HIGHWAY WORK PROPOSAL

Wisconsin Department of Transportation
06/2017 s.66.0901(7) Wis. Stats

Proposal Number: 010

COUNTY	STATE PROJECT	FEDERAL	PROJECT DESCRIPTION	HIGHWAY
Waukesha	2788-00-71	WISC 2017512	Waukesha Bypass; Genesee Rd To Fiddlers Creek Dr	USH 018

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: $820,000.00 Payable to: Wisconsin Department of Transportation	Attach Proposal Guaranty on back of this PAGE.
Bid Submittal Date: July 10, 2018 Time (Local Time): 9:00 am	Firm Name, Address, City, State, Zip Code SAMPLE NOT FOR BIDDING PURPOSES
Contract Completion Time November 20, 2019	
Assigned Disadvantaged Business Enterprise Goal 15%	This contract is subject to 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)	(Bidder Signature)
(Print or Type Name, Notary Public, State Wisconsin)	(Print or Type Bidder Name)
(Date Commission Expires)	(Bidder Title)

Notary Seal

Type of Work: For Department Use Only

Grade, Base, Watermain, Sanitary, Storm Sewer, Culvert Pipe, Concrete Pavement, Asphalt Pavement, Curb & Gutter, Sidewalk, Beam Guard, Concrete Barrier, Landscaping, Signing, Signals, Lighting, Overhead Sign Support, Wall Modular Block MSE, Wall Modular Block Gravity, Post & Panel Wall, Structures B-67-314, 315, 352 - 355, 360, 361, C-67-88, 91, R-67-129, 145

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.

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SPECIAL PROVISIONS

1. General.

Perform the work under this construction contract for Project 2788-00-71, Waukesha Bypass, Genesee Rd to Fiddlers Creek Dr, USH 18, Waukesha 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, 2018 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.
100-05 20171130)

2. Scope of Work.

The work under this contract shall consist of removals, grading, hazardous material handling, roadway embankment, aggregate base, concrete pavement, HMA pavement, concrete curb and gutter, concrete sidewalk, Structures B-67-314/315, B-67-352/353, B-67-354/355, B-67-360/361, retaining walls R-67-129 and R-67-145, box culverts C-67-88 and C-67-91, storm sewer, storm water ponds, erosion control, pavement marking, traffic control, traffic signals, lighting, water main adjustments and relocations, sanitary sewer manhole adjustment and removals, and all incidental items necessary to complete the work as shown on the plans and included in the proposal and contract.
104-005 (20090901)

3. Partnering Charter.

Add the following to standard spec 104.1:

The department intends to encourage, support, and implement a partnering system on this contract with the full participation of the contractor and all subcontractors.

Partnering is a performance system designed to achieve an optimal relationship between all parties to a construction contract. Further, it is a method of conducting business in the construction profession without unnecessary, excessive, or disruptive external party involvement. The partnering system is structured to draw on the strengths of each participating organization to identify and achieve mutually profitable objectives.

The partnering system will consist of three main elements: preparation of a partnering charter, establishing and implementing a partnering effectiveness evaluation technique, and establishing and implementing an issue resolution procedure.

It is anticipated that within 14 calendar days of the issuance of a notice to proceed with construction, the department, its consultants, and the prime contractor on the project will participate, with their subcontractors, in a one day meeting to write a partnering charter.

The partnering charter is the basic manual for operating the partnering system. It includes, at a minimum, the mission of the project and the objectives of the project team. In addition, it outlines, in broad terms, the project evaluation methods to be used and the dispute resolution process to be applied to conflict issues as they arise on the job.

It is anticipated that the partnering charter meeting participants will establish and publish the partnering effectiveness evaluation method. This partnering evaluation method will set guidelines for periodically measuring project performance against the mission and objectives set out in the charter.

It is also anticipated that the partnering charter meeting participants will establish and publish the issue resolution procedure, designed to help resolve disputes quickly, satisfactorily, and as near as possible to the originating level of the dispute.

The contractor is required to participate in establishing these three elements of the partnering system in cooperation with the department and its consultants. Outside costs for effectuating the partnering effort will be mutually agreed to by both parties and will be shared equally.

The establishment of a partnership charter on this project will not change the legal relationship of the parties to the contract nor relieve either party from any of the terms of the contract.
stp-104-010 (20150630)

4. Mandatory Pre-Bid Meeting.

Add the following to standard spec 102.3.1:

Prospective bidders are required to attend a mandatory pre-bid meeting on June 19, 2018, at 10:00 AM at the Waukesha State Office Building on NW Barstow, Room 314.

No meeting minutes will be prepared. Issues discovered at the meeting will be handled by addendum.
102-010 (20150630)

5. 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.

An Erosion Control Implementation Plan (ECIP) shall be submitted to the appropriate WisDOT office and the WDNR at least 14 days prior to the preconstruction meeting. Provide an amended ECIP prior to the winter shutdown and spring start-up.

Work within the wetlands and waterways shall not begin until the U.S. Army Corps of Engineers Section 404 Permit has been obtained.

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

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.

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

Interim and Final Completion of Work

Interim Completion of Stage 2B Work
CTH D /Sunset Drive may be closed and detoured one time for a maximum of 67 calendar days in Stage 2B. If the contractor fails to complete the work necessary to reopen Sunset Drive during Stage 2B, to through traffic within 67 calendar days from the time closed, the department will assess the contractor $4,000 in interim liquidated damages for each calendar day that the roadway remains closed beyond 67 calendar days. 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.

Interim Completion of Stage 2C Work (Station 111+00 to 112+63 RT)
Genesee Road may be closed and detoured one time for a maximum of 12 calendar days in Stage 2C to allow construction between Station 111+00 to Station 112+63. If the contractor fails to complete the work necessary to reopen Genesee Road during Stage 2C to through traffic within 12 days from the time closed, the department will assess the contractor $12,000 in interim liquidated damages for each calendar day that the roadway remains closed beyond 12 calendar days. 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.

Interim Completion of Stage 2D Work
Genesee Road Station 31+11 to Station 50+00 and Saylesville Road, Station 7+50 to Station 112+35, may be closed and detoured one time for a maximum of 51 calendar days in Stage 2D. If the contractor fails to complete the work necessary to reopen eastbound Genesee Road and Saylesville Road during Stage 2D to through traffic within 51 calendar days from the time closed, the department will assess the contractor $12,000 in interim liquidated damages for each calendar day that these roadways remain closed beyond 51 calendar days. 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.

Interim Completion of Stage 2E Work
Merrill Hills Road may be closed and detoured one time for a maximum of 35 calendar days in Stage 2E. If the contractor fails to complete the work necessary to reopen Merrill Hills Road during Stage 2E to through traffic within 35 calendar days, the department will assess the contractor $15,000 in interim liquidated damages for each calendar day that the roadway remains closed beyond 35 calendar days. 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.

Final Completion of Work
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.

Fish Spawning
There shall be no instream disturbance of Pebble Creek or any tributary to Pebble Creek as a result of construction activity under or for this contract, from March 1 to June 15 both dates inclusive, in order to avoid adverse impacts upon the spawning of various fish species

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

Migratory Birds
Swallow and other migratory birds' nests have been observed on or under the existing bridge. All active nests (when eggs or young are present) of migratory birds are protected under the federal Migratory Bird Treaty Act.

The nesting season for swallows and other birds is usually between May 1 and August 30. Either prevent active nests from becoming established, or apply for a depredation permit from the US Fish and Wildlife Service for work that may disturb or destroy active nests. The need for a permit may be avoided by removing the existing bridge structure prior to nest occupation by birds, or clearing nests from all structures before the nests become active in early spring. As a last resort, prevent birds from nesting by installing a suitable netting device on the remaining structure prior to nesting activity. Preventing the nesting is incidental to the contract.

Northern Long-eared Bat (*Myotis septentrionalis*)
Northern Long-eared Bats (NLEB) have the potential to inhabit the project limits because they roost in trees. Roosts have been identified within 150 feet of the project limits. The species and all active roosts are protected by the Federal Endangered Species Act. If an individual bat or active roost is encountered during construction operations, stop work and notify the engineer and the WisDOT Regional Environmental Coordinator (REC).

To avoid adverse impacts upon the NLEBs, no Clearing is allowed between June 1 and July 31, both dates inclusive.

If the required Clearing 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 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.

Work Restrictions
If additional construction activities beyond what was originally specified are required to complete the work, approval from the engineer, following coordination with WisDOT REC, is required prior to initiating these activities.

The contractor shall comply with all local ordinances which apply to work operations, including those pertaining to working during nighttime work hours. Any ordinance variance issued by the municipality or required permits shall be furnished to the engineer, by the contractor, in writing three working days before performing such work.

Equipment and material shall be parked or stored only at work sites approved by the engineer.

Provide the Wisconsin State Patrol, Waukesha County Highway Maintenance, Waukesha County Dispatch, the City of Waukesha Police Department, the City of Pewaukee Police Department, the City of Waukesha Fire Department, the City of Waukesha and the City of Pewaukee with a 24-hour emergency contact number for when maintenance is required.

Traffic shifts shown in a given stage may occur at different times during that stage depending on the controlling elements for a given traffic movement.

See the WE Energies Driveway article for requirements on the construction of the new driveway and removal of the existing driveways.

Anticipated Schedule:
Do not move to the next stage until all work in the current stage is completed or as approved by the engineer except that Stage 2A work can overlap other Stage 2 work except that the southern pavement areas needed for traffic control switches. Traffic control switches shall be completed during off peak hours.

Stages 1 and 1A Construction (2018)

- May begin substructure construction of westbound Structure B-67-315 over Pebble Creek on Genesee Road.
- Construct three areas of temporary widening on eastbound Genesee Road Station 33+90 to Station 38+15, Station 45+75 to Station 46+79 and Station 49+45 to Station 51+21 RT.
- Remove median islands and pave with temporary asphaltic pavement to accommodate temporary traffic layout at the Genesee/Saylesville intersection.
- Construct two median crossovers for use in Stage 2A traffic control, one on Les Paul Parkway Station 93+50 to Station 99+67 and another on Genesee Road Station 62+43 to Station 70+17.
- May begin substructure construction of land bridge Structures B-67-352/353 and B-67-360/361 on bypass between Genesee Road and Sunset Drive.
- May begin substructure construction of Structures B-67-354/355 on Waukesha Bypass over Pebble Creek.
- Roadway embankment work may be required to provide access to structures.
- Storm sewer and culvert installations may be required between Pebble Creek and MacArthur Road to maintain drainage patterns.
- Construct temporary widening on the east side of Merrill Hills Road Station 264+00 to Station 271+11 RT.
- Modify existing traffic control signals at the intersection of Genesee Road and Saylesville Road to accommodate traffic staging layouts at this intersection.

Stage 2A Construction (2018)

- Construct northbound Waukesha Bypass from Station 100+37 to Station 111+00.
- Construct off alignment sections of northbound and southbound Waukesha Bypass from Station 112+63 to approximately Station 153+53, gapping Sunset Drive; from Station 154+88 to Station 173+51, gapping the Wisconsin Southern at

grade railroad crossing and the Glacial Drumlin Trail; from Station 176+85 to Station 219+00 just south of Kame Terrace. This work includes the Land Bridges Structures B-67-352/353, B-67-360/361, and B-67-354/355, and retaining wall R-67-145.

- Construct the storm sewer crossings of Merrill Hills Road at Station 240+69, 45' LT and at Station 240+60, 25' LT during evening hours. The pipe sizes are 15 inches and 36 inches respectively. Any night-time closing of Merrill Hills Road must be open to through traffic the following morning in this stage.
- Construct ponds at Station 200+00 and Station 215+00 LT.
- Construct southbound Waukesha Bypass from Station 222+25 to Station 240+75.
- Construct northbound Waukesha Bypass from Station 220+50 to Station 242+25.
- Construct southbound Waukesha Bypass from Station 243+50 to the end of project Station 273+75. This work includes constructing the western half of C-67-91 and constructing a bypass channel for a tributary to Pebble Creek. This Structure C-67-91 needs to be completed prior to the spring spawning season in 2019.
- Construct STH 59/CTH X intersection, gaps to remain. Install temporary traffic signals at this intersection.
- Construct westbound lanes of STH 59/Genesee Road including temporary widening abutting the newly constructed westbound lanes, Station 34+11 to Station 37+06 LT. This work also includes Structure B-67-315. This structure shall be completed prior to the traffic control shift for Stage 2D.
- Construct MacArthur Road and Merrill Hills Court.
- Construct west half of Madison Street, Station 49+20 to Station 50+00; and a portion of the southbound Waukesha Bypass.
- Construct the WE Energies driveways to Howell Avenue, approximately Station 266+00, LT.
- Construct temporary median crossover on the newly constructed Waukesha Bypass once concrete pavement is placed, Station 149+00 to Station 153+90. Do not construct the median curb and gutter Station 149+00 to Station 153+90 as this crossover will be between northbound and southbound median flange lines, with 5 inches of asphaltic surface temporary over 8-inch base aggregate dense 1 1/4-inch.

Winter 2018

To allow embankments constructed in Stage 2A time for settlement, final concrete pavement shall all be constructed after March 1, 2019 unless approved by the engineer for the Waukesha Bypass except for the following station ranges which may be paved in 2018:

- Station 100+37 to Station 111+00
- Station 188+00 to Station 226+00
- Station 235+00 to Station 241+00

Structural work may continue through the winter.

The contractor shall not place asphalt between November 1 and April 1 without the written approval of the engineer. Additional payment will not be made for asphalt placed during extreme conditions without the written approval of the engineer.

Any roadway disturbed during the 2018 construction season shall have the base aggregate dense placed prior to winter.

An amendment to the Erosion Control Implementation Plan shall be required prior to winter shutdown and work resuming in the spring.

Spring 2019
Stage 2A Continued (2019)

- Construction of all of the Stage 2A concrete pavement on the Waukesha Bypass except for any concrete pavement within three station ranges mentioned above, which may have been completed in 2018.
- Completion of all other Stage 2A work items not finished.

Stage 2B Construction (2018)

- Construct CTH D, Sunset Drive. Roadway shall be closed and detoured.

Stage 2C Construction (2019)

- Construction of northbound Waukesha Bypass Station 111+00 to Station 112+63. CTH X/Genesee Road north of the STH 59 intersection shall be closed and detoured to allow this construction.

Work Completed Prior To Stage 2C

- Northbound Waukesha Bypass Station 100+37 to Station 111+00.
- Westbound Genesee Road Station 34+11 to Station 61+84 including Structure B-67-315.
- CTH D, Sunset Drive

Stage 2D Construction (2019)

- Construction of Eastbound STH 59/Genesee Road Station 34+11 to Station 50+00.
- Installation of temporary signals at the relocated intersection of Genesee Road and Les Paul Parkway.
- Construction of southbound Waukesha Bypass Station 100+37 to Station 112+20.
- Construction of CTH X/Saylesville Road Station 7+50 to Station 19+35. CTH X/Saylesville Road south of the STH 59 intersection shall be closed and detoured to allow this construction.

Work Completed Prior To Stage 2D

- Northbound Waukesha Bypass Station 100+37 to Station 112+63.
- Westbound Genesee Road Station 34+11 to Station 61+84 including Structure B-67-315.
- CTH D, Sunset Drive

Stage 2E Construction (2019)

- Construction of the west half of C-67-88.
- Construct the roadway embankment and concrete pavement over C-67-88 for southbound Waukesha Bypass gap Station 173+00 to Station 177+25.
- Construct the storm sewer for the Glacial Drumlin Trail and Connections.
- Construct gap in southbound Waukesha Bypass at Kame Terrace Station 221+40 to Station 224+00 and the westbound lanes of Kame Terrace for Stage 2E-1 construction. Construct gap in southbound Waukesha Bypass at Kame Terrace Station 219+00 to Station 221+40 and the eastbound lanes of Kame Terrace for Stage 2E-2 construction.
- Construct gap in southbound Waukesha Bypass between Station 239+50 to Station 243+50 LT just north of Merrill Hills Court. The gap also includes the east side of Structure C-67-91.
- Construct Waukesha Bypass northbound Station 254+75 to Station 255+62 LT and the east half of Madison Street.
- Construct gaps in southbound Waukesha Bypass north of Madison Street between Station 256+50 to Station 260+15 LT and between Station 261+00 to Station 271+00 LT.

Work Completed Prior To Stage 2E

- All of southbound Waukesha Bypass except for five gaps listed above.
- Northbound Waukesha Bypass Station 100+37 to Station 173+00 and Station 177+25 to Station 216+00.
- All of Genesee Road except eastbound Station 51+63 to Station 61+84.
- All of Saylesville Road and Sunset Drive.
- MacArthur Drive except east intersection with Merrill Hills Road.
- The west half of Madison Street.

Stage 3 Construction (2019)

- Construction of northbound Waukesha Bypass Station 173+00 to Station 177+25, Station 214+50 to Station 222+25, between Station 241+50 to Station 254+80 and between Station 255+73 to Station 273+75.
- Finish construction of westbound lanes of STH 59/Genesee Road Station 51+60 to Station 62+00 including Structure B-67-314.
- Modify existing temporary signals at the intersection of Genesee Road and Les Paul parkway to lane configuration and opening the north leg.
- Remove crossover on Les Paul Parkway south of Station 100+37.
- Complete construction of Glacial Drumlin Trail and three connecting trails.
- Finish median islands of STH 59/Les Paul Parkway at Genesee Road.
- Construct four Merrill Hills Road cul-de-sacs.
- Complete reconstruction of the intersection of MacArthur Road and Merrill Hills Road in quadrants.
- Obliterate portions of Temporary Merrill Hills Road and restore Merrill Hills Road.

- Finish construction of C-67-91 (as necessary).
- Construction of Kisdon Hill Drive in three substages. Stage 3-1 constructs temporary widening on the south side of Kisdon Hills Drive, Stage 3-2 constructs the westbound lanes and sidewalk of Kisdon Hill Drive and Stage 3-3 constructs the eastbound lanes and sidewalk of Kisdon Hill Drive.

Work Completed Prior To Stage 3

- All of southbound Waukesha Bypass.
- All of northbound Waukesha Bypass except Station 216+00 to Station 273+75.
- All of Genesee Road except eastbound Station 51+63 to Station 61+84.
- All of Saylesville Road and Sunset Drive.
- MacArthur Drive except east intersection with Merrill Hills Road.
- Kame Terrace, Merrill Hills Court and Madison Street.

Stage 4 Construction (2019)

- Complete construction of median islands, triangle islands and concrete sidewalk at Waukesha Bypass and Genesee Road intersection.
- Remove crossover south of Sunset Drive and finish median construction Station 149+00 to Station 153+90.
- Construct Kame Terrace pedestrian sidewalk, western curb at the median and restore median plantings (if necessary).
- Complete construction of median islands, triangle islands and concrete sidewalk at Waukesha Bypass and Madison Street intersection.
- Remove Waukesha Bypass crossover Station 276+38 to Station 277+88 and finish median concrete curb and gutter and concrete sidewalk.

Work Completed Prior To Stage 4

- All Waukesha Bypass work completed except minor median work and crossover removals.

Definitions

The following definitions shall apply to this contract:

Off-Peak Hours:

- 9:00 AM to 2:00 PM Monday, Tuesday, Wednesday, and Thursday
- 9:00 AM to 12:00 PM Friday
- 7:00 PM to 9:30 PM Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, and Saturday
- 8:00 AM to 10:00 AM Saturday and Sunday

Night-time Work Hours:

- 9:30 PM Sunday, Monday, Tuesday, Wednesday, Thursday to 5:30 AM the following day
- 9:30 PM Friday, Saturday to 8:00 AM the following day

Lane:
A lane is defined as 11-feet wide except for the following location where 10-foot lanes were utilized:

- Kame Terrace
- Kisdon Hill Drive

6. Traffic.

A General

The construction traffic control shall be substantially accomplished as detailed in the Traffic Control Plans, and as described herein.

Traffic requirements under this contract shall be coordinated with other adjacent and concurrent department or local municipality projects. The contractor shall be responsible for implementing and coordinating with other contractors all traffic control as shown on the plans. Modifications to the traffic control plan may be required by the engineer to be safe and consistent with adjacent work by others.

Winter

The travel way and shoulders shall be clear of drums and barricades during the winter months. Only use drums and barricades to delineate closed lanes and maintain temporary connections as needed and as directed by the engineer. Drums and barricades in place during the winter shall be offset from the travel way or shoulder. In place winter drums and barricades shall be anchored with additional sand bags or other methods to ensure that they remain in place during winter maintenance operations.

Unless detailed in the plans, the contractor shall not begin or continue any work that closes traffic lanes outside the allowed time periods specified in the Prosecution and Progress article.

Stage 1 Traffic

- All existing roadways open to traffic.
- Short-term lane closures for eastbound Genesee Road temporary widening are allowed during off-peak hours.
- Lane closures for constructing crossovers on Les Paul Parkway and Genesee Road are allowed during off-peak hours.
- Lane closures at Genesee Road and Saylesville Road intersection to remove median and island curb and gutter and pave flush are allowed during off-peak hours.

Stage 2A Traffic

- CTH TT/Merrill Hills Road traffic maintained on existing alignment.
- CTH X, Saylesville Road has 2-way traffic on existing northbound lanes.
- STH 59/Genesee Road has 2-way traffic on existing eastbound lanes.
- CTH X, Saylesville Road and all other side roads to remain open.

Stage 2B Traffic

- CTH TT/Merrill Hills Road traffic remains on existing roadway north of STH 59.
- CTH D detoured.
- CTH X/Saylesville Road has 2-way traffic on northbound existing lanes.
- STH 59/Les Paul Parkway has 2-way traffic on southbound existing lanes.
- Genesee Road has 2-way traffic on eastbound existing lanes and widening.

Stage 2C Traffic

- Stage 2C traffic maintained the same as Stage 2B except:
- CTH X/Genesee Road closed and detoured between STH 59 and Ridge Road.

Stage 2D Traffic

- Stage 2D traffic the same as stage 2C except for a portion of CTH X/Genesee Road open to 2-way traffic.
- CTH X/Saylesville Road closed and detoured between Velma Drive and STH 59/Les Paul Parkway

Stage 2E Traffic

- CTH TT/Merrill Hills Road 2-way traffic maintained on existing lanes except closed and detoured between CTH D and Summit Avenue.
- CTH D traffic maintained on newly constructed lanes.
- STH 59 has 2-way traffic on northbound existing lanes.
- CTH X/Saylesville has 2-way traffic on eastbound existing lanes.
- Kame Terrace has 2-way traffic on westbound lanes in Stage 2E-1. Once that work is completed, Kame Terrace 2-way traffic is shift to the newly constructed eastbound lanes in Stage 2E-2.
- Madison Street has 2-way traffic on the west side of Madison Street while the east side of Madison Street is closed for reconstruction

Stage 3 Traffic

- Waukesha Bypass has 2-way traffic on northbound lanes south of CTH D/Sunset Drive.
- Waukesha Bypass has 2-way traffic on southbound Waukesha Bypass between Sunset Drive and north to the end of the project.
- Glacial Drumlin State Trail closed and detoured.
- STH 59/CTH X/Genesee Road has 2-way traffic on proposed westbound lanes.
- CTH X/Saylesville Road open to traffic.
- Sunset Drive, CTH D open to traffic.
- MacArthur Drive open to traffic except for quadrant closings at Merrill Hills Road intersection.
- Kame Terrace and Madison Street open to traffic
- Kisdon Hill drive is open to two-way traffic on the north side of the roadway while the south side widening is constructed in Stage 3-1. Kisdon Hill Drive is open to two-way traffic on eastbound temporary widening in Stage 3-2. Kisdon

Hill Drive is open to two-way traffic on westbound temporary widening in Stage 3-3.

Stage 4 Traffic

- Waukesha Bypass northbound and southbound roadways open to traffic with a single outside lane in each direction.
- STH 59/CTH X/Genesee Road open to traffic.
- CTH X/Saylesville Road open to traffic.
- CTH D/Sunset Drive open to traffic.
- Kame Terrace is open to traffic.
- Madison Street is open to traffic.
- Kisdon Hill Drive is open to traffic.

B Advance Notification

B.1 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	7 calendar days
Full roadway closures	7 calendar days
Ramp closures	7 calendar days
Full ramp closures	7 calendar days
Detours	7 calendar days
Closure type without height, weight, or width restrictions (available width, all lanes in one direction ≥16')	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.
stp-108-057 (20161130)

C Local Traffic Access

C.1 Requirements for Local Access Traffic Control

Construct and maintain local access on routes of any section of closed roadway that will only carry local traffic conforming to the following criteria:

- Number of Lanes: One in each direction
- Lane Width: Minimum 10 foot width

- Driving Surface: Acceptable driving surfaces include asphaltic surface temporary, HMA pavement, or 6 inches of compacted base aggregate dense.
- Sections of roadways may require one way traffic for short durations requiring additional signs be placed for the one lane roadway.
- The roadway clear zone within a road closed to through traffic during construction shall be defined as 8 feet from the edge of the travel lane when work is not actively taking place. The clear zone adjacent to an open roadway shall be 18 feet from the edge of the travel lane.

Employ flaggers, signs, barricades, flexible tubular posts and bases, temporary precast concrete barrier, crash cushions temporary, and drums as necessary to safeguard and direct local traffic at all locations where construction operations may interfere with or restrict the smooth flow of traffic. Use drums and barricades to direct local traffic and delineate hazards such as open excavations, abrupt drop-offs, exposed manholes, etc. The use of such devices shall be incidental to the operation which creates the hazard. Drop-offs greater than 6 inches within 4 feet of an open traffic lane shall be graded or paved to maintain a 3:1 maximum slope. No additional payment shall be made for any labor or materials required to adhere to this restriction.

In roadway segments open to traffic or closed to through traffic Uneven Pavement signs shall be placed whenever there is a drop off greater than 2 inches between the layers of pavement or between pavement and aggregate shoulder at the end of the work day. No additional payment shall be made for any labor or materials required to adhere to this restriction.

Work inside of the roadway clear zone including excavation, embankment construction, storm sewer, and electrical work shall be allowed during off peak hours in a section open to through traffic.

Access to all commercial and private properties along Genesee Road, Saylesville Road, Merrill Hills Road, Merrill Hills Court, Kame Terrace, Kisdon Hill Drive shall be maintained at all times during the duration of this contract unless otherwise noted in the plans and except during construction of the driveways. This access shall be provided by the use of pavement gaps located at the time of construction by the engineer in the field. HES concrete shall be used to pave the gaps when specified by the engineer.

During driveway construction, no driveway approach shall be closed or removed from service without a five day notice given to the occupants of the premises to remove their vehicles prior to driveway removal or closing of the driveway approach access. The contractor shall replace the driveway as expeditiously as possible to minimize the inconvenience to the occupants whose driveway has been removed or closed.

C.1.2 Traffic Control Devices

Place roadway and sidewalk signing and roadway temporary or permanent pavement marking, and channelizing devices, in conformance with the plans and the Wisconsin

Manual on Uniform Traffic Control Devices (MUTCD), latest edition. Traffic control devices shall be completely in place by the end of the working day of a traffic switch.

Use drums and barricades to direct local traffic through the work zones and to protect and delineate hazards such as open excavations, abrupt drop-offs and exposed manholes. Drop-offs greater than 6 inches within 4 feet of an open traffic lane shall be graded or paved to maintain a 3:1 maximum slope.

D Property Access
Maintain access to properties along the project for local residents, businesses, and emergency vehicles. Access to all driveways and parking lots where alternative access is not available shall remain open at all times. Culvert pipe and driveway construction shall be staged to maintain driveway access. Keep business entrances open by partial driveway construction or by closing only one access at a time for properties with multiple driveways. Construct temporary commercial entrances including a crushed aggregate surface within 24 hours of removal. Combine temporary commercial entrances wherever practical to minimize the number of access locations.

Inform all adjacent property owners two working days prior to closing their access(es). Maintaining property access as described above is considered incidental to the Traffic Control bid item.

7. Holiday Work Restrictions.

Do not perform work on, nor haul materials of any kind along or across any portion of the highway carrying USH 18 (Waukesha Bypass), STH 59, CTH X, CTH D, Merrill Hills Road / CTH TT and the detour route 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, August 31, 2018 to 6:00 AM Tuesday, September 4, 2018 for Labor Day;
- From noon Wednesday, November 21, 2018 to 6:00 AM Monday, November 26, 2018 for Thanksgiving;
- From noon Friday, December 21, 2018 to 6:00 AM Wednesday, December 26, 2018 for Christmas;
- From noon Friday, May 24, 2019 to 6:00 AM Tuesday, May 28, 2019 for Memorial Day;
- From noon Wednesday, July 3, 2019 to 6:00 AM Friday, July 5, 2019 for Independence Day;
- From noon Friday, August 30, 2019 to 6:00 AM Tuesday, September 3, 2019 for Labor Day.

107-005 (20050502)

8. Utilities.

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

Underground and overhead utility facilities are located within the project limits. Utility adjustments are required for this construction project as noted below. Coordinate construction activities with a call to Diggers Hotline or a direct call to the utilities that have facilities in the area as required per statutes. Use caution to ensure the integrity of underground facilities and maintain code clearances from overhead facilities at all times.

Contact each utility company listed in the plans, prior to preparing bids, to obtain current information on the status of existing and any new utility relocation work.

Utility companies will be performing utility work and adjustments within the limits and during the life of this project. The contractor shall cooperate and coordinate construction activities with these organizations.

If a conflict with abandoned utility facilities is encountered, contact the appropriate utility owner/representative for instructions on proper removal and disposal of said facility.

Some utility work described below is dependent on prior work being performed by the contractor at a specific site. In such situations, provide the engineer and the affected utility a good faith notice of when the utility is to start work at the site. Provide this notice 14 to 16 calendar days in advance of when the prior work will be completed and the site will be available to the utility. Follow-up with a confirmation notice to the engineer and the utility not less than 3 working days before the site will be ready for the utility to begin its work or as otherwise noted in this special provision.

Unless otherwise specified by the contract or authorized by the engineer, the existing utilities are to remain in service.

Contact the appropriate utility owner/representative prior to disturbing any discontinued facilities. Verify that utilities have been properly discontinued in place and do not necessitate any special requirements by the utility. The contractor shall not assume that unmarked facilities have been discontinued. At no time is it acceptable to push, pull, cut or drill an unmarked facility without explicit consent from the utility.

AT&T Corporation has the following facilities in the project area:

Underground facilities are located along the east side of Saylesville Road (CTH X) and south side of STH 59, east of CTH X, at the proposed realignment. There will be no conflicts with the proposed roadway work and utilities are to remain in place.

The construction field contact for AT&T Corporation is:

AT&T Legacy/long distance
Mr. William Koening
128 W. Sunset Avenue
Appleton, WI 54911
(608) 628-0575
wekoening@att.net

AT&T Wisconsin has underground and joint aerial facilities in the project corridor that require relocation or adjustment. AT&T Wisconsin will start their relocations in early April 2018. Some of the relocations, as noted below, are dependent upon the other underbuilds completing their respective relocation work. AT&T Wisconsin will be performing their relocations prior to and during construction.

