pole, 50' Freeway, With Lowering System
- Detector, Serial Data Interface Microwave Radar
- Combination Ethernet switch and terminal server with fiber ports – single
- Termination Panel

Coordinate pickup of state-furnished equipment with Randy Asman of the WisDOT NE Region at (920) 492-7719. Depending on the state-furnished item, pickup may occur at any of the following locations:

- WisDOT NE Region Office, 944 Vanderperren Way, Green Bay, WI 54304
- WisDOT Statewide Traffic Operations Center, 433 W. St. Paul Ave., Milwaukee, WI 53203
- Traffic & Parking Control Company (TAPCO), 5100 W Brown Deer Road, Brown Deer, WI 53223

Transportation of the equipment between the pickup location and the field or interim location(s) is the responsibility of the contractor and is incidental to the bid items in the contract.

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, 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.

18.3 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:

1. 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.
2. 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:

1. The protectors shall suppress a peak surge current of up to 10k amps.
2. The protectors shall have a response time less than one nanosecond.
3. 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.
4. The first stage of protection shall be a three-element gas discharge tube, and the second stage shall consist of silicon clamping devices.
5. The protector shall also contain a resettable fuse (PTC) to protect against excessive current.
6. There shall be no more than two pairs per protector.
7. 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)

18.4 Intelligent Transportation Systems – Conduit.

Add the following to standard spec 671.2:

671.2.4 Locate Wire
Furnish and install a No. 14 AWG stranded copper wire for future locate purposes through each conduit run. Connect the locate wire by using a wire nut at each pull box, manhole, or other access point. Alternatively, use a single wire through the access points. All material furnished under this item shall meet the requirements of standard spec 655.
671-005 (20150630)

18.5 Surge Suppressors ITS Cabinets.

A Description
This special provision describes surge suppression requirements for microwave vehicle detectors, cameras, radios and misc equipment in ITS Cabinets. Surge suppressors shall be installed in each ITS cabinet. All non-fiber conductors or cables shall be protected as they enter or leave the cabinet to form a protective perimeter around the cabinet. This includes incoming power unless provided with cabinet or otherwise noted.

Surge suppression shall be included with each ITS related cabinet installation.

B Materials
Conform all materials and workmanship to the latest editions of the following standards and publications referenced in various parts of this article:

ANSI/IEEE C62.1 Standard for Surge Arrestors for AC Power Circuits
Underwriters Laboratories, UL 1449 Standard for Safety, Transient Voltage Surge Suppressors, Revised edition.
UL 96A Installation Requirements for Lightning Protection Systems.

B.1 AC Power Suppression
Provide surge suppressors rated for category A in a parallel shunt design, clamping each conductor to ground.

AC circuit suppressors shall meet or exceed the following minimum criteria:

L-L, L-N, L-G and N-G protection modes
10 year warranty
U.L. 1449 listed
Single impulse withstand rating: 25,000 A (8 x 20 µs waveform) plus power-follow per wire.
Pulse lifetime rating (3,000 A – 8 x 20 µs plus power-follow): 1,000 occurrences.
Minimum energy handling capability – 1,500 joules
Worst case response time: 5 µs
Maximum clamping voltage (voltage with input current of 3,000 A – 8 x 20 µs plus power-follow):

Normal Applied Circuit Voltage	Maximum Clamp
120V	300V
240V	550V
277V	1,000V
480V	2,000V

(Energy rating @10 x 1000 μs waveform plus power-follow.)

UL listed and approved for the location in which they are installed.

Provide visible indication of suppressor failure. Arrange shunt TVSS elements to fail open.

B.2 Data and Signal Suppression

Provide control circuit suppressors that are multi-stage protected design. Suppressors must be designed for the data, signal or LAN to be protected.

Minimum performance criteria (each circuit) shall be as follows:

Surge Capacity: 10 KA (8 x 20 μs)

Din Rail mountable.

Ambient Temp -40°F to 160°F

U.L listed

10 year warranty

C Construction

Mount the DIN rail mountable surge suppression assembly in the associated cabinet as shown on the plans or as directed by the engineer following the manufacturer's recommended installation procedures.

C.1 Bonding and Grounding Conductors and Materials

Use conductors for individual surge suppressor bonding specified in UL 96A for the lightning protection circuit unless otherwise specified. Make connections as specified in UL 96A unless otherwise specified. Aluminum conductors are not acceptable.

C.2 Segregation of Wiring

Classify all system wiring into protected and non-protected categories. Wiring on the exposed side of suppression devices is considered unprotected. Surge suppressor grounding and bonding conductors also fall into this category. All wiring between surge suppressors and protected equipment is considered protected. Wiring that is wholly within a protected cluster and thereby exempted from surge suppression requirements is also considered protected.

Provide a minimum of 3 inches of separation between parallel runs of protected and unprotected wiring in cabinets. Do not bundle protected and unprotected wiring together or route through the same wireway. Where bundles of protected and unprotected wiring cross, cross them at right angles with a minimum of 1 inch of separation or a ferrous shield between the conductors.

C.3 Installation of Suppressors

Mount, install, and ground all suppressors per the manufacturer's requirements. Give special attention to grounding requirements and minimum conductor sizes. Install individual suppressors as close as possible to the equipment to be protected consistent with available space. Where space permits and no code restrictions apply, install suppressors within the same cabinet as the protected equipment. Install bonding jumpers not exceeding 2 inches in length between the chassis and suppressor ground terminals. Use bolted connections with star washers to ensure electrical and mechanical integrity of connections to the equipment chassis. Install suppressors in a neat, logical manner. Lead dress shall be consistent with recommended industry practices for the system on which these devices are installed. Keep bonding between ground terminals for power and control or signal line suppressors serving a particular item or cluster of equipment as short as possible. Remove any paint in the area of the bond and use star washers to attach.

D (Vacant)

E Payment

Payment for providing surge suppression is incidental to the associated ITS cabinet bid item.

18.6 Install Pole Mounted Cabinet, Item 673.0225.S.

A Description

This special provision describes installing department furnished aluminum enclosures on poles for intelligent transportation systems equipment.

B Materials

Use stainless steel bolts, nuts, and washers 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 shall be provided and mounted on the cabinet sidewalls. The left side panel shall be designated as "Input/Communications," and the right side panel shall be designated as the "Service Panel."