AT&T Wisconsin has the following facilities in the project area:

Proposed Waukesha Bypass / CTH TT/

Station(s)	Work Proposed	Description of Work
216+75 LT/RT	Buried cable crossing CTH TT	Installation of pedestal at 216+75 RT will connect to existing pedestal on west side of proposed Waukesha Bypass.
216+75 LT/RT to 230+00 LT/RT	Disconnect Aerial(s)	Any aerials will be disconnected from service
237+50	Buried cable crossing CTH TT	New buried cable to service Merrill Hills Court and existing line to remain in place
237+50 LT to 255+89 LT	Transfer of line service from underground to aerial	Buried cable to be discontinued in place on west side of existing CTH TT from 237+50 to 250+40, crossing at Station 250+40 and extending to 255+90 along the east side of CTH TT. Service to be established on new poles installed by WE Energies on west side of roadway
237+50 LT to 250+50 LT	Remove aerial line	Remove aerial line along east side of existing.
250+50 250+50 RT to 254+85 RT	Buried cable crossing CTH TT	Underground line crossing perpendicular to roadway with line then extending northeast to Madison Street at Station 52+50
255+86	Aerial crossing	New aerial crossing CTH TT just north of Madison Street intersection
255+89 LT to 264+15 LT	Transfer of line service from underground to aerial	Buried cable to be discontinued in place on east side of CTH TT and service to be established on new poles installed by WE Energies on west side of roadway
264+15 LT/RT	Aerial crossing	New aerial crossing CTH TT just north of Kisdon Hill Drive intersection

Madison Street

49+00	Aerial crossing Madison Street east of CTH TT intersection	Continuation of service being transferred from buried underground on the east side of CTH TT to new poles installed by WE Energies on west side of roadway. Existing line to be discontinued in place.
47+00 LT to 49+00 LT	Relocate underground line	New underground line to be offset of existing line. Existing line to be discontinued in place on north side of Madison Street.
Dairy Avenue intersection to 49+00 RT	Relocate underground line	New underground line to be offset of existing line. Existing line to be discontinued in place on south side of Madison Street.
52+50 RT to east beyond construction limits	Relocate underground line	New underground line to be offset of existing line. Existing line to be discontinued in place on south side of Madison Street.

AT&T Wisconsin estimates that they will require 6 weeks of construction time for the work outlined above. Their work will commence upon Charter, Windstream, MWFN and City of Waukesha Cable completing their relocations.

Genesee Road / STH 59/Les Paul Parkway

32+40 LT/RT	Buried cable crossing Genesee Road	Underground line crossing perpendicular to roadway with line then extending east on south side of Genesee Road
32+40 RT to 41+75 RT	Buried cable	Buried underground line extending east on south side of Genesee Road, tying into cable that came from east leg of Genesee Road at Station 41+75
34+80 LT to 47+00 LT	Aerial line and buried cable	Aerial line will commence at Station 34+80 RT, extending east to Station 39+00 RT; buried cable will tie in from pole and continue east to new pedestal at Station 47+00 LT. Existing underground line from 32+50 to 52+00 along the west side of Genesee Rd to be discontinued in place.
41+75 RT to 14+00 RT Saylesville R/L to 106+00 LT Les Paul R/L	Buried cable and crossing Saylesville Road	Line to be placed easterly along south right-of-way of of Genesee Road, then turn south along west right-of-way line of Saylesville Road; line will cross perpendicularly under proposed Saylesville Road at 14+00; line will be placed along east right-of-way line of Saylesville Road to sta 106+00 LT

106+00 RT to 107+25 RT	Buried cable and crossing Les Paul Parkway	Underground line crossing roadway.
107+25 RT to 110+00 RT	Buried cable	Underground line placed along north side of Les Paul Parkway right-of-way.
52+00 RT to 59+50 RT	Aerial line	New buried line to exit ground and continue on poles, supplanting buried discontinued cable remaining in place on west side of road
59+50 RT to 61+75 RT	Relocate underground line	New underground line to be placed east of Genesee Road, existing buried cable on west side of road to be discontinued in place
61+75 LT/RT	Buried cable crossing Genesee Road	Underground line crossing perpendicular to roadway then extending south on east side of Genesee Road
7+25 LT to 9+75 LT Saylesville R/L	Buried cable to be lowered in place	Buried cable to be lowered in place from 7+25 LT to 9+75 LT

AT&T Wisconsin estimates that they will require 5 weeks of construction time for the work outlined above at the STH 59 intersection. Work is anticipated to start late May 2018.

Sunset Drive / CTH D

43+00 LT to 47+80 LT	Relocate underground line	New underground line to be offset of existing. Existing line to be discontinued in place on north side of existing Sunset Dr.
47+80 LT/RT	Buried cable crossing Sunset Drive	Underground line crossing perpendicular to roadway at Station 47+80
47+80 RT to 61+50 RT	Relocate underground line	New underground line to be offset of existing. Existing line to be discontinued in place on south side of existing Sunset Dr.
61+50 RT to 65+50 RT	Relocate aerial line	Aerial line to tie into existing at Station 65+50 RT

MacArthur Road / Merrill Hills Road Intersection

76+30 LT to 77+75 LT	Transfer of line service from underground to aerial	Aerial line to replace buried service existing along west side of Merrill Hills Rd right-of-way. Existing line to be discontinued in place.
56+50 RT to 58+50 RT	Relocate underground line	New line to cross at Station 76+30 of Merrill Hills Road. Existing line to be discontinued in place.
76+90 RT to 78+50 RT	Relocate underground line	Buried line to cross MacArthur Road at Station 57+10. Existing line to be discontinued in place.

AT&T Wisconsin estimates that they will require 4 weeks of construction time for the work outlined above at Sunset Drive and MacArthur Roads. Work is anticipated to start early July 2018.

The construction field contact for AT&T Wisconsin is:

Mr. Christopher Duncan
2005 Pewaukee Rd.
Waukesha, WI 53188
Work: (262) 896-7678
Cell: (414) 491-4810
cd8946@att.com

City of Waukesha Sanitary and Storm Sewer has underground facilities within the project limits and work is included as part of the proposed project improvements.

Contact Jonathan Schapekahm with the City of Waukesha at (262) 524-3584, jschapekahm@waukesha-wi.us five business days prior to starting any work and to arrange for an inspector to be on site at the time work is completed.

Televise the sanitary sewer and place internal manhole sealing system as called for in the plans and special provisions.

Location and Conflict	Resolution
Station 254+45, 26' RT Station 254+81, 4' LT	Contractor to discontinue sanitary force main manholes as shown on the plans
Station 268+12, 66' LT Station 269+34, 66' LT Station 269+65, 36' RT Station 270+25, 36' RT	Contractor to adjust/reconstruct sanitary sewer manholes as shown on the plans
Station 268+12, 66' LT to Station 269+34, 66' LT Station 268+34, 66' LT to Station 269+65, 36' RT Station 269+65, 66' LT to Station 270+25, 36' RT	Contractor will televise sanitary lines between the three listed stations and offsets
Station 270+25, 36' RT	Contractor will televise sanitary lateral line

The construction field contact for City of Waukesha Public Works (Sanitary) is:

Mr. Jonathan Schapekahm
130 Delafield Street
Waukesha, WI 53188
(262) 524-3584
jschapekahm@waukesha-wi.us

City of Waukesha Public Works (Fiber Optics) has overhead and underground facilities within the project limits. Generally the cable is overhead located on We Energies poles.

The City of Waukesha has aerial cable on WE Energies poles on the east side of Genesee Road from Station 34+11 RT to Station 42+35 RT. The aerial facility is currently attached to the WE Energies pole line that continues southeast crossing Saylesville Road at Station 16+40. This existing aerial cable crossing Saylesville Road at Station 16+40 will now cross at approximately Station 13+40, connecting to new WE Energies pole at Station 12+90, 80 feet RT. Aerial service will then reconnect to pole at Station 15+90, 370' RT. City of Waukesha estimates that they will require 2 weeks of construction time for the work outlined above. Their work will commence upon TCA and Charter completing their relocations.

The City of Waukesha has aerial cable on WE Energies poles on the east side of Saylesville Road from Station 7+50 RT to Station 15+88, 339 feet RT. Starting at the WE Energies pole at Station 15+88, 339 feet RT the fiber optic cable is in underground duct to the north and crosses Les Paul Parkway at approximately Station 106+88. The underground fiber optic enters a vault on the east side of Les Paul Parkway at Station 107+07, 80 feet RT. These will remain in place without adjustment.

The underground fiber optic line continues northwest along the east side of Les Paul Parkway until the intersection with Genesee Road where the duct continues north along the east side of Genesee Road. The end of this underground fiber optics line is a WE Energies pole near Pebble Creek at approximately Station 55+21, 101 feet RT. These will remain in place without adjustment.

The City of Waukesha has aerial cable on WE Energies poles from this pole at Station 55+21 on the east side of Genesee Road continuing through the project limits at Station 61+84. These will remain in place without adjustment.

Except for the crossing of Les Paul Parkway the majority of this underground fiber optic duct is located beyond the exterior limits of the construction work. The crossing of Les Paul Parkway will be ten feet higher after roadway construction is finished. This underground facility will remain in place without adjustment.

The City of Waukesha will be placing aerial cable on new We Energies poles from Station 253+99, 98 feet LT to Station 264+15, 79 feet LT. There will be 2 aerial crossings of the Bypass at Stations 264+15 and 253+99. There will be 2 aerial crossings of Madison Street at Stations 49+05 and 51+60. Along the north side of Madison Street, aerial line will be relocated to the new We Energies poles. City of Waukesha estimates that they will require 3 weeks of construction time for the work outlined above. Their work will commence upon Charter, Windstream and MWFN completing their relocations.

The construction field contact for the City of Waukesha is:

Mr. Jeffrey Hernke
130 Delafield St.
Waukesha, WI 53188-3616
(262) 524-3592
jhernke@waukesha-wi.gov

City of Waukesha Public Works (Street Lighting)
The City of Waukesha will be responsible for inspection and approval of all City of Waukesha street lighting work. New lighting will be completed as a part of this project.

An existing light pole is located at the southeast corner of Kisdon Hill Drive and CTH TT than will need to be relocated.

Lighting work will begin with single luminaires installed in the southeast and northeast quadrant and twin luminaries installed at the median openings of the Waukesha Bypass and Kisdon Hill Drive. Conduit will extend in the median and connecting to the two twin luminaries installed under Project 2788-00-70/72 at the median opening of the Fiddlers Creek Drive intersection.

Contact Jeff Hernke with the City of Waukesha at (262) 524-3592, jhernke@ci.waukesha.wi.us five business days prior to performing the work to arrange for an inspector to be present at the time the work is completed.

Level 3 Communications (Long Haul Fiber Optic Cable) has an underground facility which runs parallel with the current Glacial Drumlin Trail. Due to this fiber optic cable being part of the L3 long haul network, it is imperative that this fiber does not take a hard cut/outage, nor add any additional and unnecessary splice enclosures. Level 3 will be performing their relocations during construction, prior to the construction of the Glacial Drumlin Trail box culvert.

Location and Conflict	Resolution
Station 48+35 10' LT to approximately Station 51+15 14' LT along and beneath the north side of the Glacial Drumlin Trail.	Replace the fiber cable and conduit from an existing L3 hand hole to an existing L3 hand hole. Once the proposed L3 fiber cable is spliced in, the existing L3 fiber cable will be removed and the existing conduit will be discontinued.

The construction field contacts for Level 3 Communications are:

Mr. Brahim Gaddour
3235 Intertech Dr., Suite 600
Brookfield, WI 53045
Work: (414) 908-1027
Cell: (414) 704-1026
brahim.gaddour@level3.com

Network Relocations
Mr. Masood Zeerak
1025 Eldorado Blvd.
Broomfield, CO 80021
level3.networkrelocations@level3.com

Midwest Fiber Network (communication) has aerial facilities attached to We Energies poles from Station 253+73, 110' RT to Station 264+27, 95' RT. Midwest Fiber Network will build new strand on the new We Energies poles along the west side of the Bypass and lash new fiber to the strand. The line will cross the Bypass at Stations 264+15 and 253+99. It will cross Madison Street at Stations 49+00 and 51+55, connecting to newly constructed We Energies poles along the north side of Madison Street east to Station 54+25 LT. The aerial line will be relocated to 14 new We Energies poles for this project. This work is to be done prior to and during roadway construction.

MWFN estimates that they will require 4 weeks of construction time for the work outlined above. Their work will commence upon Charter, and Windstream completing their relocations.

The construction field contact for Midwest Fiber Network is:

Mr. Cory Schmuki
OSP Engineer
6070 N. Flint Road
Glendale, WI 53209-3714
(414) 459-3554
cschmuki@midwestfibernetworks.com

Sprint Fiber (communication) has an existing Fiber currently along the south side of the Glacial Drumlin State Trail.

Location and Conflict	Resolution
South side of the Glacial Drumlin State Trail. This facility will be lowered to avoid EBS and marsh excavation.	Relocation of this fiber line by directional boring approximately 2,475 linear feet at a lower elevation to clear construction. The fiber line crosses the Waukesha bypass reference line at Station 175+25. The fiber line will be placed 20 feet below the proposed roadway. Work will be done prior to roadway construction.

Sprint will be performing their relocations during construction, prior to the construction of the Glacial Drumlin Trail box culvert.

The construction field contact for Sprint Fiber is:

Mr. Jim Burton
Facility Engineering/OPS-East
5600 N. River Rd. Suite 200
Rosemont, IL 60018
Cell: (708) 955-6659
james.m.burton@sprint.com

Mr. Gerry A. Crain
Facility Engineer II
5600 N. River Rd. Suite 200
Rosemont, IL 60018
Cell: (847) 445-1869
gerry.a.crain@sprint.com

Teleport Communication America –TCA (communication) has aerial facilities that will be relocated in conjunction with We Energies pole relocations. Work is to begin as soon as WE Energies sets their new poles. It is anticipated that TCA will require 14 working days to complete their construction. Locations of the relocations are listed below:

Location and Conflict	Resolution
Aerial lines in conflict with proposed Waukesha Bypass, will need to be relocated to new We Energies poles.	**STH 59 / Genesee Rd** Station 32+34, 60 feet LT to Station 41+15, 185 feet RT, crossing Genesee Rd at Station 34+70. **CTH X / Saylesville Rd** Station 12+90, 80 feet RT Station 13+91, 78 feet LT Station 15+90, 370 feet RT Station 17+33, 132 feet LT **STH 59 / Les Paul Pkwy** Station 106+04, 142 feet LT Station 106+00, 132 feet RT to Station 109+05, 138 feet RT

The construction field contact for Teleport Communication America is:

Ms. Jennifer Navarro
Northwind Technical Services
6070 N Flint Rd
Glendale WI, 53209
Work: (414) 459-3564
Cell: (414) 651-0036
j.navarro@northwindtech.com

Charter (communication) has underground and overhead facilities within the project limits. Some of Spectrum/TWC/Charter's facilities are located on We Energies poles throughout the project limits. Relocations and adjustments of Spectrum facilities are anticipated to begin prior to the start of this roadway project.

Contact Pete Kruzela by phone at (414) 908-1339 a minimum of ten working days prior to working in the vicinity of Spectrum facilities.

At no time should the facility be used as a brace to support equipment or sheeting/shoring materials.

The following aerial lines have been identified for relocation:

Waukesha Bypass

- Relocate aerial line crossing from Station 106+00 to Station 106+80 onto new We Energies poles.
- Station 133+00 to Station 135+00, aerial line to be removed.
- Station 151+70, LT, aerial line and pedestal to be removed.
- Station 176+54 LT/RT, replace aerial crossing onto new We Energies poles.
- Station 212+39, 39, 126' RT to Station 212+32, 101 feet LT, new aerial crossing onto new We Energies poles.
- Station 212+32, 101' LT to Station 228+27, 151 feet LT remove existing aerial line on east side of Merrill Hills Road and install new aerial line on new We Energies poles on west side of the Bypass.
- Station 220+68, LT underground cable from Kame Terrace connect to new We Energies pole at Station 220+46, 120 feet LT.
- Station 224+00, install underground cable from new We Energies pole at Station 223+68, 150 feet LT to new pedestal at 224+46, 188 feet LT.
- Station 228+27, 151 feet LT to 237+00, 100 feet LT replace aerial on existing We Energies pole.
- Station 237+00, 100 feet LT install new underground line from new We Energies pole to new pedestal at 236+58, 106 feet LT.
- Station 237+00, 100 feet LT to 264+14, 100 feet LT – remove existing aerial line on east side of Merrill Hills Road and install new aerial line on new We Energies poles on west side of the Bypass.
- Station 243+11, 129 feet LT to Station 243+45, 100 feet RT new aerial line crossing on We Energies poles.
- Station 243+45, 100 feet RT to 245+00, 102 feet RT, install joint underground line cable with We Energies. At 245+00, 150 feet RT, expose and relay existing underground line to new pedestal at 102 feet RT.
- Station 248+76 RT to 252+21, 152 feet RT, replace underground line cable.
- Station 253+99, 98 feet LT to Station 254+01, 151 feet RT new aerial line crossing on We Energies poles.

- Station 255+60 to 257+07, 92 feet RT new underground line 15 feet from right-of-way.
- Station 264+14, 100 feet LT to Station 264+27, 90 feet RT new aerial line crossing on We Energies poles.

Genesee Road / STH 59

- Station 34+65, no conflict with existing underground crossing. Approximately 4 foot vertical clearance.
- Station 34+71, 52.5 feet LT, adjust exiting pedestal to proposed grade and install new power supply at/near Station 34+70, 60 feet LT.
- Power supply pedestal at Station 35+35, 49 feet LT to be removed.

Saylesville Road

- Relocate aerial line crossing from Station 17+33, 132 feet LT to 12+90, 80 feet RT.

Merrill Hills Road at WI & Southern Railroad Crossing

- Existing aerial line crossing. Transfer existing risers to new poles north and south side of railroad crossing.

Merrill Hills Road at MacArthur Road

- Station 56+38, 53 feet LT to Station 57+28, 24 feet RT relocate aerial line to new We Energies poles.

Madison Street

- Station 51+60 aerial crossing of Madison St. on new We Energies poles.
- Station 51+60 to 54+85 RT, relocate aerial to new We Energies poles.
- Station 47+45 to Station 49+00 RT, joint underground with We Energies, crossing Madison St at Station 47+45.

Charter estimates that they will require 10 weeks of construction time for the work outlined above. Their work will commence upon We Energies completing their relocations.

The construction field contact for Charter is:

Mr. Pete Kruzela
Utility Coordinator
1320 N. Dr. Martin Luther King Jr. Drive
Milwaukee, WI 53212
(414) 908-1339
pete.kruzela@charter.com
Wis.engineering@charter.com

Waukesha Water Utility (Water) - As part of this construction project, various components at various locations of water main work will need to be completed.

The work will consist of the following items: 16-Inch water main relocation, 12-Inch water main relocation, 8-Inch water main relocation, five hydrant relocations, four 20-Inch valve adjustments, four 16-Inch valve adjustments, one 12-Inch valve adjustment, two 8-Inch valve adjustments, five 6-Inch valve adjustments and installation of water main insulation.

Contractor shall coordinate work with the Waukesha Water Utility.

Existing valves and hydrants will be operated only by Waukesha Water Utility personnel or in the presence of the inspector, as authorized by Waukesha Water Utility.

All work associated with connecting the offset water main relocations to the old water main shall be coordinated with the Waukesha Water Utility as set forth in the plans and special provisions. The Waukesha Water Utility will assist in turning the existing valves to isolate these areas for the installation of the water main offsets.

Water mains will not be allowed to be shut down before 8:00 AM. Contractor is responsible to notify all customers when their water will be shut off and in case of an emergency. The notification should be done at least 24 hours prior to shut down whenever possible. No extra costs or change orders will be allowed for down time associated with the Waukesha Water Utility crews turning the water off or on.

Following construction but before the surface course, the Water Utility must be contacted to inspect their facilities on the project. Any damage found to be caused by the contractor shall be repaired by the contractor in a timely manner at the contractor's expense. All Water Utility facilities and other street structures must be exposed before the pavement is placed.

Contractor shall identify proposed grade changes that affect valve boxes or curb stops and notify Waukesha Water Utility providing at least 24 hour notice. Provide 72-hour notice if adjustment by the Waukesha Water Utility is necessary.

A schedule showing tentative dates for water main construction shall be provided to the water utility at least 2 weeks prior to beginning construction. Contractor shall provide 72 hours' notice of the anticipated need for inspection services. Contact Chris Walter with the Waukesha Water Utility at (262) 409-4432, cwalter@waukeshacounty.gov to arrange for an inspector to be present at the time the work is completed. No work shall be undertaken without a Waukesha Water Utility inspector being on site without the permission of the owner. Payments may be denied, or removal of work may be ordered, for work accomplished without an inspector present or without the approval of the owner. Verify water main size, material, and elevation prior to proceeding with relocation work.

The construction field contact for Waukesha Water utility is:

Mr. Chris Walter
115 Delafield St.
Waukesha, WI 53188
(262) 409-4432
cwalter@waukeshacounty.gov

We Energies – Electric – We Energies has both aerial and underground electric facilities throughout the entire length of the project. These facilities will be relocated prior to construction.

Relocations and adjustments of We Energies facilities will be constructed per the following work requests: 3948247, 3955536, 3955538, 3955540, 3955541, 3955542, and 3955543. Highway stationing has been used where possible to locate new facilities.

New We Energies facilities installed in easement on private property may not be included in the following list, unless otherwise stated.

It is expected that contractors will work safely around any facilities left within the work zone. If plans change such that facilities become in conflict, it is expected that you will work with We Energies to resolve said conflict.

We Energies work is expected to begin in April 2018. Work is anticipated to take a total of 100 working days. All work is to be done prior to and during roadway construction. We Energies has provided a schedule of anticipated dates of completion of their work. The dates assume no lost work days due to inclement weather, wet spring work or emergency power restoration due to storms. Pole removals are dependent upon the removal of communication companies' facilities (underbuilds) from We Energies poles. Upon relocations by the underbuilds, We Energies will remove the poles.

We Energies – Electric plans to perform the following work, supplanted with the respective tables in the work plans:

Contractor must call We Energies 24 hour Dispatch lines to arrange for verification.
We Energies Electric Dispatch, (800) 662-4797
We Energies Gas Dispatch, (800) 261-5325

Overhead (#3948247)

CTH TT

- Relocate aerial power line across CTH TT at Station 264+27, 90 feet RT to Station 264+11, 210 feet LT.
- Relocate existing aerial power lines from Station 238+82, 121 feet LT to Station 264+31, 45 feet RT on east side of existing roadway to west side of proposed Waukesha Bypass.

- Place aerial power line across CTH TT at Station 260+96.
- Place aerial power line across CTH TT at Station 255+89.
- Place aerial power line across CTH TT at Station 253+99.
- Place aerial power line across Madison Street at Station 51+60.
- Place aerial power line across CTH TT at Station 246+72.
- Place aerial power line across CTH TT at Station 243+25.
- Service to be disconnected due to demolition for W270 S 1990 Merrill Hills Road and pole to be removed at Station 239+57, 36 feet RT.

Overhead (#3955536)

CTH TT

- Relocate existing aerial power lines from Station 82+70 (R/L of Merrill Hills Road), 25 feet RT to Station 228+27, 151 feet LT on east side of existing roadway to west side of proposed Waukesha Bypass.
- Place aerial power line across CTH TT at Station 237+00
- Relocate existing pole from Station 234+75, 138 feet LT to Station 235+25, 130 feet LT. Relocate existing aerial power from Station 237+00 to Station 238+82, 121 feet LT on east side of existing roadway to new poles on west side of proposed Waukesha Bypass.

Overhead (#3955543)

Madison Street/CTH TT

- Relocate aerial power lines to underground from Station 47+50, 26 feet LT to Station 52+50, 48 feet LT.
- Place aerial power lines from Station 51+60, 48, LT to Station 55+93, 28 feet RT.

Underground (#3948247)

CTH TT

- Trench cable from Station 252+60, 141 feet RT to existing pedestal at Station 252+27 146 feet RT. (#3948247)
- Bore electrical cable from Station 243+45, 100 feet RT to Station 245+20, 111 feet RT. New cable to be spliced and tied in existing underground cable. Cable from Station 245+01, 67 feet RT to splice point to be discontinued.

Underground (#3955536)

CTH TT

- Trench cable from Station 215+57, 117 feet LT to splice point of existing underground cable at Station 215+64, 118 feet LT.
- Trench cable from Station 216+85, 119 feet LT to splice point of existing underground cable at Station 216+90, 136 feet LT.

- Trench cable from Station 216+87, 146 feet RT to splice point of existing underground cable at Station 217+02, 147 feet RT.
- Underground cable crossing CTH TT at Station 216+85 to be discontinued.
- Underground cable from Station 216+85 to approximately Station 220+25 on the west side CTH TT then crossing under to the east at Station 220+70 to be discontinued.
- Trench cable from Station 223+68, 150 feet LT to splice point of existing underground cable at Station 224+46, 188 feet LT.
- Bore electrical cable to connect between existing pedestal located at southwest property corner of 604 Mesa Ct and northwest property corner of 608 Mesa Court to new pole installed for service of building for property address W270 S1920.
- Trench cable from Station 237+00, 100 feet LT to splice point of existing underground cable at Station 236+62, 108 feet LT.

Underground (#3955542)

CTH TT/Madison Street

- Trench cable from Station 53+67, 58 feet LT to new pad mount transformer at Station 54+12, 53 feet LT.
- Bore cable from Station 54+12, 53 feet LT to Station 257+21, 96 feet RT. Cable will have four splice points changing direction from east-west to north-south.
- Trench cable from pole at Station 54+23, 37 feet LT to Station 53+67, 58 feet LT.
- Trench cable from pole at Station 52+58, 48 feet LT to Station 52+59, 55 feet LT.
- Bore cable from 52+59, 55 feet LT to Station 261+10, 96 feet RT. Cable will have three splice points changing direction from east-west to north-south.
- Trench cable from Station 261+10, 96 feet RT to Station 261+10, 86 feet RT.
- Trench cable from splice point servicing 108/110 Harrogate Drive at Station 257+08, 101 feet RT to Station 257+21, 96 feet RT.
- Trench cable from splice point servicing 112/114 Harrogate Drive at Station 257+55, 98 feet RT to Station 257+21, 96 feet RT.

Underground (#3955543)

CTH TT/Madison Street

- Bore one 6-Inch diameter crossing Station 47+50 (R/L of Madison Street), Station 253+45, and Station 52+05 (R/L of Madison Street). Cable will be trenched from new pole installed at Station 52+20, 48 feet LT to Station 52+05, 40 feet LT. A locating pedestal will be installed at Station 253+45, 188 feet RT. Four splice points will be used in the cable to change direction underground.

We Energies construction on the work requests 3948247, 3955536, 3955542, and 3955543 is anticipated to occur between April and Mid-June of 2018. The dates assume no lost work days due to inclement weather, wet spring work or emergency power restoration due to storms. Pole removals are dependent upon the removal of communication companies'

facilities (underbuilds) from We Energies poles. Upon relocations by the underbuilds, We Energies will remove the poles.

Overhead (#3955538)

Waukesha Bypass (Off Existing Alignment)

- Install two new poles at Station 12+45 and Station 12+46 (R/L of Glacial Drumlin Trail, Southwest Connection) perpendicular to the trail, replacing two existing poles that would be in conflict.

CTH TT

- Relocate existing aerial power line crossing CTH TT from Station 56+39, 1 foot LT to Station 56+78, 40 feet RT. New aerial power line will cross over new proposed extension of MacArthur Road from northwest corner to southeast corner, Station 56+38, 53 feet LT to Station 57+28, 24 feet RT.
- Install new pole at Station 177+85, 85 feet RT to replace pole at Station 177+54, 87 feet RT.
- Install new poles on existing overhead lines on north and south sides of the Wisconsin Southern Railroad.

Underground (#3955538)

Waukesha Bypass (Off Existing Alignment)

- Bore three parallel 6-Inch cables with a 5 foot on center spacing. Placing from west side of proposed Waukesha Bypass, crossing underneath to the east and terminating on south side of MacArthur Road. The cables will have three splice points between connection points of existing underground lines.

  Center cable will have splice point with existing underground cable at Station 188+15, 106 feet LT to next splice pint at Station 185+22, 106 feet LT. Cable will then cross underneath proposed Waukesha Bypass where excavation below subgrade (EBS) is to occur. The cable will have 2 feet of cover upon completion of EBS. Next splice point will be on east side of the proposed Waukesha Bypass at Station 185+22, 103 feet RT followed by another splice point at Station 51+28 (R/L of MacArthur Road), 56 feet RT and completing final connection to existing underground line at Station 53+68, 56 feet RT.

  Existing underground line between the new connection points to be discontinued.

- Bore two parallel 6-Inch cables with a 5-foot on center spacing from Station 19+00 (R/L of Glacial Drumlin Trail, Southeast Connection) crossing Wisconsin Southern Railroad line 6 feet below the rail bed, tying into existing underground lines at Station A 176+78, 110 feet RT. The cables will have two splice points between connection points of existing underground lines. Two locating pedestals will be located at the connection points for each underground line south of the railroad line.

Existing underground line between the new connection points to be discontinued.

CTH TT

- Bore one 4-Inch diameter crossing Station 182+42, with a splice point at Station 182+42, 174 feet RT, terminating at new pole with Station 73+22, 25 feet LT. Underground cable to replace aerial power line from Station 182+42, 109 feet LT to Station 70+83, 42 feet LT.

We Energies construction on the work request 3955538 is anticipated to occur between mid-June and early July 2018. The dates assume no lost work days due to inclement weather, wet spring work or emergency power restoration due to storms. Pole removals are dependent upon the removal of communication companies' facilities (underbuilds) from We Energies poles. Upon relocations by the underbuilds, We Energies will remove the poles. Work at the railroad area anticipated to occur during the month of August 2018

Overhead (#3955540)

Waukesha Bypass (Off Existing Alignment)

- Disconnect aerial power lines after service to S31 W26897 Sunset Road has been removed.
- Disconnect aerial power lines after service to S32 W26620 Hawthorne Hollow Drive has been removed.

Sunset Drive

- Relocate existing aerial power line on south side of Sunset to new poles at Station 63+54, 40 feet RT and Station 61+58, 48 feet RT.

We Energies construction on the work request 3955540 is anticipated to occur between early July and mid-July 2018. The dates assume no lost work days due to inclement weather, wet spring work or emergency power restoration due to storms. Pole removals are dependent upon the removal of communication companies' facilities (underbuilds) from We Energies poles. Upon relocations by the underbuilds, We Energies will remove the poles.

Overhead (#3955541)

Genesee Road/ Les Paul Parkway

- Install aerial power line from Station 34+77, 60 feet LT to Station 36+47, 78 feet LT.
- Place aerial power line across Genesee Road at Station 37+35.
- Relocate aerial power line from Station 109+05, 92 feet RT to Station 106+04, 193 feet LT.

- Place aerial power line across proposed Waukesha Bypass at Station 106+00.
- Move existing light pole at Station 104+00, 56 feet RT.
- Remove aerial power from Station 47+59, 96 feet LT to 52+37 165 feet RT.

Saylesville Road

- Relocate aerial power line from Station 17+31, 134 feet LT to Station 16+90, 370 feet RT.
- Place aerial power line across proposed Saylesville Road at Station 13+36.
- Place aerial power line across proposed Saylesville Road at Station 17+20.

Underground (#3955541)

Waukesha Bypass

- Bore cable from Station 107+52, 143 feet RT to Station 103+50, 112 feet RT, splicing into existing underground line. Cable will have one splice point in-between at Station 104+88, 144 feet RT.

Genesee Road

- Bore one 2-Inch diameter crossing Station 47+50 from Station 17+60 (R/L of Saylesville Road), 100 feet RT of new pole to Station 47+50, 120 feet LT of new pedestal. Two splice points will be in the line, one at Station 45+84, 216 feet RT and Station 47+50, 125 feet RT.
- Trench cable from Station 47+50, 120 feet LT to new pole at Station 47+60, 120 feet LT.

We Energies construction on the work request 3955541 is anticipated to occur between mid-July and early August 2018. The dates assume no lost work days due to inclement weather, wet spring work or emergency power restoration due to storms. Pole removals are dependent upon the removal of communication companies' facilities (underbuilds) from We Energies poles. Upon relocations by the underbuilds, We Energies will remove the poles.

Work Request # 3948247 (Waukesha Bypass)

Station No.	Sequence No.	Pole No.	Work Proposed
	100	-	Wewauk Substation
264+14 L100	110	17-	Install Pole
263+72 L100	112	14-04383	Pole to Remain
264+11 L210	114	17-	Install Pole and Anchor
264+15 L79	120	17-	Install Pole - 3 feet Fill – grade around
	-	-	Install Anchor – grade around
264+27 R90	122	17-	Pole (Installed on WISDOT: 2788-00-72). Remove Temporary Anchors

Station No.	Sequence No.	Pole No.	Work Proposed
262+23 R86	124	17-	Install Pole – 1-foot fill, grade around
264+29 L47	125	05-17264	Remove Pole
264+31 R45	127	03-05591	Remove Pole and Anchor
263+25 R31	129	85-03503	Remove Pole and Anchor
263+84 L80	130	17-	Install Pole – 2.5 feet Fill – grade around
263+60 L100 to 263+55 L81	135 -140	-	Discontinue Cable
262+58 R22	135	62-3403	Remove Pole
262+53 L44	139	05-17263	Remove Pole and Anchor
263+55 L81	140	17-	Install Pole
260+96 L81	150	17-	Install Pole - 5 feet Fill – grade around
261+10 R86	152	17-	Install Pole
	-	-	Install Anchors
260+80 R30	155	57-1799	Remove Pole
258+49 L84	160	17-	Install Pole
	-	-	Install Anchor
258+93 R41	163	62-3862	Remove Pole
257+13 R70	165	63-3859	Remove Pole
257+13 R81	167	86U4105	Remove Ped
255+89 L91.5	170	17-	Install Pole – 3.5 feet Cut – grade around
255+87 R91	172	17-	Install Pole – 1 feet Cut – grade around
	-	-	Install Anchor
253+99 L98	180	17-	Install Pole and Anchor - 1.5 feet Fill – grade around
254+01 R151	182	17-	Install Pole
	-	-	Install Anchor
254+04 R143	184	-	Splice
253+92 R113	185	73-7293	Remove Pole
51+60 L48	186	17-	Pole Set WR# 3955543
252+31 L106	190	17-	Install Pole – Set 3 feet deeper for Marsh Excavation
252+60 R141	192	17-	Install Pole
	-	-	Install Anchor
252+60 R141 to	192-194	-	Install Cable
252+27 R146	194	84U3041	Pedestal to remain
252+22 R133	195	00-04724	Remove Pole
250+44 L115	200	17-	Install Pole

Station No.	Sequence No.	Pole No.	Work Proposed
250+44 L100	-	-	Install Anchor
250+42 R144	205	62-3895	Remove Pole
248+56 L124	210	17-	Install Pole
248+72 R118	215	62-3896	Remove Pole
246+72 L129	220	17-	Install Pole
	-	-	Install Anchor
245+43 L129	230	17-	Install Pole
245+01 R67	235	02-07917	Remove Pole
	235-244		Discontinue Cable
246+73 R90	222	13-02675	Pole to Remain, Install Anchor
243+11 L129	240	17-	Install Pole
	-	-	Install Anchor
243+45 R100	242	17-	Install Pole
	-	-	Install Anchor
243+45 to 245+20	242-244	-	Install Cable – 2 feet Extra Deep for Marsh Excavation
245+20 R111	244	-	Splice Pit
243+49 R40	245	10-13376	Remove Pole
--	248	85U4872	Transformer at 3028 Cone View Lane
240+64 L127	250	17-	Install Pole
241+63 L02	255	02-07232	Remove Pole
238+82 L121	260	17-	Pole set on WR#3955536
239+55 L48	265	62-3908	Remove Pole
239+57 R36	267	61-6610	Remove Pole
238+45, 74 feet LT	270	62-3909	Pole Removed on WR#3955536

Work Request # 3955536 (Merrill Hills Rd / Waukesha Bypass)

Station No.	Sequence No.	Pole No.	Work Proposed
82+70, 25 feet RT	100	17-	Install pole and anchors
82+75, 25 feet RT	101	98-07901	Remove pole and anchors
215+16, 223 feet RT	102	17-	Install pole
215+16, 217 feet RT	103	62-3897	Remove pole
216+87 148 feet RT.	104	17-	Install pole, primary riser
216+88 127 feet RT	105	62-3879	Remove pole
216+88 127 feet RT to 215+64, 118 feet LT	105-152	-	Discontinue cable
217+02, 152 feet RT	106	N/A	Primary 1 phase splice

Station No.	Sequence No.	Pole No.	Work Proposed
216+66, 94 feet RT	109	88-11711	Remove pole and anchor
212+39, 126 feet RT	120	17-	Install pole and anchor
212+32, 101 feet LT	130	17-	Install pole and anchors
213+52, 115 feet LT	140	17-	Install pole and anchors
215+57, 117 feet LT	150	17-	Install pole, 1 phase primary riser
215+64, 118 feet LT	152	N/A	Primary splice, 1 phase
218+80, 72 feet RT	155	78-7257	Remove pole
216+85, 119 feet LT	160	17-	Install pole, 1 phase primary riser
216+90, 136 feet LT	162	N/A	Primary splice, 1 phase
to	162-165	-	Discontinue cable
220+70, 19 feet RT	165	62-3877	Remove pole
218+63, 119 feet LT	170	17-	Install pole
220+40, 120 LT	190	17-	Install pole and anchors, transformer
221+28, 87 feet LT	192	88-06892	Pole to remain, grade around
222+65, 29 feet LT	195	62-3876	Remove pole
222+40, 139 feet LT	200	17-	Install pole
223+68, 150 feet LT	206	17-	Install pole
224+46, 188 feet LT	208	N/A	1 phase, primary splice
225+32, 161 feet LT	210	17-	Install pole
224+63, 76 feet LT	215	62-3870	Remove pole
226+55, 168 feet LT	220	17-	Install pole and anchors
No Station	222-224		Bore cable for service w271 s2170
No Station	224	17-	Install pole for service w271 s2170
226+64, 118 feet LT	223	75-2649	Remove pole
227+29, 134 feet RT	225	99-10715	Remove pole and anchor
No Station	227	99-10716	Remove pole
No Station	229	98-11117	Remove pole
228+24, 147’LT	230	17-	Install pole and anchors
228+27, 151’ LT	235	62-3857	Remove pole
234+75, 138’ LT	265	62-3885	Remove pole
235+25, 130’ LT	270	17-	Install pole
236+62, 108’ LT	285	62-3884	Remove pole
237+00, 100’ LT	290	17-	Install pole
237+00, 100’RT	292	17-	Install pole
237+00, 120’RT	-	-	Install anchor (private property)
237+00 - 236+62	290-294	-	Trench cable
238+45, 74’ LT	295	62-3909	Remove pole
238+82, 121’ LT	300	17-	Install pole and anchor

Work Request # 3955542 (Madison St, Waukesha Bypass)

Station No.	Sequence No.	Pole No.	Work Proposed
54+23 L37	100	17-	Pole Installed on WR# 3955543
54+23 L37 to 54+12 L53	100 - 102	-	Trench Cable
54+12 L53	102	-	Install Pad mount Transformer
54+12 L53 to 53+67 L58	102 - 104	-	Trench Cable
54+12 L53 to 52+59 L53	102-106	-	Bore Cable
53+67 L58	104	-	Splice Pit
52+59 L53	106	-	Splice Pit
52+59 L53 to 52+59 L60	106 -108	-	Bore Cable
52+59 L60	108	-	Splice Pit
52+59 L60 to 50+97 L60	108 - 110	-	Bore Cable
50+97 L60	110	-	Splice Pit
50+97 L60 to 256+00 L97	110-112	-	Bore Cable
256+00 L97	112	-	Splice Pit
256+00 L97 to 257+22 R96	112 -120	-	Bore Cable
257+22 R96	120	-	Install Pad mount Transformer
257+22 R96 to 257+08 R101	120 - 122	-	Trench Cable
257+08 R101	122	-	Splice Pit
257+22 R96 to 257+55 R98	120 - 124	-	Trench Cable
257+55 R98	124	-	Splice Pit`
52+58 L48	200	-	Pole Installed on WR# 3955543
52+58 L48 to 52+59 L55	200 - 202	-	Trench Cable
52+59 L55	202	-	Splice Pit
52+59 L55 to 255+60 R99	202 - 204	-	Bore Cable
255+60 R99	204	-	Splice Pit
255+60 R99 to 256+00 R92	204 - 206	-	Bore Cable
256+00 R92	206	-	Splice Pit
256+00 R92 to 259+68 R86	206-208	-	Bore Cable 1 feet EXTRA DEEP
259+68 R86	208	-	Splice Pit
-	208 -	-	Bore Cable

Station No.	Sequence No.	Pole No.	Work Proposed
261+10 R96	210	-	Splice Pit
-	210	-	Trench Cable
261+10 R86	212	17-	Pole Installed on WR# 3948247

Work Request # 3954443 (Madison St, Waukesha Bypass)

Station No.	Sequence No.	Pole No.	Work Proposed
46+33 L26	-	99-10928	Pole to Remain
47+50 L26	100	17-	Install Pole
-	-	-	Install Anchor
47+50 L26 to	100 to 102	-	Bore Cable
47+50 R38	102	-	Splice pit
47+50 R38 to	102 to 104	-	Bore Cable
254+82 L102	104	-	Splice pit
254+82 L102 to	104 to 106	-	Bore Cable
48+12 L26	105	88-06599	Remove Pole
253+45 L108	106	-	Splice pit
253+45 L108 to 253+45 R188	106 to 108	-	Bore Cable
253+45 R188	108	-	Splice pit – Install Locating Pedestal
253+45 R188 to 52+05 L40	108 to 132	-	Bore Cable
52+05 L40 to 52+20 L48	132-130	-	Trench Cable
51+60 L48	110	17-	Install Pole
-	-	-	Install Anchor
-	-	-	Install Anchor
46+59 L23	115	99-05950	Remove Pole
46+59 L23 to 53+26 L29	115 to 145	-	Discontinue Cable
51+90 L48	120	17-	Install Pole
50+95 L35	125	62-3860	Remove Pole and Anchor
52+20 L48	130	17-	Install Pole
52+05 L40	132	-	Splice
52+68 L31	135	73-7291	Remove Pole
52+58 L48	140	17-	Install Pole
-	-	-	Install Anchor
53+26 L29	145	99-10926	Remove Pole
54+23 L37	150	17-	Install Pole
54+22 L27	155	73-7290	Remove Pole
55+96 L26	160	73-7289	Pole to Remain

Station No.	Sequence No.	Pole No.	Work Proposed
55+93 R28	162	17-	Install Pole
-	-	-	Install Anchor
56+31 R26	167	62-12169	Remove Pole
57+76 L27	170	73-7288	Pole to Remain

Work Request # 3955538 (Waukesha Bypass, MacArthur Rd, Merrill Hills Rd, Glacial Drumlin Trail)

Station No.	Sequence No.	Pole No.	Work Proposed
188+10 L101	100	-	Splice
188+15 L106	102	-	Splice
188+11 L111	104	17u	Install Locating Pedestal
188+10 L101 to 185+27 L101	100 to 110	-	Bore Cable, 2 feet extra depth for Marsh Excavation 185+00 to 186+00
188+15 L106 to 185+22 L106	102 to 112	-	Bore Cable, 2 feet extra depth for Marsh Excavation 185+00 to 186+00
188+11 L111 to 185+17 L111	104 to 114	-	Bore Cable, 2 feet extra depth for Marsh Excavation 185+00 to 186+00
185+27 L101	110	-	Splice
185+22 L106	112	-	Splice
185+17 L111	114	-	Splice
185+27 L101 to 185+27 R101	110 to 120	-	Bore Cable – extra depth for EBS Excavation
185+22 L106 to 185+22 R103	112 to 118	-	Bore Cable – extra depth for EBS Excavation
185+17 L111 to 185+17 R105	114 to 116	-	Bore Cable – extra depth for EBS Excavation
185+17 R105	116	-	Splice
185+22 R103	118	-	Splice
185+27 R101	120	-	Splice
185+17 R105 to 51+30 R61	116 to 122	-	Bore Cable, 2 feet extra depth for Marsh Excavation
185+22 R103 to 51+28 R56	118 to 124	-	Bore Cable, 2 feet extra depth for Marsh Excavation
185+27 R101 to 51+26 R51	120 to 126	-	Bore Cable, 2 feet extra depth for Marsh Excavation
51+30 R61	122	-	Splice
51+28 R56	124	-	Splice
51+26 R51	126	-	Splice
51+30 R61 to 53+67 R64	122 to 128	-	Bore Cable
51+28 R56 to 53+68 R56	124 to 130	-	Bore Cable

Station No.	Sequence No.	Pole No.	Work Proposed
51+26 R51 to 53+80 R51	126 to 132	-	Bore Cable
53+67 R64	128	-	Splice
53+68 R56	130	-	Splice
53+80 R51	132	-	Splice
188+10 L101 to 53+80 R51	100 to 132	-	Discontinue Cable
188+15 L106 to 53+68 R56	102 to 130	-	Discontinue Cable
188+11 L111 to 53+67 R64	104 to 128	-	Discontinue Cable
56+38, 53 feet LT	140	17-	Install new pole and Anchor
56+39, 01 feet LT	145	98-07910	Remove pole and light
57+28, 24 feet RT	150	17-	Install new pole and Anchor
56+78, 40 feet RT	155	66-8797	Remove pole
182+50 L115	160	17U	Install Pad mount Transformer
182+40 L109	162	17-	Install Pole
182+26 L108	164	-	Customer Pole
182+26 L108 to 70+83, 42 feet LT	164 to 200		Remove Overhead Conductor
182+50 L115 to 182+28 R174	160 to 170	-	Bore Cable – extra depth for Marsh Excavation
182+28 R174	170	-	Splice
182+28 R174 to 72+94 L31	170 to 172	-	Bore Cable
72+94 L31	172	-	Splice
72+94 L31 to 73+22 L25	172 to 180	-	Trench Cable
73+22 L25	180	17-	Install new Pole
181+83, 58 feet LT	175	76-2258	Remove pole
180+33, 77 feet RT	185	76-2259	Remove pole
70+83, 42 feet LT	200	01-18738	Pole to remain
177+52, 85 feet RT	210	17-	Install new pole W/9 feet of fill, grade around pole
177+54, 87 feet RT	215	98-07910	Remove pole
176+57 R115	212	-	Splice
176+57 R115 to 174+57 R118	212 to 216	-	Bore Cable – extra depth for Marsh Excavation and Storm outfall.
176+78 R110 to 174+55 R113	214 to 218	-	Bore Cable – extra depth for Marsh Excavation and Storm outfall
174+57 R118	216	-	Splice
174+55 R113	218	-	Splice
174+57 R118 to 19+00 L63	216 to 222	-	Bore Cable

Station No.	Sequence No.	Pole No.	Work Proposed
174+55 R113 to 19+05 L68	218 to 220	-	Bore Cable
19+05 L68	220	-	Splice
19+00 L63	222	-	Splice
19+05 L68 to 19+05 R97	220 to 310	-	Bore Cable – extra depth for Trail Excavation
19+00 L63 to 19+00 R90	222 to 300	-	Bore Cable – extra depth for Trail Excavation
45+85, 41 feet RT	228	71-5247	Install anchor
46+75, 39 feet RT	230	17-	Install new pole
10+85, 09 feet LT	235	71-5377	Remove pole
176+14, 34 feet LT	237	01-18737	Remove pole
12+45, 12 feet LT	240	17-	Install new pole with 4 feet of fill, grade around pole
12+44, 05 feet LT	245	01-18753	Remove pole
12+46, 15 feet RT	250	17-	Install new pole with 2 feet of fill, grade around pole
12+44, 06 feet LT	255	01-18752	Remove pole
62+43, 64 feet LT	260	17-	Install new pole
62+44, 34 feet LT	270	17-	Install new pole
62+45, 31 feet LT	275	57-1641	Remove pole
174+23, 75 feet LT	277	10U7378	Remove locating pedestal
174+17, 73 feet RT	280	17-	Install new pole with 8 feet of fill, Set 3 feet extra deep for Marsh Excavation, grade around pole
174+14, 66 feet RT	285	71-5106	Remove pole
172+92, 83 feet RT	290	17-	Install new pole with 4 feet of fill, grade around pole
173+10, 65 feet RT	295	60-2326	Remove pole
19+00, 90 feet RT	300	17U	Install electric pedestal
19+05, 97 feet RT	310	17U	Install electric pedestal
19+75, 19 feet RT	320	17-	Install new pole
19+45, 02 feet RT	325	81-01167	Remove pole
176+57 R115 to 174+42 L85	212 to 277		Discontinue 2 sets of Cables
174+42 L85 to 19+05 R97	277 to 310		Discontinue 2 sets of Cables
19+05, 97 feet RT	310	17U	Install electric pedestal
19+75, 19 feet RT	320	17-	Install new pole
19+45, 02 feet RT	325	81-01167	Remove pole
176+57 R115 to 174+42 L85	212 to 277		Discontinue 2 sets of Cables
174+42 L85 to 19+05 R97	277 to 310		Discontinue 2 sets of Cables

Work Request # 3955540 (Sunset, Hawthorne Hollow, Waukesha Bypass)

Station No.	Sequence No.	Pole No.	Work Proposed
No Station	100	51-4159	Pole to Remain, Add Anchor
No Station	115	51-4158	Remove pole
No Station	125	10-02265	Remove pole
No Station	135	96-17202	Remove pole and guy/anchor
61+58, 48 feet RT	140	17-	Install new pole and anchors
61+58, 32 feet RT	145	60-5584	Remove pole and guys/anchors
63+54, 40 feet RT	150	17-	Install new pole - Set 2 feet extra deeper – grade around
63+54, 34 feet RT	155	60-2172	Remove pole
65+52, 33 feet RT	160	60-5585	Pole to Remain
No Station	170	06-08275	Pole to Remain – Install Anchor
No Station	180	56-6241	Pole to Remain, Top Pole
135+59, 103 feet' LT	195	53-13694	Remove pole
134+91, 06 feet LT	205	56-6242	Remove pole
134+22, 86 feet RT	215	34-1040	Remove pole and guys/anchors
132+96, 08 feet LT	217	56-6240	Remove pole and anchor
132+01, 20 feet RT	219	46-3725	Remove pole and guy/anchor
133+31, 204 feet' RT	225	39-2588	Remove pole and guy/anchor

Work Request # 3955541 (Saylesville Rd, Genesee Rd, Waukesha Bypass)

Station No.	Sequence No.	Pole No.	Work Proposed
12+90, 80 feet RT	100	17-	Install Pole and Anchor
12+88, 80 feet RT	105	96-05347	Remove pole
13+91, 78 feet RT	110	17-	Install Pole
17+33, 132 feet LT	130	17-	Install Pole and Anchors
17+31, 134 feet LT	135	97-10307	Remove Pole and Anchors
16+18, 72 feet RT	137	97-10308	Remove pole
16+90, 370 feet RT	140	96-05346	Pole to Remain – Remove Anchor
34+77, 60 feet LT	150	17-	Install new pole – 2 feet Fill Grade Around
34+79, 54 feet LT	155	98-12869	Remove pole
36+47, 78 feet LT	160	17-	Install Pole and Anchor
36+45, 54 feet LT	165	98-12823	Remove Pole
37+35, 79 feet LT	170	17-	Install Pole and Anchor (Anchor on Private Property)
37+45, 57 feet RT	180	98-12856	Remove Anchor
17+60, 100 feet RT	190	17-	Install new pole and Anchor
17+60, 100 feet RT to 45+84, 216 feet RT	190 to 192	-	Bore underground cable

Station No.	Sequence No.	Pole No.	Work Proposed
45+84, 216 feet RT 47+50 feet 125 feet RT	192 to 200	-	Bore underground cable
45+84, 216 feet RT	192	-	Splice Pit
47+50' 125 feet RT to 47+50, 120 feet LT	200 to 210	-	Bore underground cable
47+50, 125 feet RT	200	-	Splice Pit
47+50,120 feet LT	210	17U	Install Pad mount transformer
47+50,120 feet LT to 47+60,120 feet LT	210 to 220	-	Trench Cable
47+60,120 feet LT	220	17-	Install Pole
47+59, 96 feet LT	225	73T40038	Pole to be Removed by AT&T
48+71, 92 feet LT	235	68-24394	Remove pole and anchors
51+65, 74 feet LT	245	96-05777	Remove pole and anchors
52+37, 165 feet RT	246	72-5300	Pole to Remain
58+15, 72 feet RT	250	68-24387	Install anchor 2 ft. deeper for 2 feet cut
106+04, 193 feet LT	260	06-05349	Pole to Remain
106+04, 142 feet LT	270	17-	Install Pole
106+00, 132 feet RT	280	17-	Install new pole and anchors
103+89, 120 feet RT	282	96-10794	Relocate light pole to this Station
103+92, 93 feet RT	282	96-10794	Remove light pole from this Station
107+13, 90 feet RT	285	96-05254	Remove pole
108+00, 146 feet RT	290	17-	Install new pole
108+09, 122 feet RT	295	09-01673	Remove pole
103+50, 112 feet RT to 107+52, 143 feet RT	292, 294		Place new underground cable
109+05, 138 feet RT	300	96-05271	Install anchor w/ext. for 2 feet of fill

The field contact for WE Energies – Electric is:

Mr. Steven J. King
S13 W33800 Hwy 18
Delafield, WI 53018
Work: (262) 968-5768
Cell: (414) 940-0570
steve.king@we-energies.com

Ms. Nicole Smullen
333 W. Everett St. A299
Milwaukee, WI 53203
(414) 221-5617
nicole.smullen@wecenergygroup.com

WE Energies – Gas has Natural Gas facilities located throughout the length of the project. This work will be performed by WE Energies prior to the start of road construction with utility construction anticipated to begin during late summer/early fall of 2017 and take 90 working days to complete.

Location and Conflict	Resolution
· 271+61, LT – service crossing on west side of CTH TT – 6 inch PE · 271+61 – 254+74, LT/RT – north-south direction along west side of CTH TT – 4 inch PE · 263+30, LT – 53+00, RT – east-west direction along south side of Kisdon Hill Drive – 2 inch PE · 254+80, RT – 53+75, RT – east-west direction along south side Madison Street – 2 inch PE · 254+80, RT – 47+60, RT – east-west direction along south side Madison Street – 2 inch PE · 221+00, LT – along south side of Kame Terrace – 4 inch PE · 222+00, LT – 84+00 LT – Merrill Hills Road (CTH TT) – 4 inch PE · 72+60, LT – 65+00, LT – along west side of Merrill Hills Road (CTH TT) – 4 inch PE · 35+75, LT/RT – crossing STH 59 / Genesee Road · 42+60, LT/RT – crossing STH 59 / Genesee Road · 42+60, LT – 47+25, LT - STH 59 / Genesee Road · 52+50, RT – 57+00, RT – along east side of CTH X / Genesee Road – 6 inch PE	Facilities planned to be discontinued and remain in place

Location and Conflict	Resolution
· 4-inch Steel along west Merrill Hills Road at Railroad crossing · 4-inch PE along west side of Merrill Hills Road north and south at Kame Terrace · 4-inch PE along south side of Madison Street west of CTH TT · 6-inch Steel along Madison Street east of CTH TT · 4-inch PE from Fiddlers Creek Drive south to Madison Street · 2-inch PE at south side of Kisdon Hill Drive · 6-inch Steel along south east corner CTH X / Genesee Road	Facilities are no longer in use but have been left in place in the project area.

Station	Work Proposed	Offset
CTH TT/Proposed Waukesha Bypass		
271+61 to 253+64	1,566 feet of 6-inch PE Direct Bore	North-south direction, with offset varying from 84' LT – 90' LT of R/L.
265+25 to 53+00	370 feet of 2-inch PE Direct Bore	East-west direction crossing for Kisdon Hill Drive.
254+82 to 47+67	143 feet of 6-inch PE Open Cut	East-west direction connecting to existing line on west leg of Madison Street.
253+94	321 feet of 6-inch PE Direct Bore and 218 6-inch PE Direct Bore	East-west direction crossing under CTH TT connecting to existing line on east leg of Madison Street at Station 53+75.
232+56 to 234+00	145 feet of 4-inch PE Direct Bore	Northeast direction, line offset to accommodate for proposed storm sewer.
226+48	262 feet of 6-inch PE Direct Bore	East-west direction crossing under CTH TT, tied into existing line on west side and ending on east side of roadway.
226+48 to 84+08	1,210 feet of 6-inch PE Direct Bore	North-south direction, with offset varying from 2 feet LT – 6 feet LT of right-of-way.
84+08	70 feet of 6-inch PE Direct Bore	East-west direction crossing under CTH TT, tied into existing line on west side.
Genesee Road/STH 59		
33+33 to 47+25	1,428 feet of 6-inch PE Direct Bore	East-west direction, with offset varying from 2 feet RT – 10 feet RT of right-of-way; line connecting into existing line on west side of Valley View Drive.
52+62 to 57+00	429 feet of 8-inch PE Direct Bore	East-west direction connecting to existing line, parallel offset of line to abandoned.
Note: PE = Polyethylene pipe		

Relocations and adjustments of WE Energies Gas facilities are anticipated to commence prior to the start of this roadway project.

It is imperative that the highway contractor contact WE Energies before removing any gas facilities or electrical underground cables, to verify that they have been abandoned and carry no natural gas or electrical current. The contractor must not assume that unmarked

facilities have been abandoned. At no time is it acceptable to push, pull, cut or drill an unmarked facility without explicit consent from We Energies.

Contractor shall contact We Energies gas dispatch at (800) 261-5325 or We Energies electric dispatch at (800) 662-4797 at least 24 hours prior to removing any discontinued gas facilities or electrical cable to verify that they have been discontinued and carry no natural gas or electrical current. There may be locations where existing or discontinued utilities are not shown on the plans.

Contractor must call the We Energies 24 hour Dispatch lines to arrange for this verification.
We Energies Electric Dispatch #1-800-662-4797
We Energies Gas Dispatch #1-800-261-5325

The construction field contact for We Energies – Gas is:

Ms. Danielle Fink
500 S. 116th Street
West Allis, WI 53214
(414) 651-3067
danielle.fink@we-energies.com

Windstream - OSP Network (Communication) has aerial facilities that will require relocation and new installations.

Windstream relocation work is anticipated to last 45 working days and will begin after Charter has completed their installations.

New aerial fiber will be placed on the new WE Energies poles from Station 264+32, 90 feet RT, following the new WE Energies power pole placement route to the new WE Energies pole located at Station 82+70, 25 feet RT (existing Merrill Hills Rd). From the new WE Energies pole at Station 82+70, 25 feet RT the existing aerial fiber will have attachments transferred to new WE Energies poles between Stations 177+52, 85 feet RT to 62+44, 34 feet LT.

The construction field contact for Windstream is:

Ms. Mary Beth Fisher
Project Manager – OSP Network
13935 Bishops Dr.
Brookfield, WI 53005
Work: (262) 792-7938
Cell: (414) 313-9032
Mary.B.Fisher@windstream.com

Wisconsin Department of Transportation - Traffic Signals – has underground and above ground signal facilities at the intersection of STH 59 and CTH X. The traffic signals will be removed as part of this construction project.

Location and Conflict	Resolution
· CTH X (Saylesville) and STH 59 (Genesee Road) · STH 59 and CTH X (Genesee Road) · USH 18 / Meadowbrook and CTH D (Sunset Drive) · USH 18 / Meadowbrook and Madison Street.	Signalized intersection

The construction field contacts for WisDOT Traffic Signal Operations are:

Mr. David Brantner
141 NW Barstow St.
Waukesha, WI 53187
david.brantner@dot.wi.gov

WisDOT Electric Field Unit
935 S. 60th St.
West Allis, WI 53214
(414) 266-1170

9. Municipality Acceptance of Sanitary Sewer and Water Main Construction.

Both the department and City of Waukesha and Waukesha Water Utility personnel will inspect construction of sanitary sewer and water main under this contract. However, construction staking, testing, and acceptance of the sanitary sewer and water main construction will be by the City of Waukesha and Waukesha Water Utility.
stp-105-001 (20140630)

10. Referenced Construction Specifications.

Perform the sanitary sewer and water main work according to the Standard Specifications for Sewer and Water Construction in Wisconsin, latest Edition (SSSW), and the Specifications for Water Main & Service Lateral Materials and the Installation of Water Main & Appurtenances for Waukesha Water Utility of the City of Waukesha dated August 29, 2014. If there is a discrepancy or conflict between the referenced specifications and the standard specifications regarding contract administration, part 1 of the standard specifications governs.

11. Other Contracts.

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

West Waukesha Bypass North
WisDOT and Waukesha County, Wisconsin have a project north of this contract. Work under this contract Project 2788-02-70 and 2788-00-72 was LET in February of 2017. This project connects to this contract at the northern limit, Station 273+75. Project 2788-02-70 and 2788-00-72 are anticipated to be completed June 29, 2018. Traffic switches must be coordinated between both projects. Coordinate activities with the project contractor and engineer. The WisDOT engineer is:

John Kanzenbach, (262) 548-6467, John.Kanzenbach@dot.wi.gov

Wisconsin and Southern Railroad LLC Southern Siding Track Relocation
WSOR will complete the southern Siding track removal. Coordinate construction activites with the WSOR representative and engineer. The WSOR contact is:

Roger Schaalma, Superintendent of Maintenance of Way, Wisconsin and Southern Railroad LLC, 1890 East Johnson Street, Madison, WI 53704; Telephone: (608) 620-2044; Ext. 4201; email rschaalma@watcocompanies.com for consultation on railroad requirements during construction.

ATR
A solar powered Wavetronic Detector on a type 3 pole will be installed by WisDOT at Station 164+00, 69 feet RT under a separate contract #407633. Coordinate construction activitites with Russell Lewis, (608) 516-5754, Russell.Lewis@dot.wi.gov

12. Railroad Insurance and Coordination – Wisconsin and Southern Railroad LLC.

A Description
Comply with standard spec 107.17 for all work affecting Wisconsin and Southern Railroad LLC 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 and Southern Railroad LLC.

Notify evidence of the required coverage, and duration to Amanda Haggerty, Office Administrator at Wisconsin and Southern Railroad LLC, 1890 East Johnson Street, Madison, WI 53704, telephone (608) 620-2048, email ahaggerty@watcocompanies.com.

Also send a copy to the following: Paul Derksen, SE Region Railroad Coordinator; 141 N. W. Barstow Street, Waukesha, WI 53188; Telephone (262) 548-8770; E-mail: paul.derksen@dot.wi.gov.

Include the following information on the insurance document:

Project 2788-00-71
Project Location: Town of Waukesha, WI
Route Name CTH TT, Waukesha County
Crossing ID 391 530S
Railroad Subdivision Waukesha
Railroad Milepost 22.68

Work Performed: Remove the southerly siding track. Relocate temporary warning devices for southbound roadway in Stage 3. Install new railroad warning devices and new crossing surface.

A.2 Train Operation

Approximately 4 through freight trains operate daily at up to 25 mph. In addition to through movements there are movements at slower speeds.