The service panel will be equipped with a four-outlet handi-box. Wire the handi-box to the series portion of the filtering surge protector.

Use metallic conduit, fittings, and adapters required from the underground conduit transition point to the cabinet as part of this item. A typical installation requires on 2-inch conduit. Use metallic conduit according to standard spec 652.

C Construction
Fasten the field cabinet securely onto a pole. 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 using stainless steel fittings. Make all power connections to the cabinet as specified in standard spec 656.

Drill and tap the cabinet, 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. Remove all sharp edges or burrs, or both, caused by the cutting or drilling process. Seal all openings to prevent water from entering the cabinet. Mount the surge protector to the service panel.

Install metallic conduit on the exterior of the pole (for entrance to the cabinet from the ground) as shown in the plans, and according to the applicable requirements of standard spec 652.

D Measurement
The department will measure Install Pole Mounted Cabinet 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
673.0225.S	Install Pole Mounted Cabinet	Each

Payment is full compensation for installing the pole mounted cabinet; for making all connections and conduit/wire entrances; and for furnishing all testing.
673-010 (20100630)

18.7 Install Ethernet Switch, Item 675.0400.S.

A Description
This special provision describes installing an Ethernet switch, and providing all necessary associated wiring.

B Materials
The department will furnish the Ethernet switch. Provide all necessary cables between the Ethernet switch and terminal server or other device.

C Construction
Install the Ethernet switch in a new or existing field cabinet. Connect it to devices as shown on the plans, or as directed by the engineer.

D Measurement
The department will measure Install Ethernet Switch by the unit, installed according to the contract, tested, and accepted.

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

ITEM NUMBER	DESCRIPTION	UNIT
675.0400.S	Install Ethernet Switch	Each

Payment is full compensation for installing an Ethernet switch; furnishing all necessary incidental hardware; and making all necessary connections.
675-040 (20100630)

18.8 Install Termination Panel, Item SPV.0060.400.

A Description
This special provision describes installing department-furnished fiber optic termination panels.

B Materials
Fiber optic termination panels will be furnished by the department. Provide mounting hardware as necessary.

C Construction
Install 6-count fiber optic termination panels in pole or base mounted field cabinets. Install termination panels as shown on the plans, or as directed by the engineer.

D Measurement
The department will measure Install Termination Panel as each individual installation, 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.0060.400	Install Termination Panel	Each

Payment is full compensation for installation of the fiber optic termination panel, furnishing and installing all necessary hardware.

18.9 Tracer Test Station, Item SPV.0060.401.

A Description
This special provision describes furnishing and installing tracer test station marker posts.

B Materials
Furnish tracer test station marker posts with high-impact plastic, stainless steel hardware and a minimum of five standard terminals. Ensure post material is fade resistant and UV stable.

C Construction
Install tracer test stations as shown on the plans or as directed by the engineer. Make connections to the tracer wires as appropriate.

D Measurement
The department will measure Tracer Test Station as each individual unit, 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.0060.401	Tracer Test Station	Each

Payment for Tracer Test Station is full compensation for furnishing and installing all materials, making all necessary connections, for restoration of ground to original condition including topsoil, sand, concrete, or other required materials; and for disposing of surplus materials.

19. Landscaping (Vacant).

20. Miscellaneous – Incidental Construction.

20.1 Fence Safety, Item 616.0700.S.

A Description
This special provision describes furnishing and installing a plastic fence at locations shown on the plans and as hereinafter provided.

B Materials
Furnish notched conventional metal “T” or “U” shaped fence posts.

Furnish fence fabric meeting the following requirements.

Color:	International orange (UV stabilized)
Roll Height:	4 feet
Mesh Opening:	1 inch min to 3 inch max
Resin/Construction:	High density polyethylene mesh
Service Temperature:	-60° F to 200° (ASTM D648)
Tensile Yield:	Avg. 2000 lb per 4 ft. width (ASTM D638)
Ultimate Tensile Strength:	Avg. 3000 lb per 4 ft. width (ASTM D638)
Elongation at Break (%):	Greater than 100% (ASTM D638)
Chemical Resistance:	Inert to most chemicals and acids

C Construction

Drive posts into the ground 12 to 18 inches. Space posts at 7 feet.

Use a minimum of three wire ties to secure the fence at each post. Weave tension wire through the top row of strands to provide a top stringer that prevents sagging.

Overlap two rolls at a post and secure with wire ties.

D Measurement

The department will measure Fence Safety by the linear foot along the base of the fence, center-to-center of posts, 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
616.0700.S	Fence Safety	LF

Payment is full compensation for furnishing and installing fence and posts; maintaining the fence and posts in satisfactory condition; and for removing and disposing of fence and posts at project completion.

616-030 (20070510)

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 PROVISIONS 5

Fuel Cost Adjustment

A Description

Fuel Cost Adjustments will be applied to partial and final payments for work items categorized in Section B as a payment to the contractor or a credit to the department. ASP-5 shall not apply to any force account work.

B Categories of Work Items

The following items and Fuel Usage Factors shall be used to determine Fuel Cost Adjustments:

(1) Earthwork.		Unit	Gal. Fuel Per Unit
205.0100	Excavation Common	CY	0.23
205.0200	Excavation Rock	CY	0.39
205.0400	Excavation Marsh	CY	0.29
208.0100	Borrow	CY	0.23
208.1100	Select Borrow	CY	0.23
209.0100	Backfill Granular	CY	0.23
350.0102	Subbase	CY	0.28
350.0104	Subbase	Ton	0.14
350.0115	Subbase 6-Inch	SY	0.05
350.0120	Subbase 7-Inch	SY	0.05
350.0125	Subbase 8-Inch	SY	0.06
350.0130	Subbase 9-Inch	SY	0.07
350.0135	Subbase 10-Inch	SY	0.08
350.0140	Subbase 11-Inch	SY	0.09
350.0145	Subbase 12-Inch	SY	0.09

C Fuel Index

A Current Fuel Index (CFI) in dollars per gallon will be established by the Department of Transportation for each month. The CFI will be the price of No. 2 fuel oil, as reported in U.S. Oil Week, using the first issue dated that month. The CFI will be the average of prices quoted for Green Bay, Madison, Milwaukee and Minneapolis.