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

Construction Contact

Roger Schaalma, Superintendent of Maintenance of Way, Wisconsin and Southern Railroad LLC, 1890 East Johnson Street, Madison, Wi 53704; Telephone: (608) 620-2044; Extension: 4201; email rschaalma@watcocompanies.com for consultation on railroad requirements during construction.

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

Flagging Contact

See Construction Contact. Reference the Crossing ID, Wisconsin Milepost and Subdivision found in A.1.

Cable Locate Contact

In addition to contacting Diggers Hotline, contact Amanda Haggerty, Office Administrator; Telephone (608) 620-2048; E-mail ahaggerty@watcocompanies.com at least five working days before the locate is needed. Reference the Crossing ID, Wisconsin Milepost and Subdivision found in A.1.

WSOR will only locate railroad owned facilities located in the railroad right-of-way. The railroad does not locate any other utilities.

A.4 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.

Prior to Stage 3, the southerly siding track needs to be removed, the new crossing surface for the southbound roadway needs to be completed and temporary railroad warning devices relocated. During Stage 3 the southbound Bypass roadway will carry two-way traffic.

During Stage 3 and prior to the Stage 4 traffic shift, the rest of the new crossing surface need to be completed and the permanent warning devices installed.

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.5 Temporary Grade Crossing

If a temporary grade crossing is desired, submit a written request to the railroad representative named in A.3 at least 40 days 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.

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, 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 railroad's chief engineering officer in writing at least 10 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 – Wisconsin and Southern Railroad LLC

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

$95 per hour for up to nine-hours at the work-site per day (including wages, labor surcharges, meals, lodging, vehicle and mileage expenses),

$140 per hour for all hours over nine in any week-day (including wages, labor surcharges, meals, lodging, vehicle and mileage expenses),

$190 per hour for up to nine hours at the work-site on Saturdays (including wages, labor surcharges, meals, lodging, vehicle and mileage expenses),

$190 per hour for all hours over nine on Saturdays (including wages, labor surcharges, meal, lodging, vehicle and mileage expenses).

$190 per hour for up to nine hours on Sundays or holidays (including wages, labor surcharges, meal, lodging, vehicle and mileage expenses).

C.2 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.3 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.

The contractor shall bear all costs of the additional flagging requirements for the excluded conditions.

C.5 Payment for Flagging

The department will pay for the department's portion of flagging reimbursement as specified in section C of this provision under the following item:

ITEM NUMBER	DESCRIPTION	UNIT
801.0117	Railroad Flagging Reimbursement	DOL

The reimbursement payment, as shown on the Schedule of Items, is solely for department accounting purposes. Actual flagging costs will vary based on the contractor's means and methods.

Railroads may issue progressive bills. Notify the railroad when the work is completed and request a final bill from the railroad. Promptly pay railroad-flagging invoices, less any charges that may be in dispute. The department will withhold flagging reimbursement until any disputed charges are resolved and the final invoice is paid. No reimbursement for flagging will be made by the department if a violation of subsection B is documented.
107-034 (20170615)

13. Dust Control Implementation Plan.

A Description

This special provision describes developing, updating, and implementing a detailed Dust Control Implementation Plan (DCIP) for all land-disturbing construction activities and associated impacts both within the project site boundaries and outside the project site boundaries. Incorporate contract bid items that this article specifies into the DCIP.

B (Vacant)

C Construction

C.1 General

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

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

C.2 Dust Control Implementation Plan Contents

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

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

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

C.3 Updating the Dust Control Implementation Plan

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

C.4 Dust Control Deficiencies

Coordinate with engineer to determine deadlines for resolving dust control deficiencies. Deficiencies include, but are not limited to, actions or lack of actions resulting in excessive dust, failing to comply with the contractor's dust control implementation plan or associated special provisions, and failing to properly maintain equipment.

D Measurement

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

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

623.0200	Dust Control Surface Treatment
624.0100	Water
628.7560	Tracking Pads

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

E Payment

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

SEF 107-005 (20170323)

14. 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)

15. WE Energies Driveways, 266+00 LT.

Construct the WE Energies driveways to Howell Avenue, approximate Station 266+00, LT, through base course within 30 days after the start of construction. The existing substation driveways off of Merrill Hills Road cannot be removed until WE Energies internal site work and the new driveway is complete, not earlier than September 30, 2018.

WE Energies requires a one week notice prior to beginning any driveway work as WE Energies may want to have an inspector present.

Notify WE Energies when the new WE Energies driveway off of Howell Avenue is constructed through base course so WE Energies can complete their site work. The final asphaltic pavement for the driveway cannot be placed until The WE Energies substation expansion work is complete. Coordinate with WE Energies on their internal site work schedule.

Once the asphaltic pavement is placed on the new Howell Avenue driveway the driveways off of Merrill Hills Road can be removed.

The contact for WE Energies – Electric is:

Mr. Paul A. Tadda
333 West Everett Street – A249
Milwaukee WI 53203
Work: (414) 221-5673
Cell: (414) 640-4375
paul.tadda@we-energies.com

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

James Gondek and Nathan Braun, License Number All-108099 and All-206950, inspected Structure B-67-0038 for asbestos on July 20, 2011 and July 23, 2015. No regulated Asbestos Containing Material (RACM) was found on this structure. A copy of the inspection report is available from: Doug Cain, (262) 548-5603.

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 Doug Cain, (262) 548-5603 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-67-0038, CTH X (Genesee Road) over Pebble Creek
- Site Address: 0.2 Miles north of junction STH 59
- Ownership Information: WisDOT Transportation SE Region, 141 NW Barstow Street, PO Box 798, Waukesha, WI 53187-0798
- Contact: Doug Cain
- Phone: (262) 548-5603
- Age: 59 years old. This structure was constructed in 1959.
- Area: 2,949 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.

stp-107-125 (20120615)

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

The department has applied for a U.S. Army Corps of Engineers Section 404 permit. This permit is anticipated to be obtained prior to the letting.

Comply with the requirements of the permit and permit application in addition to requirements of the special provisions. A copy of the permit and permit application is available from the regional office by contacting Doug Cain at (262) 548-5603.

Work within wetlands and waterways shall not begin until the U.S. Army Corps of Engineers Section 404 Permit has been obtained by the department. Pebble Creek crosses the Waukesha Bypass at Station 179+07, CTH X/Genesee Road at Station 55+42 and CTH D/Sunset Drive at Station 67+60. A tributary to Pebble Creek crosses the Waukesha Bypass at Station 245+33. Wetlands are located along the Waukesha Bypass between Station 100+52 to Station 107+50, between Station 113+39 to Station 117+25, between Station 125+93 to Station 130+27, between Station 134+05 to Station 135+08, between Station 160+05 to Station 161+63, between Station 169+63 to Station 183+25, between Station 185+42 to Station 186+73, between Station 343+60 to Station 254+58, between Station 269+47 to Station 271+32. Wetlands are located along CTH X/Genesee Road between Station 50+63 to Station 57+63. Wetlands are located along CTH D/Sunset Drive between Station 54+27 to Station 71+98. Wetlands are located along MacArthur Road between Station 50+78 to Station 56+21.

18. Construction Over or Adjacent to Navigable Waters.

Add the following to standard spec 107.19:

The Pebble Creek and Unnamed Pebble Creek Tributary is classified as a state navigable waterway.
107-060 (20171130)

19. Erosion Control Structures.

Within seven calendar days after the commencement of work on the bridge superstructure, place all permanent erosion control devices, including riprap, erosion mat, ditch checks, seed, fertilizer, mulch, soil stabilizer, or any other item required by the contract or deemed necessary by the engineer. These devices shall be in place in the area under the bridges and

on both sides of the roadway, from the waterway to a point 100-feet behind the backwall of the abutment. Within said limits, place these devices to a height equivalent to the calculated water elevation resulting from a storm that occurs on the average of once every two years (Q2) as shown on the plan, or as directed by the engineer. Prior to initial construction operations, place turbidity barriers, silt screens, and other temporary erosion control measures as shown on the plans, and remove them after the permanent erosion control devices are in place unless directed otherwise by the engineer.

In the event that construction activity does not disturb the existing ground below the Q2 elevation, the above timing requirements for permanent erosion control shall be waived.
107-070 (20030820)

20. Environmental Protection, Historic Property.

The house at W264 S3641 Saylesville Road, the Sebina Barney House is on the National Historic Register. This property is parcel #4 as shown on the plat.

To minimize impacts to the historic boundary, it is proposed to plant 13 Norway Spruce trees within the existing right-of-way to screen this property from the proposed intersection of Genesee Road/STH 59 and Saylesville Road/CTH X. Contain all construction activities to within the slope intercepts which are beyond this property. Do not stockpile materials or drive or park construction vehicles beyond the slope intercepts.

The Norway Spruce trees need to be planted by September 15, 2018 according to standard spec 632 and as shown on the plans. These trees shall have a one year plant establishment period.

21. Erosion Control.

Supplement standard spec 107.20 with the following:

Erosion control best management practices (BMP's) shown on the plans are at suggested locations. The actual locations shall be determined by the contractor's ECIP and by the engineer. Include dust control and each dewatering or by-pass (mechanical pumping) operation in the ECIP submittal. The ECIP shall supplement information shown on the plans and not reproduce it. The ECIP shall identify how to implement the project's erosion control plan. ECIP shall demonstrate timely and diligently staged operations, continuing all construction operations methodically from the initial removals and topsoil stripping operations through the subsequent grading, paving, re-application of top soil, and restoration of permanent vegetation to minimize the period of exposure to possible erosion.

Provide the ECIP 14 days prior to the pre-construction meeting. Provide 1 copy of the ECIP to the department and 1 copy of the ECIP to the WDNR Liaison Craig Webster, (262) 574-2141, craig.webster@wisconsin.gov. Do not implement the ECIP without department approval and perform all work according to the approved ECIP.

A staged ECIP may be required for this project as new areas of the project are disturbed. An ECIP amendment shall be needed prior to Winter shutdown and Spring startup. A 14 day review period should be allowed for each ECIP amendment. Provide the approved ECIP amendment to the engineer prior to winter shutdown and spring startup.

Maintain Erosion Control BMP's until permanent vegetation is established or until the engineer determines that the BMP is no longer required.

Stockpile excess materials or spoils on upland areas away from wetlands, floodplains, and waterways. Immediately install perimeter silt fence protection around stockpiles. If stockpiled materials will be left for more than 14 days, install temporary seed or other temporary erosion control measures the engineer orders.

Re-apply topsoil on graded areas, as designated by the engineer, immediately after the grading is completed within those areas. Seed, fertilize, and mulch/erosion mat top-soiled areas, as designated by the engineer, within 5 days after placement of topsoil. If graded areas are left not completed and exposed for more than 14 days, seed those areas with temporary seed and mulch.

Topsoil shall be placed and permanently restored as the height of the fills progresses. Areas of the project with fills heights less than 10 feet shall be topsoiled and restored once they reach the subgrade shoulder point height including out to the slope intercepts. Areas of the project with fill heights greater than 10 feet shall be topsoiled and permanent restoration placed once the fill height reaches 10 feet including out to the slope intercept. The remaining portion of the fill shall be topsoiled and restored once it reaches the subgrade shoulder point. The contractor shall show timing of these Erosion Control mobilizations as part of proposed schedule in the ECIP. All slopes from the subgrade shoulder point to the slope intercept shall be permanently restored at the time the project is shut down for the winter.

Dewatering (Mechanical Pumping) for Bypass Water (sediment-free) Operations
If dewatering bypass operations are required from one pipe structure to another downstream pipe structure or from the upstream to downstream end of a culvert and the bypass flow is not transporting sediments (sand, silt, and clay particles) from a tributary work site area, bypass pumping operations will be allowed provided that the department has been made aware of and approves operation. When pumping bypass flows, the discharge location will need to be stable and not produce any erosion from the discharge velocity that would cause release of sediment downstream. Dewatering is considered incidental to the contract.

Dewatering (Mechanical Pumping) for Treatment Water (sediment-laden) Operations
If dewatering operations require pumping of water containing sediments (sand, silt, and clay particles), the discharge will not be allowed to leave the work site or discharge to a storm water conveyance system without sediment removal treatment. Do not allow any excavation for; structures, utilities, grading, maintaining drainage that requires dewatering

(mechanical pumping) of water containing sediments (sand, silt, and clay particles) to leave the work site or discharge to a storm water conveyance system without sediment removal treatment.

Prior to each dewatering operation, submit to the department a separate ECIP amendment for sediment removal. Guidance on dewatering can be found on the Wisconsin DNR website located in the Storm Water Construction Technical Standards, Dewatering Code #1061, http://dnr.wi.gov/topic/stormwater/standards/const_standards.html. Include reasoning, location, and schedule duration proposed for each operation. Per Code 1061, include all selection criteria: site assessment, dewatering practice selection, calculations, plans, specifications, operations, maintenance, and location of proposed treated water discharge. Provide a stabilized discharge area. If directing discharge towards or into an inlet structure, provide additional inlet protection for back-up protection. Dewatering is considered incidental to the contract.

Maintaining Drainage
Maintain drainage at and through worksite during construction according to standard spec 107.20, 204.3.2.1(3), 205.3.3 and 520.3.1(2). Use existing storm sewers, existing culvert pipes, existing drainage channels, temporary culvert pipes, or temporary drainage channels to maintain existing surface and pipe drainage. Pumps may be required to drain the surface, pipe, and structure discharges during construction. Costs for furnishing, operating, and maintaining the pumps is considered incidental to the contract.
SER-107.3 (20161220)

22. Public Convenience and Safety.

Revise standard spec 107.8(6) as follows:

Check for and comply with local ordinances governing the hours of operation of construction equipment. Do not operate motorized construction equipment from 8:00 PM until the following day at 7:00 AM, unless prior written approval is obtained from the engineer.
107-001 (20060512)

23. Coordination with Businesses and Residents.

The contractor shall arrange and conduct a meeting between the contractor, the department, affected residents, local officials and business people to discuss the project schedule of operations including vehicular and pedestrian access during construction operations. Hold the first meeting at least one week prior to the start of work under this contract and hold one meeting per month thereafter. The contractor shall arrange for a suitable location for the meeting(s) that provides reasonable accommodation for public involvement. The department will prepare and coordinate publication of the meeting notices and mailings for the meeting(s). The contractor shall schedule the meeting(s) with at least two weeks' prior notice to the engineer to allow for these notifications.
108-060 (20141107)

24. Notice to Contractor – Traffic Signal Equipment Lead Time.

Order traffic signal equipment as soon as possible to assure the equipment is procured in a timely fashion and, therefore, installed, inspected, and ready for turn-on at the required date.

25. Notice to Contractor- Fire Station Flashing Beacons.

On STH 59/Les Paul Parkway the City of Waukesha Fire Station No. 3 is located on the north side of the roadway between Station 99+00 to Station 104+70, RT. The City of Waukesha has a signal warning system in place consisting of a controller, an EVP detection system, wireless communication transmitter and receivers, solar powered flashing beacons and signs.

This equipment has been temporarily installed on six wooden posts.

City of Waukesha forces will remove and relocate these temporary beacon assemblies as needed to facilitate the contractors' work operations.

Contractor shall coordinate with the City of Waukesha regarding these flashing beacon assemblies. Provide the City of Waukesha 14 days advanced notice to relocated the flashing beacon assemblies. Contact Katie Jelacic at (262) 524-3587 or kjelacic@waukesha-wi.gov .

26. Glacial Drumlin State Trail.

The Glacial Drumlin State Trail shall remain open to pedestrian and bicycle traffic throughout the duration of this contract except for when the construction of the proposed underpass Structure C-67-88 occurs in Stages 2E and a portion of Stage 3. A detour route shall be posted as shown in the plans.

Two weeks prior to closure of the Glacial Drumlin Trail, install Fixed Message Signs on both sides of the Merrill Hills Road work zone, to notify trail users of the closure. See traffic control plans for sign details.

It is anticipated that construction of Stage 2E and Stage 3 will extend beyond the time period needed to complete Structure C-67-88, the mainline roadway construction and trail paving.

27. Contract Award and Execution.

Add the following to standard spec 103 as standard spec 103.9 and 103.10:

103.9 Bid Escrow Documentation

(1) The department will require the lowest responsible bidder to submit documentation to be placed in escrow at a document storage facility. Bid Escrow Documentation (BED) consists of writings, working papers, computer printouts, charts, and data compilations that

contain or reflect information, data, calculations, or assumptions used by the bidder to determine the proposal submitted. If the apparent low bid is withdrawn or rejected, the second low bidder will provide the required documents as specified in this special provision within 72 hours of written notification by the department.

(2) The BED shall clearly itemize the contractor's estimated costs of performing the scope of work defined in the contract.

(3) The BED shall include, but not be limited to, all quantity takeoffs, rate schedules for the direct costs of craft labor, construction (expendable materials), construction equipment ownership costs, construction equipment operating costs, permanent materials subcontractors and insurance. Also include development of rates of production including, where appropriate: estimate of crews, construction materials, construction equipment, and construction sequence and duration. Submit the BED for each subcontractor whose total subcontract costs exceed $500,000.

(4) Identify the allocation of construction plant and equipment, time and non-time related indirect costs (including if applicable joint venture fees), home office overhead, contingencies and margin applicable to each bid item. Further, documentation shall include consultant's reports, final estimate adjustment calculations, and all other information used by bidders to arrive at the estimate.

(5) All manuals standard to the industry used by the bidder in determining the proposal are also considered part of the BED. These manuals may be included in the proposal documentation by reference and shall show the name and date of the publication and the publisher.

(6) It is not necessary to include documents provided by the department for the bidder's use in the preparation of the proposal.

(7) The low bidder shall present authentic copies of their BED at the department's office, located at the project field office by 3 days after let, at 10:00 AM.

(8) At the time of submittal, only designated representatives of the apparent low bidder and the department will jointly examine the apparent low bidder's bid documentation to determine if it is authentic, legible, and generally meets the requirements of this special provision. The department will not share the BED information with, or in any other way divulge the contents of, the apparent low bidder's BED to, their subcontractors or any other party.

(9) The department, if requested by apparent low-bidder subcontractors, will also independently examine the BED submitted by the apparent low bidder's subcontractors in the same manner as the apparent low bidder's BED was examined. Only designated representatives of the individual subcontractor and the department will be present during this examination. The department will not share the BED information with, or in any other way divulge the contents of, a subcontractor's BED to, the apparent low bidder or any other party.

(10) The department's examination of the BED will not include review of, nor will it constitute approval of, proposed construction methods, estimating assumptions, or interpretation of the contract. The examination will not alter any conditions or terms of the contract. The department will determine if the BED complies with this special provision within 4 hours after the time the BED is submitted. If the BED does not meet the requirements of this special provision, the department may reject the bid.

(11) If the BED of the apparent low bidder meets the requirements of this special provision, the department and bidder will jointly deposit the BED at an agreed document storage facility. Place the BED in a sealed envelope or container clearly marked with the bidder's name and address, date of submittal, project name and identification number. Representatives of the department and the bidder will deliver all bid escrow documentation and the original affidavit directly to a document storage facility, to be placed in escrow.

(12) If the apparent low bid is withdrawn or rejected, the designated representative of the second low bidder and the department will examine and inventory the bid documentation of the second low bidder and their subcontractors in the manner specified in this section, then seal and deposit in escrow. If a subcontractor with a subcontract exceeding $500,000 is replaced, the contractor shall submit new BED for examination and escrow before the engineer will authorize the substitution.

(13) The department will pay for the costs of the escrow document storage facility and will provide escrow instructions to the document facility consistent with this special provision.

(14) The department acknowledges that the bidder considers that the BED constitutes trade secrets or proprietary information. This acknowledgment is based upon department's understanding that the information contained in the BED is not known outside each bidder's business, is known only to a limited extent and by a limited number of employees of bidder, is safeguarded while in bidder's possession, and may be valuable to bidder's construction strategies, assumptions and intended means, methods and techniques of design and construction. Except as set forth in the contract or as required by applicable Law, the department acknowledges that the BED will always remain in the possession of the Escrow Agent and will at no time be received by, or become the property of, the department.

(15) Submit a copy of the affidavit in this special provision, signed under oath before a Notary Public by a representative of the bidder authorized to execute proposals. Department representatives will sign the affidavit after reviewing the BED.

(16) The BED will remain in escrow until one or more of the following occurs:

1. The bidder and the department mutually agree to release of the BED;
2. A court orders the department to provide the BED;
3. A dispute is referred to the Dispute Review Board or claims review panel; or
4. Either party seeks judicial review of a dispute.

(17) If any of the events numbered 1-4 in this section occurs, the department will take possession of all relevant portions of the BED, as determined by the department, until complete resolution of the issue for which the request was made or the court order was issued. In absence of these actions, and provided the bidder signs an appropriate release, the unopened BED will be released to the bidder upon final acceptance and the expiration of all warranty periods provided by this contract.

BID ESCROW DOCUMENTATION CERTIFICATION

Using this BID ESCROW DOCUMENTATION CERTIFICATION, the bidder certifies that the material submitted in this special provision constitutes all the documentary information used in preparation of the bid and that said bidder has fully examined the contents of the container and that they are complete. The undersigned Wisconsin Department of Transportation representatives have reviewed the BED for compliance.

BIDDER

_____
(Name of Bidder)

By: _____
(Signature*)

Title _____

Date _____

WITNESS

_____
(Name of Witness)

By: _____
(Signature*)

Date: _____

WISCONSIN DOT

_____
(Name of Department Representative)

By: _____
(Signature*)

Title _____

Date _____

WISCONSIN DOT

_____
(Name of Department Representative)

By: _____
(Signature*)

Title:_____

Date: _____

(END OF BID ESCROW DOCUMENTS)

103.10 Mobilization Workshops

103.10.1 Workshop Schedule

(1) After contract award, attend the following workshops. Each workshop is described within this special provision and will include the following topics:

1. Project Kickoff and Initial Work Plan
2. Cost Reduction Incentives
3. Utility Coordination
4. Submittals
5. CPM Scheduling
6. Leadership Partnering (Initial Session)
7. (Vacant)
8. Storm Sewer Tunneling
9. Work Force Opportunities
10. Incident Crisis Communications Plan
11. Notice to Proceed

(2) The workshop dates will be scheduled after contract award.

(3) If necessary, the engineer may modify the workshop schedule to ensure attendance by the necessary department and contractor personnel; however, all workshops will be completed before issuing the Notice to Proceed.

103.10.2 Workshops

103.10.2.1 Project Kickoff and Initial Work Plan

103.10.2.1.1 General

(1) The Project Kickoff and Initial Work Plan Workshop will provide a forum to discuss and answer questions relative to the proposal, bid schedule, and other questions in the Project Questionnaire described in standard spec 103.10.2.1.2. The Initial Work Plan Workshop will include:

1. Contractor responses to the attached Project Questionnaire.
2. Department presentation of the use of CPM scheduling on the project and presentation of the department's Master Schedule to the contractor.
3. Contractor presentation of its conceptual work plan for the project.
4. Department and contractor discussion of the level of detail and features in the Initial Work Plan and the Baseline CPM Progress Schedule.

103.10.2.1.2 Project Questionnaire

(1) Provide the following information in the order shown in this special provision. This information will constitute the "Project Questionnaire."

General Information

If a Joint Venture, provide information for each member of the Joint Venture.

Provide the following information about the company:

- Firm Name
- Address
- Telephone and facsimile numbers; e-mail address
- Contracting Specialties
- Years performing work in contracting specialties
- Geographic areas served
- Total Management Employees and years of service
- Project Managers
- General Superintendents
- Craft Superintendents
- Engineers
- Estimators
- CPM Schedulers

Construction Engineering

Provide/attach a copy of your Construction Project Manager's resume indicating the manager's experience in similar major construction projects. The resume shall include similar projects with references. (Note: references are only for verification of work scope performed).

Provide (if applicable) your third-party construction engineering firms.

Provide plan for Construction surveying.

Subcontractors
Attach the list of all subcontractors that are intended for this Project and the items of work they shall perform.

Permanent Material Suppliers
Attach the list of all permanent material suppliers that are intended for the project.

Quality Control (where applicable)
Provide the name of your Construction Quality Control firm and qualifications indicating the firms' experience in similar major construction projects. The resume shall include similar projects with references. (Note: references are only for verification of work scope performed).

Provide/attach a copy of your Construction Quality Control Manager's resume indicating the manager's experience in similar major construction projects. The resume shall include similar projects with references. (Note: references are only for verification of work scope performed).

List the major elements and Table of Contents of your Construction Quality Management Program (QMP).

Provide the name of your Independent Quality Control Testing firm (Construction Quality Control Lab) and qualifications indicating the firm's experience in similar major construction projects. The resume shall include similar projects with references. (Note: references are only for verification of work scope performed).

Organization Chart
Provide a functional and personnel Organization Chart showing the authority and responsibilities of each individual identified.

Work Rules
Provide the plan for hours per day, days per week, and number of shifts for key elements of work; i.e. sewer tunnels, retaining wall construction, roadway excavation, bridge structures, and roadway structural section activities.

Maintenance of Traffic
Provide the name of your Traffic Control Manager and qualifications indicating the firm's experience in similar major construction projects. The resume shall include similar projects with references. (Note: references are only for verification of work scope performed).

Include an outline of your approach to the maintenance of traffic and how you shall stage the construction to meet the substantial completion schedule including planned locations for local street and freeway access into and out of the work zones for each stage of construction.

Attach a copy of your Preliminary Schedule indicating your approach to achieving the substantial completion schedule.

Construction
Provide the approach (type of equipment, number of crews, and where required ground support systems) for the following activities.

- Retaining wall construction by type of work
- Bridge demolition
- Roadway structural section
- Roadway excavation
- Office and yard facilities

103.10.2.2 Cost Reduction Incentives

(1) The Cost Reduction workshop will identify value enhancing opportunities and consider modifications to the plans and specifications that will reduce either the total cost, time of construction, or traffic congestion. These modifications shall not impair the essential functions or characteristics of the project. These include:

- Service life
- Economy of operation
- Ease of maintenance
- Benefits to the traveling public
- Desired appearance
- Design and safety standards

(2) Submit recommendations resulting from the workshop for approval by the engineer as cost reduction incentive proposals in conformance with standard spec 104.10 "Cost Reduction Incentive".

(3) The department and the contractor may be able to complete the CRI Concept process, as specified in standard spec 104.10.2, during the CRI workshop.

(4) Submit CRIs after the CRI workshop that were not introduced at the CRI workshop.

103.10.2.3 Utility Coordination

(1) The Utility Coordination Workshop will define the scope and schedule of utility relocation work and the corresponding roles and responsibilities of the project team.

1. At a minimum, the following key personnel will attend the Utility Coordination Meeting.
    1.1. Department's Utility Coordinator.
    1.2. Contractor's Utility Coordinator.
    1.3. Designer Team's Utility Coordinator.
    1.4. Key Utility Company Representative(s)

2. At a minimum, the Utility Coordination Meeting will include a review of the following:
    2.1. Summary of all required utility relocations on the project.
    2.2. Special provisions addressing utility work.
    2.3. Sharing of contact information.
    2.4. Scheduling of work for utility relocation including critical milestones and staging for the work.

103.10.2.4 Submittals

(1) The Submittal Workshop will identify the key required submittals for the project, categorize submittals into functional areas, and develop a schedule for submittals and submittal reviews. The Workshop participants will at a minimum:

1. Review the project special provisions.
2. Categorize submittals into functional areas including:
    2.1 MSE Retaining Walls
    2.2 Temporary Shoring
    2.3 Falsework and Formwork
    2.4 Girder Shop Drawings
    2.5 Steel Transportation, Delivery and Erection
    2.6 Structure Demolition Plans
    2.7 Pile Hammers and High Capacity Piling
    2.8 Concrete/ Asphalt
    2.9 Materials
    2.10 ITS / Lighting
    2.11 Traffic Signals
    2.12 Sanitary Sewer and Water
    2.13 Permits
3. Develop a schedule for submittals.

103.10.2.5 CPM Schedule

See specification Baseline CPM Progress Schedule.

103.10.2.6 Leadership Partnering Meetings B-Weekly

The department will implement mandatory bi-weekly leadership partnering meetings. Unless the department and contractor agree otherwise, the contractor management level personnel, project design engineers, project level supervisory personnel, and department management level personal shall meet bi-weekly from project start until the contractor accepts the tentative final estimate. The contractor and department may also invite the following as needed:

- FHWA
- Key project personnel of the contractor's principal subcontractors and suppliers
- Local government representatives
- Environmental regulators
- Emergency service personnel
- Utility companies
- Impacted business and property owners
- Other stakeholders

This meeting will facilitate a cooperative team environment that clearly defines roles and responsibilities, determines common goals and objectives, and provides a platform to build trust and accountability. Meeting topics may include:

- Issue and risk management
- Dispute resolution procedures
- Safety
- Public outreach
- Traffic management
- Cost reducing incentives
- Claim resolution
- Scheduling issues
- Quality control

All mobilization workshop costs are incidental to the contract work.
sef-108-030 (20171004)

103.10.2.7 (Vacant)

103.10.2.8 Storm Sewer Tunneling

(1) The Storm Sewer Tunneling workshop will focus on the installation plan, access, material storage, scheduling, dewatering, shoring, maintaining existing drainage, erosion control, and subsequent work operations associated with the construction.

103.10.2.9 Work Force Opportunities

After contract award, attend the Work Force Opportunities workshop. The workshop will take place on the same day and in the same location as the pre-construction meeting.

The Work Force Opportunities workshop will provide a venue for contractors to have meaningful dialogue with Transportation Alliance for New Solutions (TrANS) providers regarding the hiring of TrANS graduates. Reference ASP-1 for additional information regarding TrANS. The prime contractor and the nine largest subcontractors according to let value of work shall provide staff with hiring authority to participate in a job-matching session during this workshop. Workshop participants will, at a minimum:

- Review contractor hiring processes for general labor positions.
- Listen to a presentation provided by TrANS providers regarding the TrANS training program, including details regarding how contractors can hire TrANS graduates.
- Review TrANS graduate availability for working on the project.
- Meet one-on-one for two minutes with each TrANS graduate in attendance at the meeting.

sef-108-036 (20180104)

103.10.2.10 Incident Crisis Communications Plan

(1) The Incident Crisis Communications Plan workshop will include a "dry run" of the Crisis Communication Plan to coordinate the response to an incident within the work zone or on the freeway by the contractor, Police, Fire, EMS and other responders. Ensure that representatives of subcontractors also participate in this meeting if requested by the engineer.

103.10.2.11 Notice to Proceed

(1) After all workshops are completed, the Notice to Proceed will be issued.

sef-103-005 (20180104)

28. Clearing and Grubbing, Emerald Ash Borer.

This applies to projects in the emerald ash borer (EAB) quarantined zones to include: Adams, Brown, Buffalo, Calumet, Columbia, Crawford, Dane, Dodge, Door, Douglas, Fond du Lac, Grant, Green, Iowa, Jackson, Jefferson, Juneau, Kenosha, Kewaunee, La Crosse, Lafayette, Manitowoc, Marquette, Milwaukee, Monroe, Oneida, Outagamie, Ozaukee, Portage, Racine, Richland, Rock, Sauk, Sheboygan, Trempealeau, Vernon, Walworth, Washington, Waukesha, Winnebago and Wood counties.

Supplement standard spec 201.3 with the following:

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

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

a) Green ash (*F. pennsylvanica*) is found throughout the state, but is most common in southern Wisconsin. It may form pure stands or grow in association with black ash, red maple, swamp white oak, and elm. It grows as an associate in upland hardwood stands, but is most common in and around stream banks, floodplains, and swamps.
b) Black ash (*F. nigra*) is distributed over the entire state but is most frequently found in northern Wisconsin. It is most common in swamps, but is also found in other wet forest types.

c) Blue ash (*F. quadrangulata*) is a threatened species that is currently found only at a few sites in Waukesha County. The species is at the edge of its range in Wisconsin, but is common in states farther south. The species is not of commercial importance. Blue ash twigs are 4-sided.
d) White ash (*F. americana*) tends to occur primarily in upland forests, often with *Acer saccharum.*

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

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

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

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

ATCP 21.17 Emerald ash borer; import controls and quarantine.

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

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

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

(2) Regulated Items. The following are regulated items for purposes of subparagraph
a) The emerald ash borer, Agrilus planipennis Fairmaire in any living stage.
b) Ash trees.
c) Ash limbs, branches, and roots.
d) Ash logs, slabs or untreated lumber with bark attached.
e) Cut firewood of all non-coniferous species.
f) Ash chips and ash bark fragments (both composted and uncomposted) larger than one inch in diameter.

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

(3) Inspected and Certified Items; Exemption.
Subsection (1) does not prohibit the shipment of a regulated item if a pest control official in the state or province of origin does all of the following:

a) Inspects the regulated item.
b) Certifies any of the following in a certificate that accompanies the shipment:
    1. The regulated item originates from non−infested premises and has not been exposed to emerald ash borer.
    2. The regulated item was found, at the time of inspection, to be free of emerald ash borer.
    3. The regulated item has been effectively treated to destroy emerald ash borer. The certificate shall specify the date and method of treatment.
    4. The regulated item is produced, processed, stored, handled or used under conditions, described in the certificate, that effectively preclude the transmission of emerald ash borer.

Regulatory Considerations

a) The quarantine means that ash wood products may not be transported out of the quarantined area.
b) Clearing and grubbing includes all ash trees that are to be removed from within the project footprint. If ash trees are identified within clearing and grubbing limits of the project, the following measures are required for the disposal:

Chipped Ash Trees

a) May be left on site if used as landscape mulch within the project limits. If used as mulch on site, chips may not be applied at a depth greater than standard mulch applications as this will impede germination of seeded areas.
b) May be buried on site within the right-of-way according to standard spec 201.3 (14).
c) May be buried on adjacent properties to projects within the quarantined zone with prior approval of the engineer according to standard spec 201.3 (15).
d) May be trucked to a licensed landfill within the quarantined zone with the engineer’s approval according to standard spec 201.3 (15).
e) Burning chips is optional if in compliance with standard spec 201.3.
f) Chips must be disposed of immediately if not used for project mulching and may not be stockpiled and left on site for potential transport by others. Chips may be stockpiled temporarily if they will be used for project mulching and are not readily accessible to the public.
g) Chipper equipment must be cleaned following post-chipping activities to ensure no spread of wood chip debris into non-quarantined counties.

Ash logs, Branches, and Roots

a) May be buried without chipping within the existing right-of-way or on adjacent properties according to standard spec 201.3 (14)(15).
b) May be trucked to a licensed landfill within the quarantined zone with the engineer's approval according to standard spec 201.3 (15).
c) Burning is optional if in compliance with standard spec 201.3.
d) Ash logs, branches, and roots must be disposed of immediately and may not stockpiled.
e) All additional costs will be incidental to clearing and grubbing items.
f) Do not bury or use mulch in an area that will be disturbed again during later phases of the project.
g) Anyone moving firewood or ash products from the state or these counties is subject to state and federal fines up to $1,000.00. All fines are the responsibility of the contractor. Obtain updated quarantine information at the DNR Firewood Information Line at (800) 303-WOOD.

Furnishing and Planting Plant Materials

Supplement standard spec 632.2.2 with the following:

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

Updates for Compliance

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

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

Regulated Items

More frequent updates, if any, are available on the DATCP website at **www.datcp.state.wi.us**. Subsection (1) applies to new regulated areas as those areas are identified in the CFR, regardless of whether affected persons receive update notices from DATCP. Persons may request update notices by calling (608) 224−4573, by visiting the DATCP website, or by writing to the above address.
SER-201.1 (20160808)

29. Removing Old Structure Over Waterway With Minimal Debris Station 55+50, Item 203.0600.S.01.

Conform to standard spec 203 as modified in this special provision.

Add the following to standard spec 203:

203.3.6 Removals Over Waterways and Wetlands

203.3.6.2 Removing Old Structure Over Waterway with Minimal Debris

(1) Remove the existing Structure B-67-38 over the Pebble Creek in large sections and conforming to the contractor's approved structure removal and clean-up plan. During superstructure removal, prevent all large pieces and minimize the number of small pieces from entering the waterway or wetland. Remove all reinforcing steel, all concrete, and all other debris that falls into the waterway or wetland. The contractor may leave limited amounts of small concrete pieces scattered over the waterway floor or wetland only if the engineer allows.

(2) Submit a structure removal and clean-up plan as part of the erosion control implementation plan required under standard spec 107.20. Do not start work under the structure removal and clean-up plan without the department's written approval of the plan. Include the following information in the structure removal and clean-up plan:

- Methods and schedule to remove the structure.
- Methods to control potentially harmful environmental impacts.
- Methods for superstructure removal that prevent all large pieces and minimize the number of small pieces from entering the waterway or wetlands.
- Methods to control dust and contain slurry.
- Methods for removing piers and abutments. If blasting in water, include restrictions that regulatory agencies and the contract require.
- Methods for cleaning the waterway or wetlands.

(3) If stockpiling spoil material, place it on an upland site an adequate distance from the waterway, wetland, or any open water created by excavation. Install silt fence between the spoil pile and the waterway, wetland, or excavation site.

Add the following Removing Old Structure bid item to standard spec 203.5.1:

ITEM NUMBER	DESCRIPTION	UNIT
203.0600.S.01	Removing Old Structure Over Waterway With Minimal Debris Station 55+50	LS

203-020 (20170615)

30. Abandoning Sewer, Item 204.0291.S.

A Description
This special provision describes abandoning existing sewer by filling it with cellular concrete according to the pertinent requirements of standard spec 204 and standard spec 501, as shown in the plans, and as hereinafter provided.

B Materials
Provide cellular concrete meeting the following specifications: 1 part cement, 1 part fly ash, 8 parts sand, or an approved equal, and water. Provide cement meeting the requirements of standard spec 501.2.1 for Type 1 Portland Cement. Provide sand meeting the requirements of standard spec 501.2.5.3 Provide water meeting the requirements of standard spec 501.2.4.

C Construction
Fill the abandoned sewer pipe with cellular concrete as directed by the engineer. In the event that the sewer cannot be completely filled from existing manholes, tap the sewer where necessary and fill from these locations.

D Measurement
The department will measure Abandoning Sewer in volume by the cubic yard according to standard spec 109.1.3.

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

ITEM NUMBER	DESCRIPTION	UNIT
204.0291.S	Abandoning Sewer	CY

Payment is full compensation for furnishing all materials and excavating and backfilling where necessary.
204-050 (20080902)

31. Removing Modular Block Retaining Wall, Item 204.9090.S.01.

A Description
This special provision describes removing modular block retaining wall from the northwest corner of Madison Street and Merrill Hills Road according to the pertinent provisions of standard spec 204, as shown in the plans and as hereinafter provided.

B (Vacant)

C Construction
Remove all plastic sheeting, fabric, pipe underdrain, reinforcing grids or tie-backs that abut or underlie the portion of the existing modular block retaining wall to be removed in a manner that will not impact the structural stability or functionality of the portion of the retaining wall to remain in place.

If the contractor damages the blocks of any portion of the retaining wall to remain through its own operations then the contractor shall replace them at no additional expense to the department.

D Measurement

The department will measure Removing Modular Block Retaining Wall by the linear foot of removed modular block retaining wall, 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
204.9090.S.01	Removing Modular Block Retaining Wall	LF

Payment is full compensation for excavating, modular block wall removal, and disposal of surplus wall materials.

32. Removing Traffic Signals and Lighting Intersection of STH 59 and CTH X/Saylesville Rd, Item 204.9105.S.01.

A Description

This special provision describes removing existing traffic signals and lighting at the intersection of STH 59 and CTH X according to the pertinent provisions of standard spec 204 and as hereinafter provided. Specific removal items are noted in the plans.

B (Vacant)

C Construction

Arrange for the de-energizing of the traffic signals with the local electrical utility after receiving approval from the engineer that the existing traffic signals can be removed.

Notify the department's Electrical Field Unit at (414) 266-1170 at least five working days prior to the removal of the traffic signals and lights. Complete the removal work as soon as possible following shut down of this equipment.

The department assumes that all equipment is in good condition and in working order prior to the contractor's removal operation. Prior to removal, inspect and provide a list of any damaged or non-working traffic signal equipment to the engineer. Any equipment not identified as damaged or not working, prior to removal, will be replaced by the contractor at no cost to the department.

Remove all standards and poles per plan from their concrete footings and disassemble out of traffic. Remove the transformer bases from each pole. Remove the signal heads, emergency vehicle pre-emption (EVP) heads, mast arms, luminaires, lamps,

wiring/cabling, and traffic signal mounting devices from each signal standard, arm or pole. Ensure that all access hand-hole doors and all associated hardware remain intact.

Dispose of the underground signal cable, internal wires and street lighting cable off the state right-of-way. Dispose of the HID (metal halide, mercury vapor and high-pressure sodium) lamps according to all environmental regulations.

Deliver the remaining materials to the West Allis Electrical Service Facility at 935 South 60th Street, West Allis, Milwaukee County. Contact the department's Electrical Field Unit at (414) 266-1170 at least five working days prior to delivery to make arrangements.

Department forces will remove the signal cabinet from the footing. The signal cabinet and associated signal cabinet equipment will be removed from the site by department forces and will remain the property of the department.

D Measurement

The department will measure Remove Traffic Signals and Lighting Intersection of STH 59 and CTH X/Saylesville Rd as a single lump sum unit of work for each intersection, acceptably completed.

E Payment

Add the following to standard spec 204.5:

ITEM NUMBER	DESCRIPTION	UNIT
204.9105.S.01	Remove Traffic Signals and Lights Intersection of STH 59 and CTH X/Saylesville Rd	LS

SER-204.5 (Revised)

33. Excavation, Hauling, and Disposal of Petroleum Contaminated Soil, Item 205.0501.S.

A Description

A.1 General

This special provision describes excavating, loading, hauling, and disposing of petroleum contaminated soil at a DNR approved bioremediation facility. The closest DNR approved bioremediation facilities are:

Advanced Disposal Emerald Park Landfill
W124 S10629 124th Street
Muskego, WI 53150
(414) 529-1360

Waste Management Metro Landfill
10712 South 124th Street
Franklin, WI 53132
(414) 529-6180

Perform this work according to standard spec 205 and with pertinent parts of Chapters NR 700-754 of the Wisconsin Administrative Code, as supplemented herein. Per NR 718.07, a solid waste collection and transportation service-operating license is required under NR 502.06 for each vehicle used to transport contaminated soil.

A.2 Notice to the Contractor – Contaminated Soil Location(s)

The department completed testing for soil contamination for locations within this project where excavation is required. Testing indicated that petroleum-contaminated soil is present at the following location(s) as shown on the plans:

- Glacial Drumlin State Trail western area (Area 1), as shown on the project plans, approximately Station 45+80 to Station 49+30 10 feet to 15 feet LT and RT of the reference line, from 0' to approximately 2' below the ground surface elevation of the trail. Soil contains low-level PVOCs, sporadic pieces of slag, and somewhat elevated arsenic concentrations and must be managed. Approximately 425 cubic yards (approximately 725 tons at an estimated 1.7 tons per cubic yard) of soil will be excavated from this location for grading and construction of the trail underpass. Dewatering may be required as necessary to facilitate Trail underpass construction as discussed further below.
- Glacial Drumlin State Trail central area (Area 2), as shown on the project plans, approximately Station 49+30 to Station 50+35 15 feet to 20 feet LT and RT of the reference line, from 0' to approximately 8' below the ground surface elevation of the Trail. Soil contains low-level PVOCs, sporadic pieces of slag, and somewhat elevated arsenic concentrations and must be managed. Approximately 1,920 cubic yards (approximately 3,275 tons at an estimated 1.7 tons per cubic yard) of soil will be excavated from this location for grading and construction of the Trail underpass. Dewatering may be required as necessary to facilitate Trail underpass construction as discussed further below.
- Glacial Drumlin State Trail eastern area (Area 3), as shown on the project plans, approximately Station 50+35 to Station 54+80 10 feet to 15 feet LT and RT of the reference line, from 0' to approximately 4' below the ground surface elevation of the Trail. Soil contains low-level PVOCs, sporadic pieces of slag, and somewhat elevated arsenic and lead concentrations and must be managed. Approximately 495 cubic yards (approximately 850 tons at an estimated 1.7 tons per cubic yard) of soil will be excavated from this location for grading and construction of the Trail underpass. Dewatering may be required as necessary to facilitate Trail underpass construction as discussed further below.
- Wisconsin and Southern Railroad northern area (Area 4), as shown on the project plans, approximately Station 174+15 to Station 174+40 55 feet LT to 140 feet RT of the reference line, from 0' to approximately 2' below the ground surface elevation of the railroad tracks. Soil contains low-level petroleum volatile organic compounds (PVOCs), sporadic pieces of slag, and somewhat elevated arsenic concentrations and must be managed. Approximately 225 cubic yards (approximately 400 tons at an estimated 1.7 tons per cubic yard) of soil will be excavated from this location for grading.

- Wisconsin and Southern Railroad southern area (Area 5), as shown on the project plans, Station 173+55 to Station 173+80 80 feet LT to 115 feet RT of the reference line, from 0' to approximately 2' below the ground surface elevation of the railroad tracks. Soil contains low-level petroleum volatile organic compounds (PVOCs), sporadic pieces of slag, and somewhat elevated arsenic, cadmium and lead concentrations and must be managed. Approximately 210 cubic yards (approximately 350 tons at an estimated 1.7 tons per cubic yard) of soil will be excavated from this location for grading.

Directly load soil excavated by the project at the above location into a truck that will transport the soil to a WDNR-licensed landfill facility.

If contaminated soils are encountered elsewhere on the project, terminate excavation activities in the area and notify the engineer.

For further information regarding previous investigation and remediation activities at these sites contact:

Name:	Mr. Andrew Malsom
Address:	141 NW Barstow Street, PO Box 798, Waukesha, WI 53187-0798
Phone:	(262) 548-6705
Fax:	(262) 548-6891
E-mail:	Andrew.Malsom@dot.wi.gov

A.3 Coordination

Coordinate work under this contract with the environment consultant:

Consultant:	Natural Resource Technology (NRT)
Address:	234 W. Florida Street, Fifth Floor, Milwaukee, WI 53204
Contact:	Mr. Ken Yass, PE, CHMM
Phone:	(414) 837-3637
Fax:	(414) 837-3608
E-mail:	kyass@naturalrt.com

The role of the environmental consultant will be limited to:

1. Determining the location and limits of contaminated soil to be excavated based on soil analytical results from previous investigations, visual observations, and field screening of soil that is excavated.
2. Identifying contaminated soils to be hauled to the bioremediation facility.
3. Documenting that activities associated with management of contaminated soil are in conformance with the contaminated soil management methods for this project as specified herein.
4. Obtaining the necessary approvals for disposal of contaminated soil from the bioremediation facility.
5. Providing contractor with groundwater sampling results to facilitate contractor's coordination of approvals with the WDNR for groundwater management as discussed further below.

Provide at least a 14-calendar day notice of the preconstruction conference date to the environmental consultant. At the preconstruction conference, provide a schedule for all excavation activities in the areas of contamination to the environmental consultant. Also notify the environmental consultant at least three calendar days prior to commencement of excavation activities in each of the contaminated areas.

Coordinate with the environmental consultant to ensure that the environmental consultant is present during excavation activities in the contaminated areas. Perform excavation work in each of the contaminated areas on a continuous basis until excavation work is completed.

Identify the DNR approved bioremediation facility that will be used for bioremediation and/or disposal of contaminated soils, and provide this information to the environmental consultant no later than 30 calendar days prior to commencement of excavation activities in the contaminated areas or at the preconstruction conference, whichever comes first. The environmental consultant will be responsible for obtaining the necessary approvals for bioremediation and/or disposal of contaminated soils from the bioremediation facility. Do not transport contaminated soil offsite without prior approval from the environmental consultant.

Contractor shall be responsible for obtaining the necessary WDNR approvals and coordinating discharge of water to Pebble Creek under the WDNR's Wisconsin Pollutant Discharge Elimination System (WPDES) General Permit for Contaminated Groundwater from Remedial Action Operations (Chapter 283, Wis. Statutes – WPDES Permit No. WI-0046566-6).

A.4 Health and Safety Requirements
Supplement standard spec 107.1 with the following:

During excavation activities, expect to encounter soil contaminated with low-level metals (arsenic, cadmium and lead) and petroleum contamination and water contaminated with low-level metals (arsenic and lead). Site workers taking part in activities that will result in the reasonable probability of exposure to safety and health hazards associated with hazardous materials shall have completed health and safety training that meets the Occupational Safety and Health Administration (OSHA) requirements for Hazardous Waste Operations and Emergency Response (HAZWOPER), as provided in 29 CFR 1910.120.

Prepare a site-specific Health and Safety Plan, and develop, delineate and enforce the health and safety exclusion zones for each contaminated site location as required by 29 CFR 1910.120. Submit the site-specific health and safety plan and written documentation of up-to-date OSHA training to the engineer prior to the start of work.

B (Vacant)

C Construction

Add the following to standard spec 205.3:

Control operations in the contaminated areas to minimize the quantity of contaminated soil excavated and contaminated water pumped.

The environmental consultant will periodically evaluate soil excavated from the contaminated areas to determine if the soil will require offsite bioremediation. The environmental consultant will evaluate excavated soil based on field screening results, visual observations, and soil analytical results from previous environmental investigations. Assist the environmental consultant in collecting soil samples for evaluation using excavation equipment. The sampling frequency shall be a maximum of one sample for every 15 cubic yards excavated.

Directly load and haul soils designated by the environmental consultant for offsite bioremediation to the DNR approved bioremediation facility. Use loading and hauling practices that are appropriate to prevent any spills or releases of petroleum-contaminated soils or residues. Prior to transport, sufficiently dewater soils designated for off-site bioremediation so as not to contain free liquids.

Testing by the department has indicated that the depth to groundwater is approximately nine feet below grade, which is shallower than the planned maximum excavation depth of 12 feet below grade at the time of the Phase 2.5 investigation. Therefore, dewatering of groundwater may be required to facilitate Trail underpass construction. Water generated during construction will require proper handling and discharge. Water is anticipated to be permitted to discharge to Pebble Creek under the WDNR's WPDES General Permit for Contaminated Groundwater from Remedial Action Operations (Chapter 283, Wis. Statutes – WPDES Permit No. WI-0046566-6). Contractor shall perform all necessary monitoring to document compliance with the requirements of this permit and the WDNR. Furnish, install, operate, maintain, disassemble, and remove any treatment equipment that may be necessary to comply with the requirements of the WPDES permit and the WDNR.

Grit (such as sand, sediment, detritus, etc.) will be removed from water prior to direct discharge to Pebble Creek.

Provide, operate, and maintain adequate pumping and water storage equipment. Notify the engineer of any discharge activities, and obtain any permits necessary to discharge water. Provide copies of such permits to the engineer. Meet any requirements and pay any costs for obtaining and complying with such permit use. Follow all applicable legislative statutes, judiciary decisions, and regulations of the State of Wisconsin.

The environmental consultant may periodically evaluate water pumped during construction activities. Assist the environmental consultant in collecting water samples.

If necessary, water generated during construction can be pumped into temporary holding tanks provided by the contractor in order to complete construction. The contractor shall coordinate holding tank mobilizations and transportation/discharge of water. The cost for holding tank mobilization, transportation, and water discharge will be paid by the contractor.

Sediment associated with dewatering activities shall be containerized and tested by the environmental consultant for waste characterization purposes. The environmental consultant shall coordinate approval for disposal of the sediment. Contractor shall not haul sediment to an approved landfill for disposal without specific approval from the environmental consultant.

D Measurement

The department will measure Excavation, Hauling, and Disposal of Petroleum Contaminated Soil in tons of contaminated soil, accepted by the bioremediation facility as documented by weight tickets generated by the bioremediation facility.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
205.0501.S	Excavation, Hauling, and Disposal of Petroleum Contaminated Soil	TON

Payment is full compensation for excavating, segregating, loading, hauling, and disposal of contaminated soil; obtaining solid waste collection and transportation service operating licenses; assisting in the collection soil samples for field evaluation; and dewatering of soils prior to transport, if necessary. Management and discharge of low-level metals contaminated water is considered incidental to other bid items in the contract. The department will not pay directly for management and discharge of low-level metals contaminated water.

34. QMP Subgrade.

A Description

This special provision describes requirements for subgrade materials within the roadway foundation as defined in standard spec 101.3. Conform to standard spec 207 as modified in this special provision for all work within the roadway foundation at the following locations:

Waukesha Bypass (Genesee Road to Fiddlers Creek Drive), USH 18, Mainline, Cross Roads, and local roads

Provide and maintain a quality control program. A quality control program is defined as all activities, including process control inspection, sampling and testing, documentation, and necessary adjustments in the process that are related to the construction of subgrade which meets all the requirements of this provision.

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

B Materials

B.1 Quality Control Plan

Submit a comprehensive written quality control plan to the engineer at or before the pre-construction meeting. Do not perform grading 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. 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. An outline for resolving a process control problem. Include responsible personnel, required documentation, and appropriate communication steps.
4. Location of the QC laboratory, retained sample storage, and control charts and other documentation.
5. A summary of the locations and calculated quantities to be tested under this provision.
6. An explanation regarding the basis of acceptance for material that cannot be tested by nuclear methods due to a high percentage of oversized particles.

B.2 Personnel

Perform the quality control sampling, testing, and documentation required under this provision using HTCP certified technicians. Have a grading technician certified under HTCP at level I (or ACT Grading Technician under the direction of a certified technician) present at the site during all subgrade preparation, fill placement, compaction, and nuclear testing activities. Have a nuclear density technician certified under HTCP at level I perform field density and field moisture content testing.

B.3 Laboratory

Perform quality control testing in a department-qualified laboratory. Obtain information on the Wisconsin laboratory qualification program from:

Materials Laboratory
3502 Kinsman Boulevard
Madison, Wisconsin 53704-2583
Telephone: (608) 246-7938
http://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/tools/appr-prod/qual-lab-req.aspx

B.4 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 within 12 months before using it on the project. Retain a copy of the calibration certificate with the gauge. Nuclear density gauge calibration verification is required daily when earthwork construction operations require testing under this special provision article. This calibration verification shall be performed using the departments "Validator" apparatus which is located at the Zoo Interchange Construction Field Office: 2424 S. 102nd St., West Allis, Wisconsin 53227. Establish a standard gauge reading for the "Validator" using the ten test average method. The source emitter depth for calibration verification, in the direct transmission mode, will be determined by the engineer. This procedure will establish the "Validator" apparatus, as the contractor's project reference site.

Conform to ASTM D 2950 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.

B.5 Soil Source Study

Conduct and submit a soil source study before beginning of grading operations. Ensure that this study identifies each distinct soil type on the project within the top 15 feet of cut areas and all borrow material. Provide the in-bank natural moisture content for each soil. Develop moisture-density curves for each identified soil type by utilizing AASHTO T 99, with a minimum of 5 individual points, and a zero air voids curve at a specific gravity of 2.65. If a different specific gravity is used perform a specific gravity test. Determine the maximum density and corresponding optimum moisture level for each soil type. Develop a site-specific family of Proctor curves for this contract from the completed soil source study and submit to the engineer for review and acceptance.

Perform characterization tests on each of the soil types selected for the soil source study. The tests for roadway include AASHTO T 89, AASHTO T 90, AASHTO T 27, and AASHTO T 11. Classify each soil type selected according to the AASHTO soil classification system based on the characterization tests. Do not begin grading operations until the engineer accepts the soil source study.

Use the soil types identified in the soil source study with corresponding maximum densities and optimum moisture values to determine the compaction compliance on the project. Continue the soil source study in those areas of cuts greater than 15 feet that were not accessible during the initial study. Include data on additional soil types if project conditions change. Ensure that tests of additional soil types are complete and the engineer accepts the results before incorporating the material into the roadway foundation.

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 at:

Regional Materials Laboratory
Attn: Paul Emmons
935 S. 60th Street
West Allis, Wisconsin 53214
Telephone: (414) 266-1158

Retain and identify two representative samples of each Proctor. Submit one sample to the engineer. Retain one sample on site for use when performing textural identification.

B.6 Quality Control Documentation

B.6.1 Control Charts

Maintain separate control charts for the field density and field moisture content of each grading area. Designate grading areas within the project as follows:

1. Embankment portions of the project, except within 200 feet of bridge abutments.
2. Embankment within 200 feet of bridge abutments.
3. Subgrade cut portions of the project.
4. Embankment in pipe removal, pipe culvert, sewer and waterline trenches.
5. Structure and granular backfill placed at bridge abutments.
6. Embankments of the project where embankments are 20 feet or higher regardless of location to be known as special compaction area.

Ensure that all tests are recorded and become part of the project records. Plot required test results on the control charts. Include random and engineer-requested testing but only include the contractor’s randomly selected QC test results in the 4-point running average. The contractor may plot other contractor-performed process control or informational tests on the control charts, but do not include them in 4-point running averages.

Post control charts in an engineer-approved location and update daily. Ensure that the control charts include the project number, the test number, each test element, the applicable control limits, the contractor’s individual test results, the running average of the

last 4 data points, and the engineer's quality verification test data points. Use the control charts as part of a process control system for identifying potential problems and assignable causes. Format control charts according to the CMM.

Submit control charts to the engineer in a neat and orderly manner within 10 business days after completing subgrade construction.

B.6.2 Records

Document all observations, inspection records, adjustments to fill placement procedures, soil changes, and test results daily. Note the results of the observations and inspection records as they occur in a permanent field record. Density test locations shall be identified by a specific test number and include horizontal and vertical control for reference as noted in Section B.7.1.

Provide copies of the field density and field moisture running average calculation sheets, the one-point Proctor tests, records of procedure adjustments, and soil changes to the engineer daily.

Submit original testing records to the engineer in a neat and orderly manner within 10 business days after completing subgrade construction.

B.7 Contractor Testing

B.7.1 General

Have a grading technician certified under HTCP at level I (or ACT Grading Technician under the direction of a certified technician) present during all subgrade preparation, fill placement, compaction, and testing. Have a nuclear density technician certified under HTCP at level I perform the testing for field density and field moisture content. During subgrade construction, use sampling and testing methods identified in the CMM to perform the required tests at randomly selected locations at the indicated minimum frequency for each grading area.

Determine the cubic yards for testing based on a total load count system the engineer and contractor agree to.

For each test, provide the cubic yards represented and the test location to within 2 feet horizontally and 0.5 feet vertically. Use project stationing to determine horizontal location and grade stakes to determine vertical location. Elevations must be referenced to NAV88 datum.

Test areas of suspect compaction or areas which appear to be nonconforming as determined by the engineer.

B.7.2 Field Density and Field Moisture

Perform the field density and field moisture tests using the nuclear density meter method according to AASHTO T 310. Ensure that each field density test material is related to one of the specific soil types identified in the soil source study in determining the percent

compaction. Use textural identification as the primary method of establishing this relationship. Utilize the representative samples retained from the soil source study when performing the textural identification. Use a coarse particle correction according to AASHTO T 224.

If field density and field moisture tests cannot be performed by the nuclear density method due to a high percentage of oversized particles as determined according to AASHTO T 99 for highway embankments, observe the placement of the embankment and document the basis of acceptance. Document daily quantities of untested embankment and locations where untested embankment is placed, and keep a cumulative quantity of untested embankment material for the duration of the project. Include the daily documentation and a summary of the cumulative quantity of untested embankment material with the project records.

B.7.3 One-Point Proctor

Obtain a representative sample of the fill material and test according to AASHTO T 272. Compare the sample to the curves developed in the soils source study to determine the maximum dry density and optimum moisture. Use the appendix for AASHTO T 272 as a guide in this determination.

B.7.4 Testing Frequency

B.7.4.1 Subgrade Embankment portions of the project, except within 200 Feet of bridge abutments

Perform the required tests at the following frequencies:

Test	Minimum Frequency
Field Density and Moisture (AASHTO T 310)	One per 2,000 cubic yards of fill per lift or one test per grading area per day whichever yields the most tests.
One-Point Proctor (AASHTO T 272)	One per 9,000 cubic yards or when a change in fill material occurs.

B.7.4.2 Subgrade Embankment Within 200 Feet of Bridge Abutments

Perform the required tests at the following frequencies:

Test	Minimum Frequency
Field Density and Moisture (AASHTO T 310)	One per 1,000 cubic yards of fill per lift or one test per grading area per day whichever yields the most tests.
One-Point Proctor (AASHTO T 272)	One per 9,000 cubic yards or when a change in fill material occurs.

B.7.4.3 Subgrade Cut

Perform the required tests at the following frequencies:

Test	Minimum Frequency
Field Density and Moisture (AASHTO T 310)	One test per 1,000 linear feet of cut or one test per cut area whichever yields the most tests. The testing will be completed at the finished subgrade elevation.

B.7.4.4 Subgrade Embankment in Pipe Removals, Pipe Culvert, Sewer and Waterline Trenches

Perform the required tests at the following minimum frequencies per trench run between structures. Test trenches individually at the frequency listed below. For example, lateral lines and trunk lines are to be considered individual trenches:

Test	Minimum Frequency
Field Density and Moisture (AASHTO T 310)	One test per 100 CY of backfill placed per lift or one test per day whichever yields the most tests.
One-Point Proctor (AASHTO T 272)	One per 3,000 cubic yards or when a change in fill material occurs.

B.7.4.5 Structure and Granular Backfill at Bridge Abutments

Perform the required tests at the following minimum frequencies:

Test	Minimum Frequency
Field Density and Moisture (AASHTO T 310)	One test per 2 feet of vertical backfill height per abutment.
One-Point Proctor (AASHTO T 272)	One per 3,000 cubic yards or when a change in fill material occurs.

B.7.4.6 Embankments of the project 20 feet or higherregardless of location to be known as special compaction area

Perform the required tests at the following minimum frequencies but exclude MSE wall backfill:

Test	Minimum Frequency
Field Density and Moisture (AASHTO T 310)	One per 2,000 cubic yards of fill per lift or one test per grading area per day whichever yields the most tests.
One-Point Proctor (AASHTO T 272)	One per 6,000 cubic yards or when a change in fill material occurs.

B.7.5 Compaction Zones

B.7.5.1 Subgrade Embankment portions of the project, except within 200 Feet of Bridge Abutments

Embankment material placed within 6 feet of the finished subgrade elevation is classified as upper zone material. Material placed more than 6 feet below the finished subgrade elevation is classified as lower zone material.

B.7.5.2 Subgrade Embankment Within 200 Feet of Bridge Abutments

All embankment material placed within 200 feet of bridge abutments is subject to the quality controls for upper zone material.

B.7.5.3 Subgrade Cut

Subgrade material in cut areas is subject to the quality controls for upper zone material.

B.7.5.4 Subgrade Embankment in Pipe Removal and Culvert Pipe Trenches

Material placed within pipe removal and culvert pipe trenches are subject to the quality controls for the zone that the material is located in.

B.7.5.5 Structure and Granular Backfill at Bridge Abutments

All backfill material placed adjacent to bridge abutments is subject to the quality controls for upper zone material.