The base Fuel Index (BFI) for this contract is $1.10 per gallon.

D Computing the Fuel Cost Adjustment

The engineer will compute the ratio CFI/BFI each month. If the ratio falls between 0.85 and 1.15, inclusive, no fuel adjustment will be made for that month. If the ratio is less than 0.85 a credit to the department will be computed. If the ratio is greater than 1.15 additional payment to the contractor will be computed. Credit or additional payment will be computed as follows:

(1) The engineer will estimate the quantity of work done in that month under each of the contract items categorized in Section B.

(2) The engineer will compute the gallons of fuel used in that month for each of the contract items categorized in Section B by applying the unit fuel usage factors shown in Section B.

(3) The engineer will summarize the total gallons (Q) of fuel used in that month for the items categorized in Section B.

(4) The engineer will determine the Fuel Cost Adjustment credit or payment from the following formula:

$$FA = \left(\frac{CFI}{BFI} - 1 \right) x\ Q\ x\ BFI$$

(plus is payment to contractor; minus is credit to the department)

Where	FA	=	Fuel Cost Adjustment (plus or minus)
	CFI	=	Current Fuel Index
	BFI	=	Base Fuel Index
	Q	=	Monthly total gallons of fuel

E Payment

A Fuel Cost Adjustment credit to the department will be deducted as a dollar amount each month from any sums due to the contractor. A Fuel Cost Adjustment payment to the contractor will be made as a dollar amount each month.

Upon completion of the work under the contract, any difference between the estimated quantities and the final quantities will be determined. An average CFI, calculated by averaging the CFI for all months that fuel cost adjustment was applied, will be applied to the quantity differences. The average CFI shall be applied in accordance with the procedure set forth in Section D.

ADDITIONAL SPECIAL PROVISION 6
ASP 6 - Modifications to the standard specifications

Make the following revisions to the standard specifications:

550.5.2 Piling

Add the following as paragraph three effective with the December 2015 letting:

(3) The department will not entertain a change order request for a differing site condition under 104.2.2.2 or for a quantity change under 104.2.2.4.3 for the Piling bid items. Instead the department will adjust pay under the Piling Quantity Variation administrative item if the total driven length of each size is less than 85 percent of, or more than 115 percent of the contract quantity as follows:

Percent of Contract Length Driven	Pay Adjustment
< 85	(85% contract length - driven length) x 20% unit price
> 115	(driven length - 115% contract length) x 5% unit price

643.2.1 General

Replace paragraph two with the following effective with the December 2015 letting:

(2) Use reflective sheeting from the department's approved products list on barricades, drums, and flexible tubular marker posts.

Errata

Make the following corrections to the standard specifications:

641.2.9 Overhead Sign Supports

Correct errata adding back accidentally deleted paragraphs one through three.

(1) Provide commercially fabricated overhead sign supports conforming to AASHTO design and fabrication standards for structural supports for highway signs, luminaires, and traffic signals. Use a design life of 50 years with a wind importance factor of 1.00. Design to withstand a 3 second gust wind speed of 90 mph. Do not use the methods of appendix C of those AASHTO standards.

(2) Design structures, listed as applicable structure types in the AASHTO standards, to the fatigue category criteria as follows:

1. Structures carrying variable message signs:
   - Category I criteria for structures over all roadway types.
2. Structures carrying type II or III signs:
   - Category I criteria for structures used over highways and free flow ramps.
   - Category II criteria for structures with arms greater than 30 feet used over local roads and city streets.
   - Category III criteria for structures with arms 30 feet or less used over local roads and city streets.

(3) Use the posted speed limit of the roadway beneath the structure for truck-induced gusts.

(4) Submit shop drawings identified by structure number, design computations, and material specifications, to the engineer before erecting sign supports. Provide tightening procedures for mast arm or luminaire arm to pole shaft connections on the shop drawings. Have a professional engineer registered in the state of Wisconsin sign, seal, and date the shop drawings and certify that the design conforms to AASHTO standards and the contract.

(5) Provide steel pole shafts and mast arms zinc coated according to ASTM A123. Provide tapered pole and arm shafts with a minimum taper of 0.14 inch per foot for single-member vertical and single-member horizontal structure components. Provide bolts and other hardware conforming to 641.2.2.

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://wisconsindot.gov/Pages/doing-bus/civil-rights/labornwage/default.aspx

(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://wisconsindot.gov/Documents/doing-bus/civil-rights/labornwage/crcs-payroll-manual.pdf

Effective August 2015 letting

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

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://wisconsindot.gov/hcciDocs/contracting-info/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
WINNEBAGO 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, 2015

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	30.85	17.61	48.46
Carpenter	32.72	16.00	48.72
Future Increase(s): Add $1.42/hr on 6/1/2015; Add $1.42/hr on 6/1/2016.			
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	33.86	17.96	51.82
Future Increase(s): 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	29.00	16.97	45.97
Future Increase(s): Add $.75/hr on 6/1/2015.			
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	23.73	19.09	42.82
Ironworker	29.27	23.97	53.24
Future Increase(s): Add $1.15/hr on 6/1/2015.			
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.			
Line Constructor (Electrical)	39.44	16.55	55.99
Painter	28.00	11.15	39.15
Pavement Marking Operator	23.37	23.30	46.67
Piledriver	33.24	16.00	49.24
Future Increase(s): Add $1.44/hr on 6/1/2015; Add $1.44/hr on 6/1/2016.			
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.			