B.7.5.6 Embankments of the project 20 feet or higher regardless of zone to be known as special compaction area

All embankment material placed where embankments are 20 feet or higher regardless of zone is subject to the quality controls for upper zone material. Exclude MSE wall backfill.

For this contract, the station ranges where embankments are 20 feet or higher and require higher levels of compaction (special compaction) are as follows:

-Sunset Drive Station 53+00 to Station 57+50

B.7.6 Control Limits

B.7.6.1 Field Density

B.7.6.1.1 General Conditions

The lower control limit for field density measurements in the upper zone is a minimum of 95.0 percent of the maximum dry density as determined by AASHTO T 99 or T 272 for the 4-point running average and a minimum of 92.0 percent of the maximum dry density for any individual test.

The lower control limit for field density measurements in the lower zone is a minimum of 93.0 percent of the maximum dry density as determined by AASHTO T 99 or T 272 for the 4-point running average and a minimum of 90.0 percent of the maximum dry density for any individual test.

B.7.6.1.2 Embankments of the project 20 feet or higher regardless of zone to be known as special compaction area excluding MSE wall backfill

The lower control limit for field density measurements in the special compaction area is a minimum of 98.0 percent of the maximum dry density as determined by AASHTO T 99 or T 272 for the 4-point running average and a minimum of 95.0 percent of the maximum dry density for any individual test.

B.7.6.2 Field Moisture Content

B.7.6.2.1 General Conditions

The upper control limit for the field moisture content in the upper and lower zones is 105.0 percent of the optimum moisture as determined by AASHTO T 99 or T 272 for the 4-point running average.

The lower control limit for the field moisture content in the upper and lower zones is 65.0 percent of the determined optimum moisture for the 4-point running average. There is no lower control limit for the field moisture of material having less than 5 percent passing the No. 200 sieve.

B.7.6.2.2 Embankments of the project 20 feet or higher regardless of zone to be known as special compaction area excluding MSE wall backfill

The upper control limit for the field moisture content in the special compaction area is 105.0 percent of the optimum moisture as determined by AASHTO T 99 or T 272 for the 4-point running average. The lower control limit for the field moisture content in the special compaction area is 90 percent of the determined optimum moisture for the 4-point running average.

B.7.7 Corrective Action

Notify the engineer if an individual field density test falls below the individual test control limit. Perform corrective actions, acceptable to the engineer to improve the density of the subgrade material. After corrective action, perform a randomly located retest within the represented quantity to ensure that the material is acceptable. The field density tests, soil moisture content tests and soil stability must meet the requirements of this special provision for the fill to be considered acceptable.

Notify the engineer if the field density or field moisture running average point falls below the running average control limit for field density or outside the control limits for field moisture. The subgrade in this area is unacceptable. Perform corrective actions, acceptable to the engineer to improve the quality of the material represented by the running average point. Retest each corrected area at a new random location within its represented quantity and determine a new 4-point running average. If the new running average is not acceptable, perform further corrective actions and retest at new random locations.

If the contractor's control data is proven incorrect resulting in a field density or field moisture point falling below the control limit for field density or outside the control limits for field moisture, the subgrade is unacceptable. Employ the methods described above for unacceptable material.

B.8 Department Testing

B.8.1 General

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 verification and independent assurance personnel for the project.

The department will provide field density and field moisture test results to the contractor on the day of testing. Test results from Proctor split samples will be provided to the contractor within 7 business days after the sample has been received by the department.

B.8.2 Verification Testing

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

The department will test field density and field moisture randomly at locations independent of the contractor’s QC work. The department will use split samples for verification of Proctor testing. In all cases, the department will conduct the verification tests in a separate laboratory and with separate equipment from the contractor's QC tests.

The department will perform verification testing as follows:

1. The department will conduct verification tests on Proctor split samples taken by the contractor. These samples may be from the Soil Source Study or the one-point Proctor or sample locations chosen by the engineer from anywhere in the process. The minimum verification testing frequency is one per 90,000 cubic yards, with at least one for each soil type identified in the Soil Source Study.
2. The department will test the first split sample obtained by the contractor for the one-point Proctor. The engineer may select any contractor-retained sample for verification testing.
3. The department will conduct at least one verification test for field density and field moisture per 20,000 cubic yards.

Plot verification tests on the contractor’s quality control charts as specified in B.6.1. Do not include verification tests in the 4-point running average.

If verification tests are within specified control limits, no further action is required. If verification tests are not within specified control limits, the engineer and contractor will jointly investigate any testing discrepancies. The investigation may include additional testing as well as review and observation of both the department's and contractor's sampling and testing procedures and equipment. Both parties will document all investigative work.

Correct all deficiencies. If the contractor does not respond to an engineer request to correct a deficiency or resolve a testing discrepancy, the engineer may suspend grading work until action is taken. Resolve disputes as specified in B.9.

B.8.3 Independent Assurance Testing

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, which 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.

Plot the independent assurance tests on the contractor's quality control charts as specified in B.6.1. Do not include independent assurance tests in the 4-point running average.

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 grading work until action is taken. Resolve disputes as specified in B.9.

B.9 Dispute Resolution

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.

If the project personnel cannot resolve a dispute and the dispute affects payment or could result in incorporating nonconforming 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 tests 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.

B.10 Acceptance
The department will accept the material tested under this provision based on the contractor QC tests unless it is shown through verification testing or the dispute resolution process that the contractor's test results are in error.

C (Vacant)

D (Vacant)

E Payment
Costs for furnishing 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.
~~sef-207-005 (20171004)~~

35. Borrow Special.

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 standard spec. This work is incidental to the Roadway Embankment bid item.
SER-208.1 (20170627)

36. Select Borrow.

A General

Conform to the requirements of spec 208 and as hereinafter provided.

B Material

Furnish and use material that consists of granular material meeting the following requirements:

Conform to the requirements of standard spec 209.2, except that the material shall contain maximum of 5.0% by weight passing the No. 200 sieve.

37. 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 and paid for under the Aggregate Detours, 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.
http://wisconsindot.gov/rdwy/cmm/cm-08-00toc.pdf

A.2 Small Quantities

(1) The department defines a small quantity, for each individual Base Aggregate bid item, as a contract 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:

A.2.1 Quality Control Plan

(1) Submit an abbreviated quality control plan consisting of the following:

1. Organizational chart including names, telephone numbers, current certifications with HTCP numbers, and expiration dates, and roles and responsibilities of all persons involved in the quality control program for material under affected bid items.

A.2.2 Contractor Testing

1. Testing frequency:

Contract Quantity	Minimum Required Testing per source
≤ 6000 tons	One stockpile test before placement, and two production or one loadout test. *[1] [2]*
> 6000 tons and ≤ 9000 tons	One stockpile and Three placement tests *[3] [4] [5]*

[1] Submit production test results to the engineer for review before incorporating the material into the work. Production test results are valid for a period of 3 years.

[2] If the actual quantity overruns 6,000 tons, on the next day of placement perform one randomly selected placement test for each 3000 tons, or fraction of 3000 tons, of overrun.

[3] If the actual quantity overruns 9000 tons, on the next day of placement perform one randomly selected placement test for each 3000 tons, or fraction of 3000 tons, of overrun.

[4] For 3-inch material or lift thickness of 3 inch or less, obtain samples at load-out.

[5] Divide the aggregate into uniformly sized sublots for testing.

2. Stockpile testing for concrete pavement recycled in place will be sampled on the first day of production.
3. Until a four point running average is established, individual placement tests will be used for acceptance. 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. 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.

A.2.3 Department Testing

(1) The department will perform testing as specified in B.8 except as follows:
Department testing may be waived for contract bid item quantities of 500 tons or less.

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:

SAMPLING AND TESTING ROLES	TEST STANDARD	REQUIRED CERTIFICATION
Random Sampling of Materials Sampling Aggregates	ASTM D3665 AASHTO T2 *[1]*	Transportation Materials Sampling Technician (TMS) Aggregate Technician I (AGGTEC-I) AGGTEC-I Assistant Certified Technician (ACT-AGG)
Percent passing the 200 Sieve Gradation Moisture Content Fractured Faces	AASHTO T11 AASHTO T27 AASHTO T255 ASTM D5821	Aggregate Technician I (AGGTEC-I) AGGTEC-I Assistant Certified Technician (ACT-AGG)
Liquid and Plasticity Index	AASHTO T89 AASHTO T90	Aggregate Testing for Transportation Systems (ATTS) Grading Technician I (GRADINGTEC-1) Grading Assistant Certified Technician (ACT-Grading)
Plasticity Check	AASHTO T90	Aggregate Technician I (AGGTEC-I) AGGTEC-I Assistant Certified Technician (ACT-AGG) Grading Technician I (GRADINGTEC-1) Grading Assistant Certified Technician (ACT-Grading)

[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 one business day after obtaining a sample. 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 one business day after obtaining a sample. 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 placement tests, include only QC placement 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) Perform one stockpile test from each source before placement. One stockpile test may be used for multiple projects up to 60 calendar days.

(3) Test gradation once per 3000 tons of material placed or fraction thereof. 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 watering and compacting; except collect 3-inch samples or lift thickness of 3 inch or less 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.

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

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

(6) 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.

(7) 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 four 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 four 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. Perform one stockpile test from each source before 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 watering and compacting; except, for 3-inch aggregates or for a lift thickness of 3 inch or less, the department will collect samples 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 according to CMM 8-10.5.2 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.

stp-301-010 (20171130)

38. Shaping Roadway, Item 305.0502.S.

A Description

This special provision describes blading the existing shoulder aggregates on the prepared foundation across the pavement removal area, and shaping and compacting the aggregate according to the pertinent provisions of standard spec 305, as shown on the plan, and as hereinafter provided.

B (Vacant)

C (Vacant)

D Measurement

The department will measure Shaping Roadway by the station along the centerline of each roadway.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
305.0502.S	Shaping Roadway	STA

Payment is full compensation for furnishing all blading, shaping, and compacting; and for preparing the foundation.

stp-305-005 (20080902)

39. Breaker Run.

Add the following to standard spec 311.2:

Conform to the following gradation:

SEIVE	PERCENTAGE PASSING (by weight)
6-Inch	90 – 100
1 1/2-Inch	20 – 50
No. 10	0 - 10

Delete standard spec 311.2(4)

40. Select Crushed Material.

Replace standard spec 312.2(6) with the following:

The department will assess Select Crushed Material acceptability based primarily on the engineer's visual inspection. The department may require the contractor to sample, test, and report gradation or the fracture results to show conformance of the material. One test per source, production process, or change of production process may be required.

Replace standard spec 312.5(2) with the following:

Payment for Select Crushed Material is full compensation for providing and compacting Select Crushed Material and all work necessary to provide gradation or fracture test results.
SER-312.1 (20160831)

41. Concrete Pavement Joint Layout, Item 415.5110.S.

A Description
This special provision describes providing a concrete pavement or concrete base joint layout design for intersections and marking the location of all joints in the field.

B (Vacant)

C Construction
Plan and locate all points necessary to establish the horizontal position of the transverse and longitudinal joints in the concrete to prevent uncontrolled cracking. Submit a joint layout design to the engineer at least 7 calendar days before paving each intersection. Do not lay out joints until the engineer has reviewed the joint layout design. Mark the location of all concrete joints in the field. Follow the plan details for joints in concrete making adjustments as required to fit field conditions.

D Measurement
The department will measure Concrete Pavement Joint Layout as a single lump sum unit for all joint layout designs and marking, 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
415.5110.S	Concrete Pavement Joint Layout	LS

Payment is full compensation for providing the intersection joint layout designs and marking all joints in the field.

The department will adjust pay for crack repairs as specified in standard spec 415.5.3
stp-415-020 (20170615)

42. 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 Standard spec
3502 Kinsman Blvd.
Madison, Wisconsin 53704
Telephone: (608) 243-5998

B.3.2 Comparison of Nuclear Gauges

B.3.2.1 Comparison of QC and QV Nuclear Gauges

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

(2) Compare 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 Comparison 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) The department will administer density incentives according to standard spec 460.5.2.3.

stp-460-020 (20161130)

43. Cold Patch, Item 495.1000.S.

A Description

This special provision describes furnishing cold patch and filling potholes and other voids in existing pavement surfaces as the engineer directs.

B Materials

Furnish a mixture of course aggregate, natural sand, and MC-250 bituminous material designed to have a workability range of 15-100º F without heating. Ensure that the mixture:

- Adheres to wet surfaces.
- Resists damage from water, salt, and deicing products.
- Requires no mixing or special handling before use.
- Supports traffic immediately after placement and compaction.

Conform to the following gradation:

SIEVE SIZE	PERCENT PASSING (by weight)
1/2-inch (12.5 mm)	100
3/8-inch (9.5 mm)	90 - 100
No. 4 (4.75 mm)	–90 max
No. 8 (2.38 mm)	20 - 65
No. 200 (0.074 mm)	2 - 10
Bitumen	4.8 - 5.4

The department will accept cold patch based primarily on the engineer's visual inspection. The department may also test for gradation.

C Construction

Stockpile cold patch on site on a smooth, firm, well-drained area cleared of vegetation and foreign material. Cover the stockpile and ensure that it is easily accessible. Replenish the stockpile throughout the project duration, but limit the size at any given time to 10 tons on site unless the engineer approves otherwise. Dispose of unused material at project completion unless the engineer directs otherwise.

Place cold patch by hand. Remove ponded water and loose debris before placement. Compact flush with a tamper, roller, or vehicle tire after placement.

Refill patched areas as necessary to maintain a flush pavement surface until project completion.

D Measurement
The department will measure Cold Patch by the ton, acceptably stockpiled on site.

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

ITEM NUMBER	DESCRIPTION	UNIT
495.1000.S	Cold Patch	TON

Payment for Cold Patch is full compensation for providing and maintaining patches; for furnishing and replenishing stockpiled material on-site; and for disposing of excess material at project completion.
stp-495-010 (20160607)

44. 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 standard spec. 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)

45. Bar Steel Reinforcement HS Stainless Structures, Item 505.0800.S.

A Description

This special provision describes furnishing and placing stainless steel reinforcing bars.

Conform to standard spec 505 as modified in this special provision.

B Materials

B.1 General

Furnish stainless steel reinforcing bars conforming to ASTM A955 and to one of the following Unified Numbering System (UNS) designations: S31653, S31803, S32205, or S32304. Supply grade 60 bars, all of the same UNS designation. Conform to the chemical composition specified for the given UNS designation in ASTM A276 table 1.

Supply bars that are free of dirt, mill scale, oil, and debris by pickling to a bright or uniform light finish. The department may reject bars displaying rust/oxidation, questionable blemishes, or lack of a bright or uniform pickled surface.

Furnish chairs or continuous supports made of stainless steel or recycled plastic to support high-strength stainless bar steel reinforcement subject to the plastic chair restriction stated in standard spec 505.3.4(1).

Furnish tie wire made from one of the UNS alloys allowed for bar steel or from an engineer-approved plastic or nonmetallic material. Ensure that stainless steel tie wire is dead soft annealed.

B.2 Fabrication

Before fabrication, supply test results from an independent testing agency certifying that the reinforcement meets the requirements of Annex A1 of ASTM A955.

Bend bars conforming to standard spec 505.3.2 and according to ASTM A955. Bend and cut bars using equipment thoroughly cleaned or otherwise modified to prevent contamination from carbon steel or other contaminants. Use tools dedicated solely to working with stainless steel.

B.3 Control of Material

Identify reinforcement bars delivered to the project site with tags bearing the identification symbols used in the plans. Include the UNS designation, heat treat condition, heat number, grade corresponding to minimum yield strength level, and sufficient documentation to track each bar bundle to a mill test report.

Provide samples for department testing and acceptance according to CMM 8-50 Exhibit 1 requirements for concrete masonry reinforcement for uncoated bar steel.

Provide mill test reports for the project that do the following:

1. Verify that sampling and testing procedures and test results conform to ASTM A955, ASTM A276 table 1, and these contract requirements.
2. Include a chemical analysis with the UNS designation, heat lot identification, and the source of the metal.
3. Include tensile strength, yield strength, and elongation tests results conforming to ASTM A955 for each size furnished.
4. Certify that the bars have been pickled to a bright or uniform light finish.

C Construction

C.1 General

Ship, handle, store, and place the stainless steel reinforcing as follows:

1. Separate from regular reinforcement during shipping. Pad points of contact with steel chains or banding, or secure with non-metallic straps.
2. Store on wooden cribbing separated from regular reinforcement. Cover with tarpaulins if stored outside.
3. Handle with non-metallic slings.
4. Do not flame cut or weld. Protect from contamination when cutting, grinding, or welding other steel products above or near the stainless steel during construction.
5. Place on plastic or stainless steel bar chairs. If placing stainless steel chairs on steel beams, use chairs with plastic-coated feet.
6. Tie with stainless steel wire or an engineer-approved plastic or nonmetallic material.

Do not tie stainless steel reinforcing bars to, or allow contact with, uncoated reinforcing bars or galvanized steel. Maintain at least 1-inch clearance between stainless steel bars or dowels and uncoated or galvanized steel. Where 1-inch clearance is not possible, sleeve bars with a continuous polyethylene or nylon tube at least 1/8-inch thick extending at least 1 inch in each direction and bind with nylon or polypropylene cable ties. Sleeves are not required between stainless steel bars and shear studs. Stainless steel bars can be in direct contact with undamaged epoxy-coated bars.

Cut flush with the top flange or remove uncoated fasteners, anchors, lifting loops, or other protrusions into a bridge deck before casting the deck on prestressed concrete beams.

C.2 Splices
Splice as the plans show.

If increasing or altering the number or type of bar splices the plans show, provide revised plan sheets to the engineer showing the reinforcement layout, type, length, and location of revised bar splices and revised bar lengths. Obtain engineer approval for the location of new lap splices. Ensure that new lap splices are at least as long as those the plans show.

D Measurement
The department will measure Bar Steel Reinforcement HS Stainless Structures by the pound, acceptably completed, computed from the nominal weights of corresponding sizes for carbon steel deformed bars in AASHTO M31 regardless of stainless steel alloy provided. The department will not measure extra material used if the contractor alters the reinforcement layout as allowed under C.2, extra material for splices or couplers the plans do not show, or the weight of devices used to support or fasten the steel in position.

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

ITEM NUMBER	DESCRIPTION	UNIT
505.0800.S	Bar Steel Reinforcement HS Stainless Structures	LB

Payment for Bar Steel Reinforcement HS Stainless Structures is full compensation for furnishing and placing stainless steel reinforcing bars, including supports.

46. Sheet Membrane Waterproofing for Top Slab C-67-88, Item 516.0610.S.01.

A Description
Furnish and install a primer, waterproofing membrane, hot rubberized sealer or mastic, or both, on the concrete top slab as shown on the plans and as hereinafter provided.

B Materials
B.1 Waterproofing System
Provide a material in the waterproofing system that is specifically designed for use with an asphaltic concrete overlay. The membrane shall consist of a cold-applied, self-adhering membrane incorporating a heat resistant woven or non-woven fabric or fiberglass reinforcing laminated in between layers of polymer modified bitumen or SBS modified rubberized asphalt. The membrane shall have a release film, polyester or polyethylene on the down side and may have a thin spun bonded open weave polyester fabric on the up side that will bond with the asphaltic concrete overlay; yet will permit driving rubber-tired trucks, pavers and other construction vehicles on the membrane covered deck slab.

Provide a composite sheet membrane with the following properties:

Property	Test Method	Specific Value
Width		36 inch min.
Tensile Strength	ASTM D412	50 lb/inch or 700 psi min.
Thickness		60 mils to 80 mils
Puncture Resistance	ASTM E154	40 lb min.
Permeance	ASTM E96, Method B	0.05 US Perms max.
Low Temperature Pliability	ASTM D146, 1-inch Mandrel @ -25º F	No cracks or splits at 180º bend
Water Absorption	ASTM D570, 72 hours	0.25% max.
Peel Adhesion	ASTM D903	5 lb/in width min.
Crack Cycling @ -15º F, 10 cycles	ASTM C836	No cracks or splits
Compound Softening Point	ASTM D36	210º F ±20º F
Viscosity of Membrane Rubberized Asphalt, @329º F	ASTM D4402	3500 centipoise

Provide rubberized asphalt compound containing not more than 15% inorganic residue or filler material.

Provide primer, mastic and/or hot rubberized asphalt sealer conforming to the specified properties required by the manufacturer of the waterproofing membrane.

B.2 Materials Certification

Prior to membrane approval for initial submittals and/or upon reformulation of membrane material compounds, submit to the engineer a notarized certification by an independent test laboratory stating that the materials conform to the requirements of these specifications.

The certification shall include or have attached specific results of tests performed on the material supplied. The engineer may at his option require samples of any material for testing. Previously approved membranes will be provisionally accepted by manufacturer's certification on their company letterhead, but may be subject to control or approval, or both by subsequent testing.

C Construction

C.1 Application Methods

Apply materials in strict accordance to the manufacturer's instructions. In order to install the waterproofing membrane, the slab temperature shall be a minimum of 45º F and rising.

Before applying the system, become acquainted with the materials specified and their handling characteristics and become thoroughly familiar with the construction procedures recommended by the manufacturer. Furnish a copy of the recommended procedures to the engineer. To establish procedures for maintaining optimum working conditions and to coordinate work related to adjacent construction, hold a pre-installation conference with a manufacturer's representative, the engineer, and other affected contractors prior to starting construction. To provide quality assurance that the membrane has been properly installed, a manufacturer's representative familiar with membrane installation procedures shall be present during placement of the membrane.

Finish all concrete surfaces that will be in contact with the membrane with a magnesium float finish. Provide a minimum concrete cure time of seven days before placing the primer.

The slab shall be clean, dry, and free from mud, dirt, sand, oil, or grease, and any other contaminants prior to application of the primer. No vehicles or equipment will be permitted on the concrete slab after surface preparation except those necessary for the installation of the waterproofing membrane. The engineer will inspect the concrete slab prior to the application of the primer. Do not begin application of either the primer or membrane until after the engineer grants approval.

To coat all surfaces that will be covered with the membrane, apply primer uniformly as recommended by the manufacturer. Use roller, brush, or spray to apply primer to the surfaces. If spraying is used, an approved method of protecting the environment is required.

Allow the primer to dry until tack free, approximately 45 minutes, before applying the membrane. Apply primer only to an area that will be covered with the membrane within the same calendar day. If the surface of the concrete slab becomes contaminated, clean and re-prime the area.

Apply primer to the inside face of any header to the top of the header. Take care to ensure that all inside corners are coated with primer.

After the primer has dried to a tack free condition, apply one layer of membrane to the slab starting on the low side edge.

To form a bond with the primed slab, remove the release film from the membrane on the tacky side while the membrane is rolled face down. Apply the membrane using hand methods or by using mechanical applicators. Overlap a minimum of 2.5 inches at the edges of each strip and overlap the membrane in such a manner to provide a shingling effect toward the low side of the slab cross section. Overlap a minimum of 5 inches at the ends of each strip of membrane and overlap the membrane in such a manner to provide a shingling effect toward the lower side of the slab profile. Roll the entire membrane surface with a rubber tire roller to ensure firm and uniform contact with the primed surface. Use special care to ensure that the membrane is uniformly adhered to the concrete and that the entire

membrane is free of wrinkles, air bubbles, and other placement defects. In the event bubbles or blisters do form under the membrane, puncture the bubbles or blisters with a sharp pointed instrument such as an awl and press the membrane firmly into contact with the deck. Repair any membrane punctures, tears, holes, and misaligned or inadequate seams with a patch of waterproofing membrane sized as required to ensure that the membrane is watertight.

Cover the inside corners of any concrete header and all other perimeter edges with narrow strips (flashing strips of approximately 12 inches), hot rubberized sealer, or mastic according to the manufacturer's guidelines. As an additional method of ensuring a watertight bond, all terminating edges, transverse overlaps and longitudinal overlaps may be heated with a propane torch to soften the top mat and fuse the surfaces together.

The applicator foreman or leadworker shall be certified by the manufacturer of the waterproofing membrane as approved applicators, and shall be present during all applications.

C.2 Where Overlaying the Membrane Directly with Asphaltic Concrete

Construct the asphaltic concrete overlay according to scheduling requirements elsewhere in the contract. Cover all of the exposed membrane with the specified asphaltic concrete mix within five days after installation. Only rubber-tired construction vehicles shall be permitted on the membrane. Use caution not to turn the tires when a vehicle is stationary. To prevent tearing the membrane, avoid sudden starts, stops, accelerations, or decelerations. Chemical solvents, gasoline, diesel fuel, mineral spirits, etc. or other deleterious substances shall not be spilled or leaked onto the membrane. Prior to covering the membrane with asphaltic concrete overlay, clean the membrane of mud, dirt, sand, oil, grease, or any other contaminants, and dry the membrane. Patch contaminated areas as required by the engineer. When required to accommodate traffic control staging, the construction of the asphalt concrete overlay shall stay at least 6 inches away from the terminating edge of the membrane to provide for overlap.

The placement temperature of the asphaltic concrete shall be between 300º F and 350º F. Do not place asphaltic concrete on the membrane outside of this temperature range. The temperature of the uncompacted mat of asphaltic concrete shall not fall below 280º F prior to rolling. The thickness of the asphaltic concrete layers shall be as shown on the plans; the initial layer shall have a minimum compacted thickness of 1½-inches. The membrane applicator contractor shall have a minimum of one employee present during all asphaltic concrete paving operations to ensure that all necessary membrane repairs are accomplished.

C.3 Where Not Overlaying the Membrane Directly with Asphaltic Concrete

Place a 6-inch thick layer of clean granular fill material (sand), free of any aggregate, stones or other angular materials that may puncture the membrane, over the membrane covered slab. Cover all exposed membrane with the clean granular fill within five days after installation. Only rubber-tired construction vehicles shall be permitted on the membrane. Use caution not to turn the tires when a vehicle is stationary. To prevent

tearing the membrane, avoid sudden starts, stops, accelerations, or decelerations. Chemical solvents, gasoline, diesel fuel, mineral spirits, or other deleterious substances shall not be spilled or leaked onto the membrane. When required to accommodate traffic control staging, the placement of fill material shall stay at least 12 inches away from the terminating edge of the membrane to provide for overlap. The membrane applicator contractor shall have a minimum of one employee present during the placement of the clean granular fill material to ensure that all necessary membrane repairs are accomplished.

D Measurement

The department will measure Sheet Membrane Waterproofing for Top Slab (Structure), installed according to the contract and accepted, in area by the square yard. Measurement shall be based on the horizontal distance between the faces of any concrete headers and the horizontal length of membrane installed. Any material specified to be applied up vertical faces of any header or vertically down at the ends of the slab shall be included in the measured quantity.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
516.0610.S.01	Sheet Membrane Waterproofing for Top Slab C-67-88	SY

Payment is full compensation for furnishing and placing the primer, membrane, mastic, and hot rubberized asphalt sealer; and preparing the surface. Clean granular fill material (sand), where required, will be paid for using the bid item Backfill Structure.

stp-516-061 (20110930)

47. General Storm Sewer and Pipe Culvert Construction.

Project 2788-00-71 includes staged construction including the staged construction of proposed drainage conduits.

The contractor is responsible for maintaining the integrity of work completed in previous stages and any portion of existing roadway carrying staged traffic during the project.

All connections to previously installed storm sewer or pipe culverts are considered incidental to the associated bid item work being performed.

Any temporary shoring methods and/or materials, as determined by the contractor, deemed necessary to complete all stages and connections of storm sewer or pipe culverts is considered incidental to the associated bid item work being performed.

48. Cover Plates Temporary, Item 611.8120.S.

A Description
This special provision describes furnishing, installing and removing a steel plate to cover and support asphaltic pavement and traffic loading at manholes, inlets and similar structures during milling and paving operations.

B Materials
Provide a 0.25-inch minimum thickness steel plate that extends to the outside edge of the existing masonry.

C (Vacant)

D Measurement
The department will measure Cover Plates Temporary 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
611.8120.S	Cover Plates Temporary	EACH

Payment is full compensation for furnishing, installing, and removing the cover plates.

The steel plates shall become the property of the contractor when no longer needed in the contract work.
611-006 (20151210)

49. Pipe Grates, Item 611.9800.S.

A Description
This special provision describes furnishing and installing pipe grates on the ends of pipes as shown in the plans, and as hereinafter provided.

B Materials
Furnish steel conforming to the requirements of standard spec 506.2.2.1. Furnish steel pipe conforming to the requirements of standard spec 506.2.3.6.

Furnish pipe grates galvanized according to ASTM A123.

Furnish angles and brackets galvanized according to ASTM A123.

Furnish required hardware galvanized according to ASTM A153.

C Construction
Repair pipes, rods, angles and brackets on which the galvanized coating has been damaged according to the requirements of AASHTO M36M.

D Measurement
The department will measure Pipe Grates in units of work where one unit is one grate, completed 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
611.9800.S	Pipe Grates	EACH

Payment is full compensation for furnishing and installing all materials; and for drilling and connecting grates to pipes.
611-010 (20030820)

50. 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
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, and for furnishing all labor, tools, equipment, and incidentals necessary to complete the contract work.
616-030 (20160607)

51. Silt Fence Maintenance.

Add the following to standard spec 628.3.4.2, 628.4.8 and 628.5.8:

Silt fence maintenance shall include inspection and maintenance of Heavy Duty Silt Fence.

52. 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.

53. Mobilizations Erosion Control.

Replace standard spec 628.5.11(2) with the following:

Failure to mobilize within 72 hours of the engineer's written order will result in a $1500 per calendar day deduction from money due under the contract, for each calendar day of

delay. The engineer may extend the 72-hour period for delays that are not the contractor's fault.

54. Mobilizations Emergency Erosion Control.

Replace standard spec 628.5.12(2) with the following:

Failure to mobilize within 8 hours of the engineer's written order will result in a $1500 per calendar day deduction from money due under the contract, for each calendar day of delay. The engineer may extend the 8-hour period for delays that are not the contractor's fault.

55. Soil Stabilizer Type A, Item 628.6505.

Replace standard spec 628.2.11(2) with the following:

(2) Furnish Soil Stabilizer type A from one of the following department approved products. Verify that materials are still on the department's PAL list prior to use:

Manufacturer	Product	Minimum Application Rate (Pounds/Acre)	WDNR Use Restriction Maximum Application. Rate, (Pounds/Acre)
American Excelsior	Bindex	3200	3413
North American Green	Hydra CX-2	3500	4000
North American Green	Hydra CM	3500	4000
Profile Products	Flexterra HP	3500	3500
Profile Products	ProMatrix	3500	3500
Terra Novo	Earth Guard Fiber Matrix	3000	3000

56. Stone or Rock Ditch Checks, Item 628.7515.S.

A Description

This special provision describes furnishing and installing stone or rock ditch checks as shown on the plans or as directed by the engineer, or both, and as hereinafter provided.

B Materials

Provide materials conforming to size requirements for size no. 2 coarse aggregate for concrete masonry or riprap according to the standard spec 501.2.5.4.4. Railroad ballast or breaker run stone conforming to the following applicable gradations may also be used:

Railroad Ballast

Sieve Size	Percent by Weight Passing
2 Inch	100
1 Inch	20 – 55
3/8 Inch	0 -5

Breaker Run Stone

Sieve Size	Percent by Weight Passing
5 Inch	100
1½ Inch	0 – 50
3/8 Inch	0 - 5

Incorporate stone or rock in the ditch checks that is hard, sound, and durable, and meets the approval of the engineer.

C Construction

Place stone or rock ditch checks immediately after shaping of the ditches or slopes is completed. Place stone or rock ditch checks at right angles to the direction of flow and construct to the dimensions and according to the details shown in the plans.