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Roofer or Waterproofer	19.00	7.55	26.55
Teledata Technician or Installer	22.25	16.34	38.59
Tuckpointer, Caulker or Cleaner	30.85	17.61	48.46
Underwater Diver (Except on Great Lakes)	35.40	15.90	51.30
Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	35.55	15.57	51.12
Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY	31.60	14.98	46.58
Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	27.65	13.44	41.09
Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	25.68	12.83	38.51
Groundman - ELECTRICAL LINE CONSTRUCTION ONLY	21.75	11.63	33.38
TRUCK DRIVERS			
Single Axle or Two Axle	25.18	18.31	43.49
Future Increase(s): Add $1.15/hr on 6/1/2015. 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.			
Three or More Axle	25.28	18.31	43.59
Future Increase(s): Add $1.15/hr on 6/1/2015. 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.			
Articulated, Euclid, Dumptor, Off Road Material Hauler	25.28	18.31	43.59
Future Increase(s): Add $1.15/hr on 6/1/2015. 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.			
Pavement Marking Vehicle	33.22	14.12	47.34
Shadow or Pilot Vehicle	24.37	17.77	42.14
Truck Mechanic	24.52	17.77	42.29
LABORERS			
General Laborer	30.13	15.14	45.27
Future Increase(s): Add $1.05/hr eff. 06/01/2015; Add $1.00/hr eff. 06/01/2016; Add $1.00/hr eff. 06/01/2017 Premium Pay: Add $.10/hr for topman, air tool operator, vibrator or tamper operator (mechanical hand operated), chain saw operator and demolition burning torch laborer; Add $.15/hr for bituminous worker (raker and luteman), formsetter (curb, sidewalk and pavement) and strike off man; Add $.20/hr for blaster and powderman; Add $.25/hr for bottomman; Add $.35/hr for line and grade specialist; Add $.45/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	28.80	0.00	28.80
Landscaper	30.13	15.14	45.27
Future Increase(s): Add $1.05/hr eff. 06/01/2015; Add $1.00/hr eff. 06/01/2016; Add $1.00/hr eff. 06/01/2017 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 $1.25/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).			

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Flagperson or Traffic Control Person	26.76	15.14	41.90
Future Increase(s): Add $1.05/hr eff. 06/01/2015; Add $1.00/hr eff. 06/01/2016; Add $1.00/hr eff. 06/01/2017 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 $1.25/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)	18.00	1.86	19.86
Railroad Track Laborer	17.00	2.85	19.85
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).	37.72	21.15	58.87
Future Increase(s): 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.			
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.	37.22	21.15	58.37
Future Increase(s): 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.			
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);	36.72	21.15	57.87

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
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 & A- Frames.			
Future Increase(s): 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.	36.72	21.15	57.87
Future Increase(s): 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.			
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.	36.17	21.15	57.32
Future Increase(s): 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.			
Fiber Optic Cable Equipment.	28.89	17.95	46.84

CONTRACT: 20160510058 PROJECT(S): 1517-07-74 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					
0010	201.0110 Clearing	16,790.000 SY		.		.
0020	201.0120 Clearing	225.000 ID		.		.
0030	201.0210 Grubbing	16,790.000 SY		.		.
0040	201.0220 Grubbing	225.000 ID		.		.
0050	203.0200 Removing Old Structure (station) 001. STA 1255+25	LUMP	LUMP			.
0060	203.0200 Removing Old Structure (station) 002. STA 1267SB+50	LUMP	LUMP			.
0070	203.0200 Removing Old Structure (station) 003. STA 1267NB+00	LUMP	LUMP			.
0080	203.0225.S Debris Containment (structure) 001. B-70-131	LUMP	LUMP			.
0090	203.0225.S Debris Containment (structure) 002. B-70-132	LUMP	LUMP			.
0100	204.0100 Removing Pavement	28,327.000 SY		.		.

CONTRACT: 20160510058 PROJECT(S): 1517-07-74 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	204.0110 Removing Asphaltic Surface	8,262.000 SY		.		.
0120	204.0150 Removing Curb & Gutter	1,391.000 LF		.		.
0130	204.0155 Removing Concrete Sidewalk	132.000 SY		.		.
0140	204.0157 Removing Concrete Barrier	1,430.000 LF		.		.
0150	204.0165 Removing Guardrail	7,040.000 LF		.		.
0160	204.0170 Removing Fence	7,319.000 LF		.		.
0170	204.0180 Removing Delineators and Markers	8.000 EACH		.		.
0180	204.0220 Removing Inlets	4.000 EACH		.		.
0190	204.0245 Removing Storm Sewer (size) 001. 12-Inch- 18-Inch	202.000 LF		.		.
0200	204.0245 Removing Storm Sewer (size) 002. 21-Inch- 30 Inch	14.000 LF		.		.

CONTRACT: 20160510058 PROJECT(S): 1517-07-74 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
0210	204.9060.S Removing (item description) 001. Removing Concrete Apron Endwall For Pipe Underdrain	2.000 EACH		.		.
0220	204.9060.S Removing (item description) 002. Removing Endwalls	5.000 EACH		.		.
0230	204.9105.S Removing (item description) 003. Removing Sign Structure Base	LUMP	LUMP			.
0240	205.0100 Excavation Common	88,526.000 CY		.		.
0250	205.0200 Excavation Rock	17,600.000 CY		.		.
0260	206.1000 Excavation for Structures Bridges (structure) 001. B-70-129	LUMP	LUMP			.
0270	206.1000 Excavation for Structures Bridges (structure) 002. B-70-131	LUMP	LUMP			.
0280	206.1000 Excavation for Structures Bridges (structure) 003. B-70-132	LUMP	LUMP			.
0290	210.0100 Backfill Structure	910.000 CY		.		.

CONTRACT: 20160510058 PROJECT(S): 1517-07-74 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
0300	213.0100 Finishing Roadway (project) 001. 1517-07-74	1.000 EACH		.		.
0310	305.0110 Base Aggregate Dense 3/4-Inch	889.000 TON		.		.
0320	305.0120 Base Aggregate Dense 1 1/4-Inch	23,597.000 TON		.		.
0330	311.0110 Breaker Run	57,047.000 TON		.		.
0340	320.0155 Concrete Base 9-Inch	825.000 SY		.		.
0350	415.0070 Concrete Pavement 7-Inch	289.000 SY		.		.
0360	415.0090 Concrete Pavement 9-Inch	32.000 SY		.		.
0370	415.0100 Concrete Pavement 10-Inch	13,270.000 SY		.		.
0380	415.0110 Concrete Pavement 11-Inch	28,924.000 SY		.		.
0390	416.0160 Concrete Driveway 6-Inch	146.000 SY		.		.
0400	416.0610 Drilled Tie Bars	5,371.000 EACH		.		.

CONTRACT: 20160510058 PROJECT(S): 1517-07-74 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
0410	416.0620 Drilled Dowel Bars	287.000 EACH		.		.
0420	416.1010 Concrete Surface Drains	2.000 CY		.		.
0430	440.4410 Incentive IRI Ride	6,432.000 DOL	1.00000		6432.00	
0440	455.0605 Tack Coat	260.000 GAL		.		.
0450	460.2000 Incentive Density HMA Pavement	1,150.000 DOL	1.00000		1150.00	
0460	460.6224 HMA Pavement 4 MT 58-28 S	2,189.000 TON		.		.
0470	465.0120 Asphaltic Surface Driveways and Field Entrances	31.000 TON		.		.
0480	465.0315 Asphaltic Flumes	18.000 SY		.		.
0490	501.1000.S Ice Hot Weather Concreting	8,053.000 LB		.		.
0500	502.3100 Expansion Device (structure) 001. B-70-131	LUMP	LUMP			.
0510	502.3100 Expansion Device (structure) 002. B-70-132	LUMP	LUMP			.

CONTRACT: 20160510058 PROJECT(S): 1517-07-74 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
0520	502.3200 Protective Surface Treatment	522.000 SY		.		.
0530	502.3210 Pigmented Surface Sealer	1,973.000 SY		.		.
0540	502.5002 Masonry Anchors Type L No. 4 Bars	30.000 EACH		.		.
0550	502.5010 Masonry Anchors Type L No. 6 Bars	118.000 EACH		.		.
0560	502.5025 Masonry Anchors Type L No. 9 Bars	27.000 EACH		.		.
0570	503.0155 Prestressed Girder Type I 54W-Inch	412.000 LF		.		.
0580	504.0500 Concrete Masonry Retaining Walls	1,121.000 CY		.		.
0590	505.0400 Bar Steel Reinforcement HS Structures	6,380.000 LB		.		.
0600	505.0600 Bar Steel Reinforcement HS Coated Structures	326,650.000 LB		.		.
0610	506.0605 Structural Steel HS	411,600.000 LB		.		.
0620	506.2605 Bearing Pads Elastomeric Non-Laminated	8.000 EACH		.		.

CONTRACT: 20160510058 PROJECT(S): 1517-07-74 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
0630	506.3015 Welded Stud Shear Connectors 7/8x6-Inch	2,424.000 EACH		.		.
0640	506.4000 Steel Diaphragms (structure) 001. B-70-129	8.000 EACH		.		.
0650	506.5000 Bearing Assemblies Fixed (structure) 001. B-70-131	2.000 EACH		.		.
0660	506.5000 Bearing Assemblies Fixed (structure) 002. B-70-132	2.000 EACH		.		.
0670	506.6000 Bearing Assemblies Expansion (structure) 001. B-70-131	4.000 EACH		.		.
0680	506.6000 Bearing Assemblies Expansion (structure) 002. B-70-132	4.000 EACH		.		.
0690	509.5100.S Polymer Overlay	1,874.000 SY		.		.
0700	511.1100 Temporary Shoring	7,600.000 SF		.		.
0710	511.1200 Temporary Shoring (structure) 001. B-70-129	912.000 SF		.		.
0720	511.1200 Temporary Shoring (structure) 002. B-70-131	905.000 SF		.		.

CONTRACT: 20160510058 PROJECT(S): 1517-07-74 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
0730	511.1200 Temporary Shoring (structure) 003. S-70-202	360.000 SF		.		.
0740	511.1200 Temporary Shoring (structure) 004. B-70-132	700.000 SF		.		.
0750	516.0500 Rubberized Membrane Waterproofing	129.000 SY		.		.
0760	517.0600 Painting Epoxy System (structure) 001. B-70-131	LUMP	LUMP			.
0770	517.0600 Painting Epoxy System (structure) 002. B-70-132	LUMP	LUMP			.
0780	517.3000.S Structure Overcoating Cleaning and Priming (structure) 001. B-70-131	LUMP	LUMP			.
0790	517.3000.S Structure Overcoating Cleaning and Priming (structure) 002. B-70-132	LUMP	LUMP			.
0800	517.4000.S Containment and Collection of Waste Materials (structure) 001. B-70-131	LUMP	LUMP			.
0810	517.4000.S Containment and Collection of Waste Materials (structure) 002. B-70-132	LUMP	LUMP			.
0820	520.8000 Concrete Collars for Pipe	4.000 EACH		.		.

CONTRACT: 20160510058 PROJECT(S): 1517-07-74 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
0830	522.1012 Apron Endwalls for Culvert Pipe Reinforced Concrete 12-Inch	2.000 EACH		.		.
0840	522.1024 Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	4.000 EACH		.		.
0850	522.1030 Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch	5.000 EACH		.		.
0860	522.1042 Apron Endwalls for Culvert Pipe Reinforced Concrete 42-Inch	1.000 EACH		.		.
0870	522.1054 Apron Endwalls for Culvert Pipe Reinforced Concrete 54-Inch	1.000 EACH		.		.
0880	550.0020 Pre-Boring Rock or Consolidated Materials	211.000 LF		.		.
0890	550.0500 Pile Points	26.000 EACH		.		.
0900	550.1100 Piling Steel HP 10-Inch X 42 Lb	1,926.000 LF		.		.
0910	601.0409 Concrete Curb & Gutter 30-Inch Type A	860.000 LF		.		.
0920	601.0411 Concrete Curb & Gutter 30-Inch Type D	1,350.000 LF		.		.

CONTRACT: 20160510058 PROJECT(S): 1517-07-74 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
0930	601.0555 Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type A	2,241.000 LF		.		.
0940	601.0557 Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	295.000 LF		.		.
0950	602.0410 Concrete Sidewalk 5-Inch	2,175.000 SF		.		.
0960	603.0105 Concrete Barrier Single-Faced 32-Inch	40.000 LF		.		.
0970	603.1132 Concrete Barrier Type S32	1,343.000 LF		.		.
0980	603.1142 Concrete Barrier Type S42	8,285.000 LF		.		.
0990	603.1442 Concrete Barrier Type S42C	1,507.000 LF		.		.
1000	603.2156 Concrete Barrier Fixed Object Protection Type S56	16.000 LF		.		.
1010	603.3113 Concrete Barrier Transition Type NJ32SF to S36	14.000 EACH		.		.
1020	603.3513 Concrete Barrier Transition Type S32 to S36	2.000 EACH		.		.
1030	603.3535 Concrete Barrier Transition Type S36 to S42	16.000 EACH		.		.