Remove sediment from behind the stone or rock ditch checks when it has accumulated to one half of the original height of the dam.

D Measurement

The department will measure Stone or Rock Ditch Checks in volume by the cubic yard of material, incorporated in the work.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
628.7515.S	Stone or Rock Ditch Checks	CY

Payment is full compensation for furnishing, producing, crushing, loading, hauling, placing, and shaping and maintaining Stone or Rock Ditch Check.

The quantity of sediment removed shall be multiplied by a factor of ten and paid for as Common Excavation.

628-050 (20151210)

57. Furnishing Plant Materials.

Add the following to standard spec 632.2.2.1:

All plants shall be grown within the states of Wisconsin, Minnesota, Michigan, or parts of northern Illinois located within Zone 5 of the "Plant Hardiness Zone Map" produced by the United States Department of Agriculture, Miscellaneous Publication No. 1475, issued January 2012

58. Landscape Planting Surveillance and Care Cycles.

Replace standard spec 632.3.18.1.1 with the following:

A plant establishment period of one year shall follow the completion of planting.

Delete standard spec 632.3.18.1.2.

If the care specialist fails to perform any of the required care cycles as specified in standard spec 632.3.19.1, the department will assess daily damages in the amount of $200.00 to cover the cost of performing the work with other forces. The department will assess these damages for each day the requirements of the care cycle remain incomplete, except when the engineer extends the required time period.
632-005 (20070510)

59. Foundation Drilling 36-Inch Diameter, Item 636.0050.S.01.

A Description
This special provision describes drilling holes for the H pile posts for retaining walls.

B (Vacant)

C Construction
Submit the proposed method for foundation drilling before beginning construction.

Drill holes to the diameter and depth the plans show. If necessary, use casing or alternative engineer-approved methods to maintain an open hole. If bentonite or other slurry is used to maintain an open hole, prevent spillage of the slurry into adjacent waterways. Locate the holes within the following tolerances:

Horizontal Location	3 inches
Vertical Location	1 inch
Vertical Alignment	1/8 inch per foot

D Measurement
The department will measure the Foundation Drilling bid items by the linear foot, acceptably completed, measured from the bottom of the hole to the top of the foundation footing.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
636.0050.S.01	Foundation Drilling 36-Inch	LF

Payment is full compensation for drilling holes; for furnishing casing or alternative drilling methods; and, if rock is encountered, for coring rock.

stp-636-010 (20140630)

60. Signs Type I and II.

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

Add the following to standard spec 637.2.4:

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

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

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

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

Add the following to standard spec 637.3.3.2(2):

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

Add the following to standard spec 637.3.3.3(3):

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

Add the following to standard spec 641.2.9(3):

Submit shop drawings for sign bridges and overhead sign supports to SE Region, Traffic Operations Engineer, Tom Heydel and Bureau of Structures Design.
SER-637.1 (20170621)

61. Pond Liner Clay, Item 640.1303.S.

A Description
This special provision describes furnishing and installing low permeable clay in the areas shown on the plans.

B Materials
For each source, prior to excavating and hauling the low permeable clay to the project, submit the results of the laboratory tests described in Table 1. The laboratory testing shall document that the clay from the source meets or exceeds the requirements.

The sample for the hydraulic conductivity test shall be remolded clay at a minimum dry density of 95% of the maximum dry density as determined by the Standard Proctor test AASHTO T-99 and at a moisture content required to achieve the required hydraulic conductivity, but with a minimum moisture content at or above the optimum moisture content as determined in the Standard Proctor test AASHTO T-99. Conduct the laboratory source testing at the frequency listed in Table 1. Submit the test results to the engineer for review, two weeks prior to construction.

C Construction
C.1 Low Permeable Clay Placement
C.1.1 Subgrade
Compact the subgrade to a minimum density as defined in standard spec 207.3.6.2, Standard Compaction, or as otherwise specified in the contract requirements.

C.1.2 Erosion Protection
Do not place the low permeable clay until after all adjacent site grading has been completed and only after silt fence has been installed completely around the area of low permeable clay placement.

C.1.3 Low Permeable Clay Placement
After the fine grading is complete, place and compact low permeable clay in completed 6-inch lifts. Place each lift of low permeable clay in one continuous lift. See plans for low permeable clay construction limits. Measure the thickness of the low permeable clay shown on the plans perpendicular to the surface.

Notify the engineer at least three days prior to starting construction of low permeable clay.

Table 1

Reference	Number	Test Title	Requirements	Testing Frequency	
				Screening	QA/QC[12]
AASHTO[1]	T99-01	Moisture –Density Relationships of Soils Using a 2.5-kg (5.5 lb) Rammer a 305 mm (12-in.) Drop (Standard Proctor)	NA[11]	1/source	NA
AASHTO	T-88-00	Particle Size Analysis of Soils	P200[3] $\geq$ 50%	2/source	1/lift
AASHTO	T-89-02	Determining the Liquid Limit of Soils	LL[4] $\geq$ 22%	2/source	1/lift
AASHTO	T-90-00	Determining the Plastic Limit and Plasticity Index of Soils	PI[5] $\geq$ 12%	2/source	1/lift
AASHTO	T310-03	In-Place Density and Moisture Content of Soils and Soil-Aggregates by nuclear Methods (Shallow Depth)	DD[6] $\geq$ 95% of the MDD[7]	NA	100'x100' Grid/lift
ASTM[2]	D5084-03	Standard Test Methods for Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter	K[8] $\leq 1 \times 10^{-7}$ cm/sec	1/source[9]	1/site[10]

Notes:

1. AASHTO = American Association of State Highway and Transportation Officials
2. ASTM = American Society of Testing and Materials
3. P200 = Percent by weight passing the #200 sieve (%)
4. LL = Liquid Limit (%)
5. PI = Plasticity Index (%)
6. DD = Dry Density (pcf)
7. MDD = Maximum Dry Density (pcf) as determined by the Standard Proctor Test
8. K = Hydraulic Conductivity (cm/sec)
9. The sample for the test shall be remolded at a minimum dry density of 95% of the maximum dry density as determined by the Standard Proctor test and at a moisture content required to achieve the required hydraulic conductivity, but with a minimum moisture content at or above the optimum moisture content as determined in the Standard Proctor test.
10. An undisturbed sample from a thinned walled sampler (Shelby tube)
11. NA = Not applicable
12. QA/QC = Quality Assurance / Quality Control

Compact the low permeable clay to a minimum of 95% Standard Proctor AASHTO T-99 Maximum Dry Density with a footed compaction equipment having feet at least as long as the loose lift height. As needed, clay shall be disked or otherwise mechanically processed prior to

compaction to break up clods and allow moisture content adjustment. Clod size shall be no greater than 4-inches. All compaction equipment utilized shall have a minimum static weight of 30,000 pounds.

Provide all equipment necessary to adjust low permeable clay to the proper moisture content for compaction.

Make sufficient number of passes of the compaction equipment over each lift of clay to ensure complete remolding of the clay.

Do not proceed with placement of additional lifts until all required low permeable clay testing and documentation has been completed for the previous lift.

During placement of the low permeable clay the minimum moisture content shall be as defined by the testing performed in the source evaluation and with the following limits:

- No drier than the optimum moisture content as determined by the Standard Proctor test.

If the in-place low permeable clay fails to meet the requirements of Table 1, then remove and replace or rework any portion of the low permeable clay not meeting the project requirements until project specifications are met. There shall be no compensation for removing, replacing and reworking low permeable clay not meeting the requirements in Table 1.

C.1.4 QA/QC Testing of the Low Permeable Clay

The department will perform the QA/QC testing at the frequency shown in Table 1. The department will record the thickness of low permeable clay on a 100-foot x 100-foot grid pattern.

Provide the following:

- Access for on-site testing, inspection, and documentation.
- Machinery required to grade/blade density test locations.
- Machinery required to collect undisturbed clay samples (i.e., with Shelby tubes).
- Replace and recompact clay material removed for testing purposes.

D Measurement

The department will measure Pond Liner Clay in volume by the cubic yards, 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
640.1303.S	Pond Liner Clay	CY

Payment is full compensation for dewatering areas of site where the low permeable clay is to be placed; for furnishing, placing and compacting the low permeable clay; and for performing all tests.
640-016 (20130615)

62. Sign Bridge Identification Plaques.

Add the following to standard spec 641.5:

Payment for Sign Bridge and Overhead Sign Support includes furnishing and installing sign bridge identification plaques and mounting hardware as shown on the standard detail drawing in the plans for each existing and new sign bridge or overhead sign support.
SER-641.1 (20160902)

63. Traffic Control.

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

Add the following to standard spec 643.3.1:

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

Place traffic control devices for work in the proper location before operations proceed. Traffic Control is subject to change at the direction of the engineer in the event of an emergency.

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

Do not park or store equipment, vehicles or construction materials within the clear zone as designated in the plans on any roadway carrying traffic during non-working hours except at locations and periods of time approved by the engineer.

Do not store materials, equipment, or park vehicles within 4 feet of the row of barrels that separates traffic from the work zone.

Yield to all through traffic at all locations. Equip the top of all contractor and personal vehicles and equipment operating in live traffic lanes with a hazard identification beam (flashing yellow signal light) that is visible from 360 degrees. Operate the flashing yellow beam only when merging or exiting live traffic lanes or when parked or operating on shoulders.

Obtain approval from the engineer to use a flag person to direct, control, or stop traffic.

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

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.

The traffic requirements are subject to change at the direction of the engineer in the event of an emergency.

64. Nighttime Work Lighting Stationary.

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

B (Vacant)

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

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

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

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

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

4. Electrical power source information.

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

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

7. Detail information on any other auxiliary equipment.

C.2 Portable Lighting

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

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

C.3 Light Level and Uniformity

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

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

C.4 Glare Control

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

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

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

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

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

C.5 Continuous Operation

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

D (Vacant)

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

65. Locating No-Passing Zones, Item 648.0100.

For this project, the spotting sight distance in areas with a 55 mph posted speed limit is 0.21 miles (1108 feet).
stp-648-005 (20060512)

66. General Requirements For Electrical Work.

Replace standard spec 651.3.3 (3) with the following:

Request a signal inspection of the signal installation to the engineer after completing the Prerequisites for Underground Inspection or Prerequisites for Above Ground Inspection at least five working days prior to the time of the requested inspection. Notify the department's Electrical Field Unit at (414) 266-1170 to coordinate the inspection. The department's Region Electrical personnel will perform the inspection. In the event of deficiencies, request a re-inspection when the work is corrected. The engineer will not authorize continuation to above ground work or turn-on until the contractor corrects all deficiencies.

67. Electrical Conduit.

Replace standard spec 652.5 (2) with the following:

Payment for Conduit Rigid Metallic, Conduit Rigid Nonmetallic, Conduit Reinforced Thermosetting Resin, and Conduit Special bid items is full compensation for providing the conduit, conduit bodies, and fittings; for providing all conduit hangers, clips, attachments, and fittings used to support conduit on structures; for pull wires or ropes; for expansion fittings and caps; for making necessary connections into existing pull box, manhole, junction box or communication vault; for excavating, bedding, and backfilling, including any sand, concrete, or other required materials; for disposing of surplus materials; and for making inspections.

Replace standard spec 652.5 (5) with the following:

Payment for Conduit Loop Detector is full compensation for providing all materials, including conduit, compacted backfill, surface sealer if required, pull wire if required, condulets, conduit fittings, and for making necessary connections into existing pull box, manhole, junction box or communication vault.

68. Electrical Wiring.

Replace standard spec 655.5 (11) with the following:

Payment for Loop Detector Wire is full compensation for furnishing and installing loop detector wire; for making necessary connections to the lead in cable; and for measuring the loop inductance and ground resistance.

Replace standard spec 655.3.10 with the following:

Under the Traffic Signal EVP Detector Cable bid item, provide the EVP cable and mount department furnished brackets. The department will determine the exact location to ensure that the installation does not create a sight obstruction.

Ensure that the cable runs continuously without splicing from the pull box closest to the cabinet including the specified extra cable. Do not splice EVP cable from the detector assembly to the controller terminations. Provide 10 feet of extra cable at the mounting bracket and 2.5 feet extending out of the mounting bracket. Provide 10 feet of extra cable in each pull box plus an additional 20 feet at the nearest pull box to signal base where the EVP detector head is mounted.

Mark each end of the lead as noted on the plan sheet. For a cabinet that is not operating the signal, the contractor will terminate the ends and install the discriminators and card rack in the cabinet. If the cabinet is operating the signal, the cabinet wiring will be done by the department.

Notify the engineer upon completion of the installation at each intersection.

Replace standard spec 655.5 (12) with the following:

Payment for Traffic Signal EVP Detector Cable is full compensation for providing emergency vehicle preemption detector cable and mounting the department furnished brackets; and for making all necessary connections.

69. Electrical Service Meter Breaker Pedestal STH 59 and CTH X/ Saylesville Road, Item 656.0200.01; USH 18 and STH 59, Item 656.0200.02; USH 18 and CTH D, Item 656.0200.03; USH 18 and Madison Street, Item 656.0200.04.

Add the following to standard spec 656.2.3:

The department will be responsible for the electrical service installation request for any department maintained facility. Notify the maintaining authority if the signal is not state maintained that it is their responsibility to arrange for the electrical service installation.

Electrical utility company service installation and energy cost will be billed to and paid for by the maintaining authority.

Install the cabinet base and meter breaker pedestal first, so the electrical utility company can install the service lateral. Install a 3 inch conduit from the point of service from the utility to the meter breaker pedestal. Finish grade the service trench, replace topsoil that is lost or contaminated with other materials, fertilize, seed, and mulch all areas that are disturbed by the electrical utility company.

Add the following to standard spec 656.5(3):

Payment is full compensation for grading the service trench; replacing topsoil; and for fertilizing, seeding, and mulching to restore the disturbed area of the service trench.

70. Signalized Intersection Lighting Systems – WisDOT Owned General.

A General

Add the following to standard spec 651, 652, 653, 654, 655, 656, 657 and 659:

All the work necessary to comply with revisions to standards specifications mentioned herewith shall be incidental to associated pay items or to the project including coordination, materials, and labor. No additional payment shall be made to the contractor.

Add the following to standard spec 651.2:

Materials indicated to be returned to the department shall be hauled to one of the following two locations:

1. State Electrical Shop at 935 South 60th street, West Allis, as directed by Miss Bree Johns-Konkol, (414) 266-1170.
2. Milwaukee County Grounds, 10191 West Watertown Plank Road, Wauwatosa, as directed by Mr. Pat Stoetzel, (414) 750-5306.

Arrange pickups and deliveries three days in advance and during regular business hours (Monday – Thursday 7:00 AM to 3:45 PM).

Add the following to standard spec 651.3.1:

Any circuit that the contractor does not personally tag out at the disconnect shall be considered live, and will be subject to being activated by another person with no notice to the contractor. Make tagouts with manufactured tags, and endorse them with the date and the name of the contractor. Clear tagouts at the end of the workday. The department does not employ a load dispatcher and has no intent to do so. Each electrical worker is responsible for their own protection from automatic switching and from switching by others.

The plans show required disconnections of existing lighting circuits, most in the form of abandoning existing underground conductors in place. The contractor may need to mobilize several times per each existing lighting distribution center. The contractor is expected to build these costs into the various paid items for removals and installations.

Replace all existing slotted junction box cover screws with stainless hex head cover screws at each location where it is required to open the cover of an existing lighting junction box.

Add the following to standard spec 651.5:

Work to disconnect and connect conductors will be incidental to the paid measurement of footage.

Work to disconnect and connect electrical system, splice through, or to connect conductors are incidental to the installation or removal of the freeway lighting pay items included in this contract.

The department will not measure conductors or conduits that have been abandoned in place or removed for scrap covered in the contract bid items. The department will allow, at the contractor's discretion, for the salvaging of conductors to be abandoned.

Add the following to standard spec 652.3.1:

Install minimum 3-inch diameter PVC conduit elbows in a ground mounted concrete bases to accommodate Cable in Duct (CID) type cable.

Add the following to standard spec 652.3.1.2:

Furnish and install an UL-listed liquid tight flexible metallic conduit transition wherever a conduit exits from below grade.

Furnish a UL-listed fitting appropriate for the purpose at each transition from one type of conduit to another type. Couplings will not be individually measured for payment.

Add the following to standard spec 652.3.1.4:

Support conductors at the top of the vertical raceway or as close as practical if the vertical rise exceeds 40 feet. Provide additional supports as shown; in no case shall the distance between supports exceed that shown in Table 300.19(A) of the Wisconsin State Electric Code.

Add the following to standard spec 653.3(1):

This provision modifies the standard detail drawing for pull boxes and thereby both the standard items and SPV pay item for pull boxes. Lighting pull box covers shall read "LIGHTING".

Add the following to standard spec 655.3.1:

Wet location splices are not anticipated on this project and not shown in the plans. In the event that the engineer allows wet location splices, make pull box splices with engineer approved epoxy kit.

At each pull point or access point, indicate the line side bundle with a lap of blue tape.

Add the following to standard spec 655.3.7(4):

Where two or more wire networks pass through a pull point, tag each circuit network (i.e. A/B/N and C/D/N) with approved all-weather tags.

Add the following to standard spec 657.2:

Non-breakaway poles (mounted on structures, concrete bases or behind noise wall barriers without transformer base), as well as at stems of sign bridges containing electrical wires are to be double nutted and contractor shall install galvanized rat screen enclosing the bottom of pole area; extra nuts and screen incidental.

Add the following to standard spec 657.3.1and 657.3.5:

Corrosion protection measures described in standard spec 657.3.1 and 657.3.5 are invoked for breakaway transformer bases and aluminum light poles. The contractor shall avoid contact of dissimilar metals in erecting the pole on its foundation and/or breakaway device. Any concern of trapped moisture or potential corrosion cell shall be resolved to the satisfaction of the engineer.

Manufacturer's Warranty for LED luminaires: The manufacturer shall warrant to the department that each complete luminaire (consisting of the housing, optical assembly, LED drivers, surge protection and wiring) will be free from defects in material and workmanship for five years from the date that the luminaire are put into service. Luminaires shall be installed within one year of manufacture.

If any luminaires fail to meet the above warranty, the department will provide the manufacturer with a written notice of any defect within thirty days after discovery of the defect. The manufacturer shall provide all materials, luminaires, replacement component parts, labor and all incidentals necessary to restore the luminaire to a fully operational, installed condition.

Submittal Requirements for LED luminaires: Considering the rapid advancement in LED technology, the overall project construction and duration of construction, within 10 calendar days after contract execution, the contractor is responsible to coordinate the lead time for LED luminaires purchase and installation schedule for LED luminaires with the engineer and the department's lighting engineer, Eric Perea, at eric.perea@dot.wi.gov

or at (262) 574-5422 prior to ordering LED luminaires. The LED luminaires purchasing may be done during later stage of construction as directed by the department which shall not delay the construction.

Add the following to standard spec 659.3:

Provide and install or replace Plaques Light Pole on all poles located in the median at a mounting height of 6-inch above the highest adjacent safety barrier or obstruction.

Add the following to standard spec 659.3.1:

Contractor shall be responsible to provide adequate temporary roadway lighting during all the construction stages not shown on the temporary lighting plans, but which are necessitated by field conditions or by any construction phasing changes. Installation of temporary lighting not shown on temporary lighting plans shall be paid according to appropriate pay items included in this contract. Contractor shall be responsible to submit a redline markup plans for any additional temporary lighting to the engineer for approval prior to installation.
SER-659.1 (20170407)

71. Traffic Signal Faces, Item 658.0173 and Item 658.0174.

Add the following to standard spec 658.3.2:

(3) Connect all ungrounded conductors with wire nuts in the appropriate sections of the signal heads. Connect the neutral conductors to the terminal strip. Be certain to twist wires prior to installing the wire nuts. All wire nuts must be installed facing up to prevent the entrance of water.

72. Pedestrian Signal Face 16-Inch, Item 658.0416.

Add the following to standard spec 658.3.4:

(3) Connect all ungrounded conductors with wire nuts in the appropriate sections of the signal heads. Connect the neutral conductors to the terminal strip. Be certain to twist wires prior to installing the wire nuts. All wire nuts must be installed facing up to prevent the entrance of water.

73. Pedestrian Push Buttons, Item 658.0500.

Replace standard spec 658.2.5 with the following:

Furnish freeze-proof ADA compliant pedestrian push buttons manufactured by a department approved manufacturer.

The contractor shall place a Size 1, Type H reflective (R10-3EL, R, D) sign sticker (per state sign plate), message series – B, directly above each push button. Include a directional arrow or arrows on the sign as the plans show.

74. Luminaires Underdeck LED B, Item 659.1210.

Add the following to standard spec 659.2:

The Luminaire shall be UL listed, IP 68 rated. The luminaire shall be Model IWL-3, 55 Watt as manufactured by North Star, Model L1A/L1B, 64 Watt as manufactured by Paramount Industries, or approved equal.

Furnish shop drawings as specified in standard spec 506.3.2, except submit five copies with the materials list. Ensure the drawings contain sufficient detail to allow satisfactory review and show the dimensions of all equipment shown in the plans.

75. Temporary Traffic Signals for Intersections STH 59 and CTH X, Item 661.0200.01; Waukesha Bypass and STH 59/Genesee Road, Item 661.0200.02.

Replace standard spec 661.2.1 (3) with the following:

Contractor shall use existing underground electric service and meter breaker pedestal for the operation of the Temporary Traffic Signals. The department will pay for all Energy Costs for the operation of the Temporary Traffic Signal at the existing intersection of STH 59 and CTH X and at the proposed intersection of STH 59 and CTH X/Genesee Road.

Furnish and install a generator to operate the Temporary Traffic Signals for the time required to switch the existing Permanent Traffic Signal over to the Temporary Traffic Signal as well as the time required to switch the Temporary Traffic Signal over to the new Permanent Traffic Signal.

Contractor shall contact the local electrical utility at least four days prior to making the switch from the existing Permanent Traffic Signal to the Temporary Traffic Signal. The contractor shall contact the local electrical utility at least four days prior to making the switch from the Temporary Traffic Signals to the relocated Temporary Traffic Signals and from Temporary Traffic Signals to the new Permanent Traffic Signals.

76. Optimized Aggregate Gradation Incentive.

Description

This special provision describes optional contractor optimized aggregate gradation, optional optimized mixture designs, and associated additional requirements for class 1 concrete used in concrete pavements. Conform to standard specification part 7 and as follows:

Optimized Aggregate Gradation
A Job Mix Formula (JMF) contains all of the following:

Proportions for each aggregate fraction conforming to table 1.
Individual gradations for each aggregate fraction.

Composite gradation of the combined aggregates including working ranges on each sieve in accordance with table 2.

Submit the target JMF and aggregate production gradation test results to the engineer for review 10 business days before initial concrete placement.

TABLE 1 TARANTULA CURVE GRADATION BAND

SIEVE SIZES	PERCENT RETAINED
2 in.	0
1 1/2 in.	≤5
1 in.	≤16
3/4 in.	≤20
1/2 in.	4-20
3/8 in.	4-20
No. 4	4-20
No. 8[1]	≤12
No. 16[1]	≤12
No. 30[1] [2]	4-20
No. 50 [2]	4-20
No. 100 [2]	≤10
No. 200 [2]	≤2.3

[1] Minimum of 15% retained on the sum of the #8, #16, and #30 sieves.
[2] Conform to 24-34% retained of fine sand on the #30-200 sieves.

TABLE 2 JMF WORKING RANGE

SIEVE SIZES	WORKING RANGE[1] (PERCENT)
2 in.	±5
1 1/2 in.	±5
1 in.	±5
3/4 in.	±5
1/2 in.	±5
3/8 in.	±5
No. 4	±5
No. 8	±4
No. 16	±4
No. 30	±4
No. 50	±3
No. 100	±2
No. 200	≤ 1.6

[1] Working range limits of composite gradation based on moving average of 4 tests.

Test each component aggregate once per 1,500 cubic yards during concrete production. Take samples by one of the following sampling methods:

1. At the belt leading to the weigh hopper.
2. Working face of the stock piles at the concrete plant if approved by the engineer.

The department will take independent QV samples using the same sampling method the contractor uses for QC sampling. QV samples may be taken by the contractor's QC personnel if witnessed by the department's QV personnel. The department will split each QV sample and retain half for all dispute resolutions. 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.

If, during concrete production, the moving average of four for any sieve fall outside the allowable JMF working range do the following:

1. Notify the engineer of the test results within 1 business day from the time of sampling.
2. Make immediate adjustments to the JMF, within the limits specified in Table 3;
3. Review JMF adjustments with the engineer. Both the contractor and engineer will sign the adjusted JMF if the adjustments comply with Table 3.
4. If the moving average of four falls outside the adjusted allowable working range, stop production and provide a new mix design including JMF to the engineer.

TABLE 3 ALLOWABLE JMF ADJUSTMENTS

SIEVE SIZES	ALLOWABLE ADJUSTMENT (PERCENT)
≥ No. 4	±5
No. 8 – No. 30	±4
No. 50	±3
No. 100	±2

Dispute Resolution

The department will resolve disputes as specified in standard spec 106.3.4.3.5 using QV split samples.

Sublot and Lot Size

A sublot consists of up to 1,500 cubic yards. A lot consists of two sublots.

Optimized Concrete Mixtures

The contractor may use a reduced cementitious content for concrete pavement placed if the contractor does the following:

1. Use an optimized aggregate gradation as defined in this special provision.
2. Conform to the additional testing requirements for flexural strength as specified in the contract special provisions.
3. Submit aggregate gradation result records no more than 2 years old when developing the mix design.
4. Determine the volume of voids in the optimized aggregates using ASTM C29.
5. Download and follow the instructions tab of the Optimized Gradation and Mix Design Spreadsheet located at:

http://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/qmp/default.aspx

6. Design an appropriate paste content based upon the Performance-based PCC Mix Design Guide located at:

http://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/qmp/default.aspx

7. Provide a minimum Vpaste/Vvoids of 1.25. (Paste/Void ratio equals the volume of paste divided by the volume of voids.).
8. Evaluate workability of trial batches by following section 6.8 of AASHTO Draft Performance Engineered Concrete Pavement Mixtures Specifications located at:

http://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/qmp/default.aspx

9. Submit trial batch workability results when submitting the mix design.
10. Submit the CP Tech center computer spreadsheet concrete mix design to the engineer for review at least 3 business days before producing concrete.
11. Provide a minimum cement content of 520 pounds per cubic yard, except if using type I, IL, or III cement in a mix where the geologic composition of the coarse aggregate is primarily igneous or metamorphic materials, provide a minimum cement content of 660 pounds per cubic yard.

12. The contractor may use class C fly ash or grade 100 or 120 slag as a partial replacement for cement. For binary mixes use up to 30% fly ash or slag. For ternary mixes use up to 30% fly ash plus slag in combination. Replacement values are in percent by weight of the total cementitious material in the mix.
13. See CMM 8-70.2.2.3 for additional guidance.

Measurement
The department will measure Optimized Aggregate Gradation Incentive by the dollar, for each combined averaged lot of QC test results meeting Table 1.

Payment
The department will pay incentive of 3 percent of the contract unit price for concrete pavement under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
715.0710	Optimized Aggregate Gradation Incentive	DOL

stp-715-005 (20170615)

77. Flexural Strength for Concrete Mix Design.

This special provision describes optional testing requirements for flexural strength during the mix design process. Conform to standard spec part 7 as modified in this special provision.

Add the following to standard spec table 701-2:

TEST	TEST STANDARD
Flexural Strength of Concrete	AASHTO T97

Replace standard spec 715.2.3.1(1) with the following:

(1) Provide both compressive and flexural strength information to demonstrate the strength of the proposed mix design. Use either laboratory strength data for new mixes or field strength data for established mixes as follows:
1. Use at least 5 pairs of cylinders for compressive strength. Demonstrate that the 28-day compressive strength will equal or exceed the 85 percent within limits criterion specified in 715.5.2.
2. Use at least 5 pairs of beams for flexural strength. Demonstrate that the 28-day flexural strength will equal or exceed 650 psi.

stp-715-010 (20170615)

78. Invasive Species Management – Uplands, Item SPV.0005.01.

A Description
This special provision describes furnishing herbicides, cutting buckthorn, treating stumps and foliage, in accordance the specifications as shown on the plans and as hereinafter provided.

B Materials

Depending on the vegetation to be treated, apply herbicides in the following concentrations:

Basal Bark Treatment

Use a 15% to 20% solution of Garlon 4 herbicide (or an equivalent generic) mixed with Bark Oil Blue.

Cut Stump Treatment

Use a 50% solution of Garlon 3 herbicide (or an equivalent generic) mixed with water.

Foliage Treatment

Use Garlon 3 or Garlon 4 herbicide mixed with water in a 5% solution.

C Construction

A commercial pesticide applicator license application, certification is required for any person who does any of the following:

1) Personally uses or directs the use of ANY pesticide as a commercial applicator for-hire.
2) Personally uses a restricted-use pesticide as a commercial applicator.
3) Directs the use of pesticide by a person specified under 1) or 2).

The following criteria must be followed:

- **Invasive Species Management** shall be completed in the spring of 2019 prior to May 31, 2019. Follow up foliage treatment shall be performed in the fall of 2019 or as directed by the engineer.

- **Upland areas with no buckthorn:** Hand or machine cut all woody vegetation less than 6-inch caliper. Treat stumps with herbicide as described under Materials. Upland areas with buckthorn: Hand or machine cut all woody vegetation less than 6-inch caliper in areas as shown in the plans Treat stumps with herbicide as described under Materials. For buckthorn larger than 6-inch caliper, hand or machine cut and treat buckthorn stumps with herbicide the same day as cutting or basil bark treat the buckthorn.

C.1 Basil Bark Treatment

Using a tank or backpack sprayer. Spray the bottom 18 inches of stems all the around the ground line with the herbicide mixture. Applications can occur all year round, except for in the spring. Spring treatment March 1 to May 31 cannot occur without department and DNR approval.

C.2 Cut Stump Treatment
Cut unwanted brush and trees with a brush saw, chainsaw or forestry mower, and spray the stump with herbicide the same day. Spray the top and sides of the stump to kill the roots and prevent re-sprouting.

C.3 Foliage Treatment
In the late fall while there is still active green leaf growth which has re-sprouted from the buckthorn stumps, apply herbicide to this vegetation. Apply the herbicide if the re-growth is no taller than waist high. If the re-growth is taller than waist high re-cut the growth and then apply herbicide to the stumps. When applying foliar herbicides, a surfactant must be included in the tank mix.

D Measurement
The department will measure Invasive Species Management - Uplands by the acre, 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.0005.01	Invasive Species Management - Uplands	ACRE

Payment is full compensation for furnishing herbicides, for cutting trees, treating stumps, and for providing follow up treatment.

79. Invasive Species Management – Wetlands, Item SPV.0005.02.

A Description
This special provision describes furnishing herbicides, cutting buckthorn, treating stumps and foliage, in accordance the specifications, as shown on the plans and as hereinafter provided.

B Materials
Depending on the vegetation to be treated, apply herbicides in the following concentrations:

Basal Bark Treatment
Use a 15% to 20% solution of Garlon 4 herbicide (or an equivalent generic) mixed with Bark Oil Blue.

Cut Stump Treatment
Use a 50% solution of Garlon 3 herbicide (or an equivalent generic) mixed with water.

Foliage Treatment
Use Garlon 3 or Garlon 4 herbicide mixed with water in a 5% solution.