CONTRACT: 20160510058 PROJECT(S): 1517-07-74 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
1040	603.3559 Concrete Barrier Transition Type S42 to S56	3.000 EACH		.		.
1050	603.8000 Concrete Barrier Temporary Precast Delivered	20,610.000 LF		.		.
1060	603.8125 Concrete Barrier Temporary Precast Installed	21,410.000 LF		.		.
1070	604.0400 Slope Paving Concrete	386.000 SY		.		.
1080	604.0600 Slope Paving Select Crushed Material	317.000 SY		.		.
1090	606.0200 Riprap Medium	994.000 CY		.		.
1100	606.0300 Riprap Heavy	500.000 CY		.		.
1110	608.0005 Storm Sewer Rock Excavation	2,726.000 CY		.		.
1120	608.0315 Storm Sewer Pipe Reinforced Concrete Class III 15-Inch	327.000 LF		.		.
1130	608.0318 Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	39.000 LF		.		.
1140	608.0324 Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	3,046.000 LF		.		.

CONTRACT: 20160510058 PROJECT(S): 1517-07-74 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
1150	608.0330 Storm Sewer Pipe Reinforced Concrete Class III 30-Inch	1,267.000 LF		.		.
1160	608.0336 Storm Sewer Pipe Reinforced Concrete Class III 36-Inch	405.000 LF		.		.
1170	608.0342 Storm Sewer Pipe Reinforced Concrete Class III 42-Inch	25.000 LF		.		.
1180	608.0354 Storm Sewer Pipe Reinforced Concrete Class III 54-Inch	590.000 LF		.		.
1190	608.0430 Storm Sewer Pipe Reinforced Concrete Class IV 30-Inch	106.000 LF		.		.
1200	608.0454 Storm Sewer Pipe Reinforced Concrete Class IV 54-Inch	559.000 LF		.		.
1210	611.0430 Reconstructing Inlets	3.000 EACH		.		.
1220	611.0530 Manhole Covers Type J	16.000 EACH		.		.
1230	611.0535 Manhole Covers Type J-Special	4.000 EACH		.		.
1240	611.0624 Inlet Covers Type H	10.000 EACH		.		.
1250	611.0627 Inlet Covers Type HM	3.000 EACH		.		.

CONTRACT: 20160510058 PROJECT(S): 1517-07-74 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
1260	611.0654 Inlet Covers Type V	39.000 EACH		.		.
1270	611.2005 Manholes 5-FT Diameter	4.000 EACH		.		.
1280	611.2006 Manholes 6-FT Diameter	22.000 EACH		.		.
1290	611.2007 Manholes 7-FT Diameter	3.000 EACH		.		.
1300	611.2008 Manholes 8-FT Diameter	5.000 EACH		.		.
1310	611.3004 Inlets 4-FT Diameter	29.000 EACH		.		.
1320	611.3230 Inlets 2x3-FT	10.000 EACH		.		.
1330	612.0106 Pipe Underdrain 6-Inch	20.000 LF		.		.
1340	612.0406 Pipe Underdrain Wrapped 6-Inch	3,429.000 LF		.		.
1350	612.0806 Apron Endwalls for Underdrain Reinforced Concrete 6-Inch	1.000 EACH		.		.

CONTRACT: 20160510058 PROJECT(S): 1517-07-74 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
1360	614.0397 Guardrail Mow Strip Emulsified Asphalt	242.000 SY		.		.
1370	614.0805 Crash Cushions Permanent Low Maintenance	1.000 EACH		.		.
1380	614.0905 Crash Cushions Temporary	17.000 EACH		.		.
1390	614.1000 MGS Guardrail Temporary	927.000 LF		.		.
1400	614.1200 MGS Guardrail Temporary Terminal EAT	1.000 EACH		.		.
1410	614.2300 MGS Guardrail 3	113.000 LF		.		.
1420	614.2500 MGS Thrie Beam Transition	160.000 LF		.		.
1430	614.2610 MGS Guardrail Terminal EAT	5.000 EACH		.		.
1440	614.2620 MGS Guardrail Terminal Type 2	1.000 EACH		.		.
1450	616.0206 Fence Chain Link 6-FT	5,755.000 LF		.		.
1460	616.0700.S Fence Safety	10,000.000 LF		.		.

CONTRACT: 20160510058 PROJECT(S): 1517-07-74 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
1470	619.1000 Mobilization	1.000 EACH		.		.
1480	620.0300 Concrete Median Sloped Nose	158.000 SF		.		.
1490	624.0100 Water	778.000 MGAL		.		.
1500	625.0100 Topsoil	59,788.000 SY		.		.
1510	625.0500 Salvaged Topsoil	19,975.000 SY		.		.
1520	627.0200 Mulching	79,613.000 SY		.		.
1530	628.1504 Silt Fence	1,995.000 LF		.		.
1540	628.1520 Silt Fence Maintenance	1,995.000 LF		.		.
1550	628.1905 Mobilizations Erosion Control	20.000 EACH		.		.
1560	628.1910 Mobilizations Emergency Erosion Control	12.000 EACH		.		.
1570	628.2002 Erosion Mat Class I Type A	77,630.000 SY		.		.

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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
1580	628.2006 Erosion Mat Urban Class I Type A	2,070.000 SY		.		.
1590	628.7005 Inlet Protection Type A	8.000 EACH		.		.
1600	628.7010 Inlet Protection Type B	54.000 EACH		.		.
1610	628.7015 Inlet Protection Type C	19.000 EACH		.		.
1620	628.7020 Inlet Protection Type D	13.000 EACH		.		.
1630	628.7504 Temporary Ditch Checks	520.000 LF		.		.
1640	628.7555 Culvert Pipe Checks	30.000 EACH		.		.
1650	628.7560 Tracking Pads	8.000 EACH		.		.
1660	629.0210 Fertilizer Type B	63.000 CWT		.		.
1670	630.0120 Seeding Mixture No. 20	2,105.000 LB		.		.
1680	630.0130 Seeding Mixture No. 30	38.000 LB		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1690	630.0200 Seeding Temporary	2,144.000 LB		.		.
1700	633.5200 Markers Culvert End	1.000 EACH		.		.
1710	634.0614 Posts Wood 4x6-Inch X 14-FT	14.000 EACH		.		.
1720	634.0616 Posts Wood 4x6-Inch X 16-FT	26.000 EACH		.		.
1730	634.0618 Posts Wood 4x6-Inch X 18-FT	15.000 EACH		.		.
1740	636.0100 Sign Supports Concrete Masonry	166.000 CY		.		.
1750	636.1000 Sign Supports Steel Reinforcement HS	1,180.000 LB		.		.
1760	636.1500 Sign Supports Steel Coated Reinforcement HS	11,800.000 LB		.		.
1770	637.1220 Signs Type I Reflective SH	3,796.000 SF		.		.
1780	637.2210 Signs Type II Reflective H	496.180 SF		.		.
1790	637.2215 Signs Type II Reflective H Folding	18.750 SF		.		.

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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
1800	637.2230 Signs Type II Reflective F	66.000 SF		.		.
1810	638.2101 Moving Signs Type I	9.000 EACH		.		.
1820	638.2601 Removing Signs Type I	12.000 EACH		.		.
1830	638.2602 Removing Signs Type II	37.000 EACH		.		.
1840	638.3000 Removing Small Sign Supports	53.000 EACH		.		.
1850	638.3100 Removing Structural Steel Sign Supports	4.000 EACH		.		.
1860	641.0600 Sign Bridge Single Pole Sign Support Two Signs (structure) 001. S-70-245	LUMP	LUMP			.
1870	641.1200 Sign Bridge Cantilevered (structure) 001. S-70-202	LUMP	LUMP			.
1880	641.6600 Sign Bridge (structure) 001. S-70-243	LUMP	LUMP			.
1890	641.6600 Sign Bridge (structure) 002. S-70-247	LUMP	LUMP			.
1900	641.6600 Sign Bridge (structure) 003. S-70-244	LUMP	LUMP			.

CONTRACT: 20160510058 PROJECT(S): 1517-07-74 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
1910	641.6600 Sign Bridge (structure) 004. S-70-246	LUMP	LUMP			.
1920	642.5401 Field Office Type D	1.000 EACH		.		.
1930	643.0200 Traffic Control Surveillance and Maintenance (project) 001. 1517-07-74	411.000 DAY		.		.
1940	643.0300 Traffic Control Drums	17,221.000 DAY		.		.
1950	643.0420 Traffic Control Barricades Type III	1,931.000 DAY		.		.
1960	643.0715 Traffic Control Warning Lights Type C	5,243.000 DAY		.		.
1970	643.0800 Traffic Control Arrow Boards	493.000 DAY		.		.
1980	643.0900 Traffic Control Signs	8,691.000 DAY		.		.
1990	643.0910 Traffic Control Covering Signs Type I	8.000 EACH		.		.
2000	643.0920 Traffic Control Covering Signs Type II	10.000 EACH		.		.
2010	643.1000 Traffic Control Signs Fixed Message	422.000 SF		.		.

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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
2020	643.1050 Traffic Control Signs PCMS	599.000 DAY		.		.
2030	643.3000 Traffic Control Detour Signs	264.000 DAY		.		.
2040	645.0120 Geotextile Fabric Type HR	1,480.000 SY		.		.
2050	646.0103 Pavement Marking Paint 4-Inch	47,623.000 LF		.		.
2060	646.0106 Pavement Marking Epoxy 4-Inch	33,453.000 LF		.		.
2070	646.0123 Pavement Marking Paint 8-Inch	4,738.000 LF		.		.
2080	646.0126 Pavement Marking Epoxy 8-Inch	1,010.000 LF		.		.
2090	646.0600 Removing Pavement Markings	80,734.000 LF		.		.
2100	646.0841.S Pavement Marking Grooved Wet Reflective Contrast Tape 4-Inch	7,961.000 LF		.		.
2110	646.0843.S Pavement Marking Grooved Wet Reflective Contrast Tape 8-Inch	5,951.000 LF		.		.

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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
2120	647.0566 Pavement Marking Stop Line Epoxy 18-Inch	72.000 LF		.		.
2130	650.4000 Construction Staking Storm Sewer	85.000 EACH		.		.
2140	650.5500 Construction Staking Curb Gutter and Curb & Gutter	1,350.000 LF		.		.
2150	650.6500 Construction Staking Structure Layout (structure) 001. B-70-129	LUMP	LUMP			.
2160	650.6500 Construction Staking Structure Layout (structure) 002. B-70-131	LUMP	LUMP			.
2170	650.6500 Construction Staking Structure Layout (structure) 003. R-70-106	LUMP	LUMP			.
2180	650.6500 Construction Staking Structure Layout (structure) 004. R-70-107	LUMP	LUMP			.
2190	650.6500 Construction Staking Structure Layout (structure) 005. B-70-132	LUMP	LUMP			.
2200	650.6500 Construction Staking Structure Layout (structure) 006. R-70-108	LUMP	LUMP			.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2210	650.6500 Construction Staking Structure Layout (structure) 007. R-70-109	LUMP	LUMP			.
2220	650.6500 Construction Staking Structure Layout (structure) 008. R-70-110	LUMP	LUMP			.
2230	650.7000 Construction Staking Concrete Pavement	15,000.000 LF		.		.
2240	650.9910 Construction Staking Supplemental Control (project) 001. 1517-07-74	LUMP	LUMP			.
2250	652.0125 Conduit Rigid Metallic 2-Inch	4,640.000 LF		.		.
2260	652.0225 Conduit Rigid Nonmetallic Schedule 40 2-Inch	9,991.000 LF		.		.
2270	653.0180 Pull Boxes Steel Communications (inch) 001. 24x36-Inch	16.000 EACH		.		.
2280	653.0220 Junction Boxes 18x6x6-Inch	8.000 EACH		.		.
2290	653.0222 Junction Boxes 18x12x6-Inch	9.000 EACH		.		.
2300	654.0105 Concrete Bases Type 5	5.000 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
2310	654.0107 Concrete Bases Type 7	4.000 EACH		.		.
2320	655.0620 Electrical Wire Lighting 8 AWG	331.000 LF		.		.
2330	655.0625 Electrical Wire Lighting 6 AWG	662.000 LF		.		.
2340	656.0200 Electrical Service Meter Breaker Pedestal (location) 001. 131FES+50	LUMP	LUMP			.
2350	657.0255 Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	5.000 EACH		.		.
2360	657.0322 Poles Type 5-Aluminum	5.000 EACH		.		.
2370	657.6005.S Anchor Assemblies Light Poles on Structures	8.000 EACH		.		.
2380	670.0100 Field System Integrator	LUMP	LUMP			.
2390	670.0200 ITS Documentation	LUMP	LUMP			.
2400	671.0112 Conduit HDPE 1-Duct 2-Inch	224.000 LF		.		.
2410	671.0122 Conduit HDPE 2-Duct 2-Inch	1,171.000 LF		.		.

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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
2420	671.0132 Conduit HDPE 3-Duct 2-Inch	2,290.000 LF		.		.
2430	671.0142 Conduit HDPE 4-Duct 2-Inch	452.000 LF		.		.
2440	671.0222 Conduit HDPE Directional Bore 2-Duct 2-Inch	205.000 LF		.		.
2450	671.0232 Conduit HDPE Directional Bore 3-Duct 2-Inch	1,430.000 LF		.		.
2460	671.0300 Fiber Optic Cable Marker	24.000 EACH		.		.
2470	673.0105 Communication Vault Type 1	6.000 EACH		.		.
2480	673.0225.S Install Pole Mounted Cabinet	1.000 EACH		.		.
2490	674.0200 Cable Microwave Detector	6,458.000 LF		.		.
2500	674.0300 Remove Cable	6,662.000 LF		.		.
2510	674.0400 Reinstall Cable	6,662.000 LF		.		.
2520	675.0300 Install Mounted Controller Microwave Detector Assembly	5.000 EACH		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2530	675.0400.S Install Ethernet Switch	1.000 EACH		.		.
2540	678.0300 Fiber Optic Splice	15.000 EACH		.		.
2550	678.0500 Communication System Testing	LUMP	LUMP			.
2560	690.0150 Sawing Asphalt	935.000 LF		.		.
2570	690.0250 Sawing Concrete	13,685.000 LF		.		.
2580	715.0415 Incentive Strength Concrete Pavement	4,284.000 DOL	1.00000		4284.00	
2590	715.0502 Incentive Strength Concrete Structures	3,132.000 DOL	1.00000		3132.00	
2600	SPV.0035 Special 001. Roadway Embankment	50,312.000 CY		.		.
2610	SPV.0035 Special 002. Pond Liner Clay	5,370.000 CY		.		.
2620	SPV.0035 Special 700. Modified High Performance Concrete (HCP) Masonry Bridges	1,074.000 CY		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2630	SPV.0060 Special 001. Concrete Barrier Transition Type 1 V33.5 To S42 Block	2.000 EACH		.		.
2640	SPV.0060 Special 002. Pond Outlet Control Manhole	2.000 EACH		.		.
2650	SPV.0060 Special 003. Detention Pond Corrugated Metal Anti-Seep Collar	2.000 EACH		.		.
2660	SPV.0060 Special 004. Flared End Section With Trash Rack	2.000 EACH		.		.
2670	SPV.0060 Special 005. Concrete Barrier Transition Type S42 To S56 Special	14.000 EACH		.		.
2680	SPV.0060 Special 006. Linear Delineation System	30.000 EACH		.		.
2690	SPV.0060 Special 200. Traffic Control Close-Open Freeway Entrance Ramp	7.000 EACH		.		.
2700	SPV.0060 Special 201. Repositioning Traffic Control Devices For Mainline Closures	48.000 EACH		.		.
2710	SPV.0060 Special 202. Maintain Crash Cushion Temporary Left In Place	1.000 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
2720	SPV.0060 Special 203. Move and Install Overhead Sign On Temporary Supports	1.000 EACH		.		.
2730	SPV.0060 Special 350. Concrete Bases Type 7 On Steep Slopes	22.000 EACH		.		.
2740	SPV.0060 Special 351. Anchor Bolt Cover Shroud	34.000 EACH		.		.
2750	SPV.0060 Special 352. Pull Box Non-Conductive 24X42-Inch	7.000 EACH		.		.
2760	SPV.0060 Special 400. Install Termination Panel	1.000 EACH		.		.
2770	SPV.0060 Special 401. Tracer Test Station	1.000 EACH		.		.
2780	SPV.0060 Special 700. Junction Boxes Stainless Steel 24X18X6-Inch	3.000 EACH		.		.
2790	SPV.0060 Special 701. Cleaning And Painting Bearings	54.000 EACH		.		.
2800	SPV.0075 Special 001. Street Sweeping	600.000 HRS		.		.
2810	SPV.0085 Special 001. Pond Edge Seed	710.000 LB		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2820	SPV.0090 Special 001. Concrete Barrier Type S56 Special	492.000 LF		.		.
2830	SPV.0090 Special 200. Maintain Temporary Concrete Barrier Precast Left In Place	1,405.000 LF		.		.
2840	SPV.0105 Special 002. Removing Cantilever Sign Support S-70-142	LUMP	LUMP			.
2850	SPV.0105 Special 003. Removing Cantilever Sign Support S-70-143	LUMP	LUMP			.
2860	SPV.0105 Special 004. Concrete Pavement Joint Layout	LUMP	LUMP			.
2870	SPV.0105 Special 005. Removing Cantilever Sign Support S-70-37	LUMP	LUMP			.
2880	SPV.0105 Special 006. Removing Sign Bridge S-70-32	LUMP	LUMP			.
2890	SPV.0105 Special 007. Removing Sign Structure Single Pole S-70-33	LUMP	LUMP			.
2900	SPV.0105 Special 950. Salvage Existing Sign Structure S-70-143, Truss	LUMP	LUMP			.
2910	SPV.0120 Special 001. Water For Seeded Areas	1,786.000 MGAL		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2920	SPV.0165 Special 850. Wall Concrete Panel Mechanically Stabilized Earth LRFD/QMP **P**	18,830.000 SF		.		.
2930	SPV.0165 Special 950. Sign Blanks Left In Place	90.000 SF		.		.
2940	SPV.0180 Special 001. Removing Rumble Strips	2,720.000 SY		.		.
2950	SPV.0180 Special 002. Resin Binder High Friction Surface Treatment	3,690.000 SY		.		.
	SECTION 0001 TOTAL					.
	TOTAL BID					.

PLEASE ATTACH SCHEDULE OF ITEMS HERE