C Construction

A commercial pesticide applicator license application, certification is required for any person who does any of the following:

1) Personally uses or directs the use of ANY pesticide as a commercial applicator for-hire.
2) Personally uses a restricted-use pesticide as a commercial applicator.
3) Directs the use of pesticide by a person specified under 1) or 2).

The following criteria must be followed:

- **Invasive Species Management** shall be completed in the spring of 2019 prior to May 31, 2019. Follow up foliage treatment shall be performed in the fall of 2019 or as directed by the engineer.

- **Wetland areas:** Hand cut all buckthorn in areas as shown in the plans. Treat buckthorn stumps with herbicide the same day as cutting or basil bark treat the buckthorn. All other plants to remain in place within the wetland treatment areas.

C.1 Basil Bark Treatment

Using a tank or backpack sprayer. Spray the bottom 18 inches of stems all the around the ground line with the herbicide mixture. Applications can occur all year round, except for in the spring. Spring treatment March 1 to May 31 cannot occur without department and DNR approval.

C.2 Cut Stump Treatment

Cut unwanted brush and trees with a brush saw, chainsaw or forestry mower, and spray the stump with herbicide the same day. Spray the top and sides of the stump to kill the roots and prevent re-sprouting.

C.3 Foliage Treatment

In the late fall while there is still active green leaf growth which has re-sprouted from the buckthorn stumps, apply herbicide to this vegetation. Apply the herbicide if the re-growth is no taller than waist high. If the re-growth is taller than waist high re-cut the growth and then apply herbicide to the stumps. When applying foliar herbicides, a surfactant must be included in the tank mix.

D Measurement

The department will measure Invasive Species Management - Wetlands by the acre, 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.0005.02	Invasive Species Management - Wetlands	ACRE

Payment is full compensation for furnishing herbicides, for cutting buckthorn trees, treating buckthorn stumps, and for providing follow up buckthorn treatment.

80. Roadway Embankment, Item SPV.0035.01.

A Description
Conform to standard spec 207 and amended below:

Replace standard spec 207.1(1) with the following:

This special provision 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 as shown on the plans, according to standard spec 207 and as hereinafter provided.

Replace standard spec 207.2(1) with the following:

The contractor may not place excess topsoil or other unstable soil in embankments when the embankment height exceeds 10 feet. Marsh excavation will not be allowed within embankments. Dispose of excess marsh excavation as described in standard spec 205.3.

B Materials
Conform to standard spec 207.2.

C Construction
Conform to standard spec 207.3 and as hereinafter provided.

Prior to placing any material for a succeeding layer ensure the previous layer does not have excessive rutting, displacement or distortion under compacting or hauling equipment. If rutting, displacement or distortion is observed the contractor shall inform the engineer how yielding material will be addressed prior to continuing embankment construction.

D Measurement
Replace standard spec 207.4(1) with the following:

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

1) The engineer and contractor mutually agree to an alternative volume calculation method.
2) 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 three-dimensional measurements.

E Payment

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.0035.01	Roadway Embankment	CY

Payment is full compensation for forming, compacting, shaping, sloping, trimming, finishing, maintaining the embankments, all other incidental work required under this section.

SER-207.2 (Revised)

ASP-5 will be applied to this item. The Fuel Usage Factor for this item is 0.23.

81. Pond Outlet Control Manhole, Item SPV.0060.01.

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 spec 608.

C Construction

The contractor shall be responsible for locating the Pond 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 J-S 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
The department will measure Pond Outlet Control Manhole 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.0060.01	Pond Outlet Control Manhole	EACH

Payment for Pond Outlet Control Manhole is full compensation according to standard spec 611.5. Payment also includes Manhole Covers Type J-S, baffle wall construction, and pipe connecting and associated fittings.

82. Detention Pond Corrugated Metal Anti-Seep Collar, Item SPV.0060.02.

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. Install 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 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.0060.02	Detention Pond Corrugated Metal Anti-Seep Collar	EACH

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

83. Flared End Section with Trash Rack, Item SPV.0060.03.

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 1/4-inch welds.

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

C Construction
Install the reinforced concrete flared-end sections with trash racks at the appropriate locations and inverts, according to the plans and spec 522.

D Measurement
The department will measure Flared-End Section with Trash Rack 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.0060.03	Flared End Section with Trash Rack	EACH

Payment for Flared-end Section with Trash Grate is full compensation according to standard spec 522.

84. Storm Sewer Plug, Item SPV.0060.04.

A Description
Install a Storm Sewer Plug at locations specified in the plans.

B Materials
Provide a precast reinforced concrete plug or an engineer approved alternative, conforming to the inside diameter of the corresponding pipe as shown on the plan.

Furnish concrete conforming to standard spec 501 and standard spec 611.

C Construction
Place a watertight plug in the end of the storm sewer pipe in a manner that seals the pipe, but allows for future removal of plug without damaging the storm sewer pipe.

D Measurement
The department will measure Storm Sewer Plug 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.0060.04	Storm Sewer Plug	EACH

Payment is full compensation for furnishing and installing all required materials.
(NER11-0217)

85. Rootstock 2 1/ 2-Inch, Item SPV.0060.05.

A Description
This special provision describes furnishing and planting perennial plants of the species, varieties and sizes specified, according to standard spec 632, as modified in the article Furnishing and Planting Plant Materials, and as hereinafter provided.

B Materials
Provide plants of the specific species, variety, size, color and other characteristics as defined in C Construction. Written approval of the engineer is required for any plant substitution.

Plant material may be vegetative plugs 2 1/2 inches in diameter x 2 1/2 inches deep showing healthy spring plant growth. Plant plugs must be harvested from a known source. Provide engineer with the name, address and phone number of the supplier for approval.

Plant material may also be container grown in plastic “cell packs.” Individual cells shall be a minimum of 2 1/2 x 2 1/2 x 2 ½ inches deep. Container grown seedling height shall be a 3-inch minimum when planted. Provide engineer with the name, address and phone number of the grower for approval.

Use a time release fertilizer conforming to the following minimum requirements:

Nitrogen……..……14%
Phosphoric Acid…….……14%
Potash…….14%

C Construction

Upon approval of soil preparation, erosion mat, and nurse crop seeding, by the engineer, install randomly mixed plants 2 feet on center. An approximate 3 inch opening can be created (cut) in the erosion mat in order to plant plugs. Plant species consist of Butterfly Weed 7%, Common Milkweed 9%, New England Aster 6%, Prairie Blazingstar 6%, Showy Goldenrod 9%, Butterfly Weed 6%, Pale Purple Coneflower 9%, Showy Tick Trefoil 6%, Purple Prairie Clover 6%, Wild Lupine 6%, Black-eyed Susan 6%, Leadplant 6%, Whorled milkweed 6%, Common Fox Sedge 6% Bergamont 6%. Excavate holes twice the diameter and 1 inch deeper than depth of the plant plug or container, backfill with Planting Mix.

Perennials shall be planted in the bioretention area at elevation 825, or final surface elevation determined and approved by the engineer.

Thoroughly water-in plants to eliminate all air pockets in backfill.

Plant all perennials between April 15 and June 15 unless directed otherwise by the engineer. Space plants 2 feet on center unless directed by the engineer to modify spacing.

Water plants as in standard spec 632.3.19.1 (2) for plant establishment. After planting, proper care includes watering cutting, weed control. When planted areas reach a height of 9 to 10 inches, mow to a height of 6 inches for weed control during the first year. A last mowing shall occur between the weeks of July to the first week of August.

Plant plugs in prepared planting pockets a minimum of 3 1/2 inches deep and 3 1/2 inches wide and backfilled with Planting Mixture (632.2.3.4). Incorporate timed-release fertilizer thoroughly into the Planting Mixture backfill, at the manufacturers recommended rate.

Contractor shall remove and dispose of all excess material from site.

D Measurement

The department will measure Rootstock 2 1/2-Inch as each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.05	Rootstock 2 1/2-Inch	EACH

Payment is full compensation for furnishing all materials, storing plants, excavation, water; mowing; weeding; and for incidentals for the planting of perennial rootstock (container grown).

86. Shallow Marsh Rootstock, Item SPV.0060.06.

A Description

This special provision describes furnishing and planting wetland herbaceous plant rootstock of the species specified, complete in the Shallow Marsh as designated on the plans or as directed by the engineer. It also includes furnishing all necessary materials and performing all necessary work such as excavating plant holes, anchoring rootstock, performing necessary care, such as trimming, and required replacements pending acceptance, and doing such work necessary and incidental thereto to complete the item according to the plans, specifications and contract.

B Materials

The source of all plant materials shall be nursery-grown stock, not wild-collected, from an area not to exceed 150 linear miles from the project site and within the State of Wisconsin. All plants must be healthy, 1 to 2 years old, and have well-developed root systems. Plants that show evidence of mold, rot, freezing, or frost damage will be rejected. When evidence is submitted that a specified rootstock cannot be obtained, substitutions may be made with the specific approval of the engineer and wetland ecologist.

Shallow Marsh Planting Zone (0.037 Acres)

Scientific Name	**Common Name**	**Quantity**
Alisma trivale	water plantain	5
Scirpus atrovirens	green bulrush	5
Scirpus fluviatilis	river bulrush	20
Scirpus validus	soft stem bulrush	10
Sparganium eurycarpum	giant bur reed	5
Scirpus cyperinus	wool grass	5
Total		50

C Construction

C.1 General

Install plants in the shallow marsh prior to any seeding and mulching operations and within the specified planting periods. Care should be taken to minimize disturbance of the Shallow Marsh Planting Zone. Provide the engineer with a 5 working day notice of the intended date of delivery of the shallow marsh rootstock to the project site. Present all shallow marsh rootstock to the engineer for inspection and partial acceptance prior to planting.

C.2 Care

All shallow marsh rootstock shall be handled with care and skill to prevent damage and shall be packed in a manner to ensure arrival at the project site in good condition. The shallow marsh rootstock shall be kept moist and cool prior to planting. Do not disturb freshly installed plants with subsequent activities that would cause injury or uprooting.

C.3 Timing of Planting
Install wetland rootstock on the day of delivery at the project site. In the event that this is not possible, temporarily store plants by placing them in a well-ventilated, cool, shaded, moist storage space. This storage period shall not exceed 48 hours. Shallow marsh rootstock shall be planted between May 1 and June 15, or after November 1 and prior to November 15.

C.4 Planting Layout
Install plants at a density of approximately 1300 plants per acre (spacing approximately one plant per 3 feet) as shown on the plans or as directed by the engineer.

C.5 Planting Method
Install plants by hand with the use of a tree spud or other comparable method, or as directed by the engineer.

D Measurement
The department will measure Shallow Marsh Rootstock as each individual unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.06	Shallow Marsh Rootstock	EACH

Payment is full compensation for furnishing, delivering, storing, and planting the plants.

87. Concrete Barrier Transition Type S36A, Item SPV.0060.07.

A Description
This special provision describes constructing Concrete Barrier Transition Type 36A according to standard spec 603, details shown in the plans, and as hereinafter provided.

B Materials
Conform to standard spec 603.

C Construction
Conform to standard spec 603.

D Measurement
The department will measure Concrete Barrier Transition Type S36A 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.0060.07	Concrete Barrier Transition Type S36A	EACH

Payment is full compensation for furnishing all materials, for excavation, finishing and curing concrete.

88. Utility Line Opening, Item SPV.0060.08.

A Description

This special provision describes excavating to uncover utilities for the purpose of determining elevation or location and potential conflicts as shown on the plans or as directed by the engineer.

B (Vacant)

C Construction

Perform the excavation in such a manner that the utility in question is not damaged and the safety of the workers is not compromised.

Perform the utility line openings as soon as possible and at least 10 days in advance of proposed utility construction to allow any conflicts to be resolved with minimal disruption. Give the engineer a minimum of three working days once utility line opening information is received to review all relevant design information prior to proposed utility construction. Where utilities are within 6 feet of each other at a potential conflict location, only one utility line opening will be called for. In these cases, a single utility line opening will be considered full payment to locate multiple utilities. Utility line openings include a trench up to 10 feet long as measured at the trench bottom, and of any depth required to locate the intended utility.

Approve and coordinate all utility line openings with the engineer. Notify the utility engineers or their agents of this work a minimum of 3 days prior to the work so they may be present when the work is completed.

Replace pavement over utility line opening trenches which are within the staged traffic area as directed by the engineer. Replace pavement and open to traffic within 24 hours of the excavation.

D Measurement

The department will measure Utility Line Opening as each individual utility line opening, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.08	Utility Line Opening	EACH

Payment is full compensation for the excavation required to expose the utility line; backfilling with existing material removed from the excavation; compacting the backfill; restoring the site; and for cleanup.

Existing pavement, concrete curb, gutter, and sidewalk removals necessary to facilitate utility line openings are not considered part of or paid for under Utility Line Openings, but are considered separate and measured and paid for separately as removal items. Pavement replacement material, concrete curb, gutter, and sidewalk items will also be considered separate from Utility Line Openings and will be measured and paid for separately.

89. Temporary Sediment Trap, Item SPV.0060.09.

A Description

This special provision describes designing constructing and maintaining temporary sediment traps used to intercept sediment-laden runoff and to retain the sediment according to pertinent provisions of standard spec 628, as shown on the plans, and as hereinafter provided.

B Materials

Supply materials according to the Wisconsin Department of Natural Resources Technical Standard 1063 (Sediment Trap).

C Construction

Design, maintain, and remove Temporary Sediment Traps following the guidance in Wisconsin Department of Natural Resources Technical Standard 1063 (Sediment Trap). Locations as directed by the engineer. General locations requiring Temporary Sediment Traps are upstream of streams and wetlands which receive sediment laden runoff. Install prior to major grading operations.

D Measurement

The department will measure Temporary Sediment Traps as each individual sediment trap, 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.0060.09	Temporary Sediment Traps	EACH

Payment is full compensation for design; furnishing and maintaining each sediment trap; for removal of the sediment trap; and for stabilization of disturbed area after removal.

90. Temporary Earth Berm, Item SPV.0060.10.

A Description
This item describes excavating a trench and forming a temporary earth berm to intercept sediment laden storm runoff and to retain the sediment according to applicable standard spec 205 and 628 as shown on the plans and as hereinafter provided.

B Materials
Use on-site soil materials.

C Construction
Construct, maintain and remove temporary earth berms according to the plan details.

Locations as directed by the engineer. Locations generally requiring temporary earth berms are upstream of streams or wetlands which may receive sediment laden storm runoff. Install temporary earth berms as a part of grading operations.

D Measurement
The department will measure Temporary Earth Berm as each individual earth berm, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.10	Temporary Earth Berm	EACH

Payment is full compensation for excavation and forming each earth berm; for removal of the sediment and the temporary earth berm; and for stabilization of disturbed area after removal.

91. Field Facilities Office Space, Item SPV.0060.11.

A Description
This special provision describes furnishing, equipping, and maintaining a field office as required in the contract at engineer-approved locations conforming to standard spec 642 and as hereinafter provided.

B Materials
Provide Field Facilities Office Space conforming to standard spec 642.2.1 except delete paragraphs (1), (7), and (9).

Replace standard spec 642.2.1(4) with the following:

Provide and maintain suitable interior sanitary facilities conforming to State and local health requirements, in clean and good working condition, and stock with sanitary supplies for the duration of the contract. Furnish office space in an existing office building or

existing building converted to office space with a minimum of 1200 square feet. The facility shall have no fee parking with a minimum parking for 15 cars. The space shall include a meeting room with a minimum of 350 square feet. The exterior door(s) shall have locks in good working order and keys provided for all field staff. The office space shall be located within 2 miles of the construction project.

Equip the office as specified in standard spec 642.2.2.1 except delete paragraph (1) and (4) and add the following:

1. Five suitable office desks with drawers and locks.
2. Five ergonomically correct office chairs in working condition with at a minimum: 5-legged base with casters, seat adjustable from 15 to 22 inches from the floor with a seamless waterfall, rounded, front edge, and high backrest with no arms or adjustable arms.
3. Four 6 foot folding tables.
4. One 10 foot folding table.
5. Five 2-drawer file cabinets.
6. Three 4-shelf bookcases.
7. Twenty folding chairs.

Provide for the professional cleaning of the field office during regular business hours twice monthly. Provide clearly marked recycling and waste receptacles within the field office, and separate recycling and waste dumpsters near the field office. Cover outdoor containers to keep out rain, snow, and wind-driven debris. Provide regularly scheduled recycling and waste pick-up.

C Construction
Conform to standard spec 642.3 except delete paragraph (2).

D Measurement
The department will measure Field Facilities Office Space as each individual office, 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.0060.11	Field Facilities Office Space	EACH

Payment is full compensation for providing, equipping, securing, and maintaining the facility; for parking, for telecommunications equipment, installation, and service fees; and for providing bottled water, utilities, fuel, ventilation, and toilet facilities as required, either independently or jointly with the field laboratory, for the time specified in standard spec 642.3.

The department will pay for the cost of telecommunications usage fees incurred by department staff.
SER-642.2 (20160808)

92. Section Corner Monuments, Item SPV.0060.12.

A Description
Coordinate with Southeast Wisconsin Regional Planning Commission (SEWRPC) for the perpetuation and replacement of a section corner (Public Land Survey System – PLSS) monument.

B Materials
SEWRPC will provide a pre-cast monument or brass disk to be used to mark the PLSS corner.

Furnish base aggregate dense materials that conform to standard spec 305 and concrete, asphalt, topsoil or other materials depending on the surface surrounding the corner.

C Construction
SEWRPC will perpetuate existing section corner monument. The contractor is responsible to coordinate with SEWRPC and the WisDOT Project Manager throughout the perpetuation and replacement process. The engineer will contact SEWRPC at (262) 953-4295 at least two weeks before starting construction operations or the preconstruction meeting to allow for section corner monument perpetuation.

Contractor must excavate and completely remove the existing monument. Contractor is responsible for providing a backfilled 3 to 4 foot deep hole where existing monument was removed. Contractor is responsible to coordinate the materials and methodology to complete the construction of the surface surrounding the monument. This may include but is not limited to a 2 foot x 2 foot "box out" or 24 inch diameter core hole in concrete, asphalt pavement/paving rings, coring to facilitate poured in place monuments, topsoil, seed and mulching or other materials or methodologies as agreed to by the contractor and SEWPRC.

Contact Information:

Attn: John Washburn
Southeastern Wisconsin Regional Planning Commission
W239 N1812 Rockwood Drive
P.O. Box 1607
Waukesha, WI53187-1607
Phone (262) 547-6721
Cell (262) 953-4295
Fax (262) 547-1103
Email: jwashburn@sewrpc.org

D Measurement
The department will measure Section Corner Monuments 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.0060.12	Section Corner Monuments	EACH

Payment is full compensation for furnishing all excavating; for removal of existing monument, for placing and compacting backfill material; for disposing of surplus materials; for concrete or asphalt material, finishing of roadway or other surfaces, and for furnishing all coordination with SEWRPC.
SER-621.1 (20170530)

93. Baseline CPM Progress Schedule, Item SPV.0060.13; Monthly CPM Progress Schedule Updates, Item SPV.0060.14.

Replace standard spec 108.4 with the following:

108.4 Critical Path Method Progress Schedule
108.4.1 Definitions

(1) The department defines terms used in 108.4 as follows:

Activity An administrative or construction task performed during the course of the project with a defined duration, and scheduled (or actual) start and finish dates.

Critical Path The longest continuous chain of activities through the CPM schedule that establishes the minimum overall project duration.

Construction Activity Construction activities are discrete work activities performed by the contractor, subcontractors, utilities, or third parties within the project limits.

CPM Progress Schedule A Critical Path Method (CPM) Progress Schedule is a network of logically related activities. The CPM schedule calculates when activities can be performed and establishes the critical or longest continuous path or paths of activities through the project.

Float Float, as used in this special provision, is the total float of an activity; i.e., it is the amount of time between the date when an activity can start (the early start), and the date when an activity must start (the late start). In cases where the total float of an activity has a different value when

	calculated based on the finish dates, the lower (more critical) value will govern.
Forecast Completion Date	The completion date predicted by the latest accepted CPM Update, which may be earlier or later than the contract completion date, depending on progress.
Fragnet	A group of logically-related activities, typically inserted into an existing CPM schedule to model a portion of the project, such as the work associated with a change order.
Initial Work Plan	The initial work plan is a time-scaled CPM schedule showing detailed activities for the first 90 calendar days of work and summary level activities for the remainder of the project.
Intermediate Milestone Date	A contractually required date for the completion of a portion of the work, so that a subsequent portion of the work or stage of traffic phasing may proceed.
Master Program Schedule	The department's schedule for the overall 94 N-S Freeway Program, including intermediate milestone dates and contract completion dates, and containing codes for use as a template for the development of the contractor's schedule.
Master Project Schedule	The department's schedule for the contract work, developed during design, and provided to the contractor for informational purposes only.
Work Breakdown Structure (WBS)	A framework for organizing the activities that make up a project by breaking the project into successively greater detail by level. A WBS organizes the project work. It does not address the sequencing and scheduling of project activities.

108.4.2 Department's Master Schedules

108.4.2.1 Master Project Schedule

(1) If requested by a bidder or by the contractor, the department will supply its Master Project Schedule for the contract work, developed during design. The Master Project Schedule is not a direction on how to perform the work. The Master Project Schedule reflects one possible approach to the work, consistent with the phasing requirements.

108.4.2.2 Master Program Schedule

(1) Within five business days after award, the department will provide its current Master Program Schedule, containing intermediate milestone constraints, standard activity codes, and a standard WBS for the contractor to use to develop its schedule.

108.4.2.3 Use of Department's Master Schedules

(1) The department's Master Schedules provide information to assist the contractor in preparing its schedule. The Master Schedules are not contract documents. The logic contained in the Master Schedules is not intended to alter or supplement contract requirements for the phasing of the work, but to reflect those requirements.

108.4.3 Contractor's Scheduling Responsibilities

(1) Prepare and submit a CPM progress schedule that accurately reflects the plan for the performance of the work, based on the physical requirements of the Work, and Traffic Phasing requirements. The CPM schedule is the contractor's committed plan to complete all work within the completion deadlines. Full responsibility is assumed for the prosecution of the work as shown. The CPM schedule is not part of the contract. Schedule the Work in the manner required to achieve the completion date and intermediate milestone dates specified in the Prosecution and Progress Special Provision.

(2) Use the department-provided Master Program Schedule as a template to develop the Initial Work Plan and the Baseline CPM Progress Schedule. Use the Master Program Schedule's ID coding structure to categorize activities by Contract, Stage, Location, and Responsibility to ensure compatibility with the Master Program Schedule and with schedules prepared by other contractors. Add additional activity codes as necessary, but do not delete the coding structure provided.

(3) To ensure compatibility with the Master Program Schedule, use the latest version of Primavera P6 Project Management, by Oracle Corporation, Redwood Shores, CA, to prepare the Initial Work Plan, Baseline CPM Progress Schedule, and Monthly CPM Updates.

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

108.4.4 Submittals

108.4.4.1 Initial Work Plan

(1) Within ten business days after the Initial Work Plan Workshop, as scheduled in section 103.10, submit an Initial Work Plan as follows:

1. Develop the Initial Work Plan using the Master Program Schedule as a template. Identify the contemplated start and completion dates for each activity.

2. Provide a detailed plan of activities to be performed within the first 90 calendar days of the contract. Provide construction activities with durations not greater than 28 calendar days (20 business days), unless the engineer accepts requested exceptions.

3. Provide activities as necessary to depict administrative work, including submittals, reviews, and procurements that will occur within the first 90 calendar days of the contract. Show additional activities that require department review or approval. Activities other than construction activities may have durations greater than 28 calendar days (20 business days). Allow 21 calendar days (15 business days) for department review of submittals.

4. Provide summary activities for the balance of the project. Summary activities may have durations greater than 28 calendar days (20 business days).

5. Submit three copies of the Initial Work Plan in a compressed (XER) format on three separate CDs.

6. The engineer will accept the contractor's Initial Work Plan or provide comments within five business days after receipt of the Initial Work Plan. Address comments and resubmit the Initial Work Plan as necessary. Do not begin work until the engineer accepts the Initial Work Plan. The department will use the initial work plan to monitor the progress of the work until the Baseline CPM Progress Schedule is accepted.

7. Submit an updated version of the Initial Work Plan monthly until the engineer accepts the Baseline CPM Progress Schedule. With each update, include actual start dates, completion percentages, and remaining durations for activities started but not completed. Include actual finish dates for completed activities.

8. Ensure the Initial Work Plan shows completing the work within the interim completion dates and specified completion date.

9. Include activities that describe essential features of the work and activities that might potentially delay contract completion. Identify activities that are controlling items of work.

108.4.4.2 Baseline CPM Progress Schedule

(1) Within 15 business days after the CPM Scheduling Workshop, as scheduled in section 103.10, submit a Baseline CPM Progress Schedule and written narrative. The department will use the schedule to monitor the progress of the work.

1. Develop the Baseline CPM using the Master Program Schedule as a template. The Baseline CPM is the contractor's committed plan to complete the Work within the time frames required to achieve the contract completion date and intermediate milestone dates.

    1.1. Provide a detailed plan of activities to be performed during the entire contract duration, including all administrative and construction activities required to complete the work as described in the contract documents.

Provide construction activities with durations not greater than 28 calendar days (20 business days), unless the engineer accepts requested exceptions.

1.2. Provide activities as necessary to depict administrative work, including submittals, reviews, procurements, inspections, and all else necessary to complete the work as described in the contract documents. Activities other than construction activities may have durations greater than 28 calendar days (20 business days). Allow 21 calendar days (15 business days) for department review of submittals.

1.3. Submit a temporary drainage plan showing the interface between various stages of a project as well as the interface with adjacent projects.

1.4. Include activities that describe essential features of the work and activities that might potentially delay contract completion. Identify activities that are controlling items of work.

1.5. Show completing the work within interim completion dates and the specified completion date.

1.6. Provide summary activities for the balance of the project. Summary activities may have durations greater than 28 calendar days (20 business days).

1.7. Provide activities as necessary to depict third party work related to the contract.

1.8. Make allowance for specified work restrictions, non-working days, time constraints, calendars, and weather; and reflect involvement and reviews by the department, and coordination with adjacent contractors, utility owners, and other third parties.

1.9. With the exception of the Project Start Milestone and Project Completion Milestone, all activities must have predecessors and successors. The start of an activity shall have a Start-to-Start or Finish-to-Start relationship with preceding activities. The completion of an activity shall have a Finish-to-Start or Finish-to-Finish relationship with succeeding activities. Do not use Start-to-Finish relationships. Do not use Finish-to-Start relationships with a lag unless the engineer accepts requested exceptions.

1.10. Schedule all intermediate milestones in the proper sequence and input as either a "Start-no-Earlier-Than" or "Finish-no-Later-Than" date. Provide predecessors and successors for each intermediate milestone as necessary to model each Stage of the Work. Unless the engineer accepts a requested exception, the schedule should encompass all the time in the contract period between the starting date and the specified completion date.

1.11. Using the bid quantities and unit prices, develop an anticipated cash-flow curve for the project, based on the Baseline CPM.

2. Provide three hard copies of a hand-drawn or electronically drafted logic diagram depicting the CPM network. Organize the logic diagram by grouping related activities, based on the activity codes in the CPM.

3. Provide a written narrative with the baseline CPM explaining the planned sequence of work, as-planned critical path, critical activities for achieving intermediate milestone dates, traffic phasing, and planned labor and equipment resources. Use the narrative to further explain:

    3.1. The basis for activity durations in terms of production rates for each major type of work (number of shifts per day and number of hours per shift), and equipment usage and limitations.

    3.2. Use of constraints.

    3.3. Use of calendars.

    3.4. Estimated number of adverse weather days on a monthly-basis.

    3.5. Scheduling of permit and environmental constraints, and coordination of the schedule with other contractors, utilities, and public entities.

(1) Submit three copies of the Baseline CPM in a compressed (XER) format on three separate CDs.

(2) Within ten business days of receiving the Baseline CPM, the engineer will provide comments and schedule a meeting for the contractor to present its Baseline CPM and answer questions raised in the engineer's review.

(3) At the meeting scheduled by the engineer, provide a presentation of the Baseline CPM. In the presentation, include a discussion of the staging and sequencing of the work, understanding of traffic phasing, and application of labor and equipment resources to the Work. Address comments raised in the engineer's review.

(4) Within five business days after the meeting, the engineer will accept the contractor's Baseline CPM schedule or provide comments. Address the engineer's comments and resubmit a revised Baseline CPM within ten business days after the engineer's request. If the engineer requests justification for activity durations, provide information that may include estimated labor, equipment, unit quantities, and production rates used to determine the activity duration.

(5) The department will only make progress payments for the value of materials, as specified in 109.6.3.2, until the contractor has submitted the Baseline CPM Schedule. The department will retain 10 percent of each estimate until the department accepts the Baseline CPM Schedule.

(6) The engineer will accept the Baseline CPM based solely on whether the schedule is complete as specified in this section. The engineer's acceptance of the schedule does not modify the contract or validate the schedule.

(7) The department will not consider requests for contract time extensions as specified in 108.10 or additional compensation for delay specified in 109.4.7 until the department accepts the Baseline CPM schedule.

108.4.4.3 Monthly CPM Updates

(1) Submit CPM Updates on a monthly basis after acceptance of the Baseline CPM as follows:

1. Include actual start dates, completion percentages, and remaining durations for activities started but not completed, and actual finish dates for completed activities, through the final acceptance of the project.

2. Include additional activities as necessary to depict additions to the contract by changes and logic revisions as necessary to reflect changes in the contractor's plan for prosecuting the work.

3. Include a narrative report that includes a brief description of monthly progress, changes to the critical path from the previous update, sources of delay, potential problems, work planned for the next 30 calendar days, and changes to the CPM schedule. Changes to the logic of the CPM schedule include the addition or deletion of activities and changes to activity descriptions, original durations, relationships, constraints, calendars, or previously recorded actual dates. Justify changes to the CPM schedule in the narrative by describing associated changes in the planned methods or manner of performing the work or changes in the work itself.

4. Submit three copies of each CPM Update in a compressed (XER) format electronically, as agreed to with the department.

5. If additions or changes were made to the CPM schedule since the previous update, submit an updated hard copy of the revised logic diagram.

(2) Within five business days of receiving each CPM Update, the engineer will provide comments and schedule a meeting as necessary to address comments raised in the engineer's review. Address the engineer's comments and resubmit a revised CPM Update within five business days after the engineer's request.

108.4.4.4 Three-Week Look-Ahead Schedules

(1) Submit Three-Week Look-Ahead Schedules on a weekly basis after the notice to proceed (NTP). The schedule 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. Actual as-built dates for completed activities through final acceptance of the project.

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

4. The activities underway and critical RFIs and submittals, based on the CPM schedule.

5. Details on other activities not individually represented in the CPM schedule.

(2) 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 all disagreements. Use the as-built dates from the Three-Week Look-Ahead schedules for the month when updating the CPM schedule.

108.4.4.5 Weekly Production Data

(1) Provide estimated and actual weekly production rates for items of work on a weekly basis as follows:

1. Data on the following items by area or station:
    - 1.1. Retaining Walls
        - 1.1.1. Leveling Pads - LF
        - 1.1.2. Set Panels - SF
        - 1.1.3. Parapets - LF
        - 1.1.4. Wall Face - Bay
        - 1.1.5. Tie Backs – Each
        - 1.1.6. Anchor Slabs – LF
        - 1.1.7. Drilling - Each
        - 1.1.8. Coping – LF
        - 1.1.9. Footing - LF
    - 1.2. Bridge Construction
        - 1.2.1. Footings—Each
        - 1.2.2. Columns—Each
        - 1.2.3. Abutments—Each
        - 1.2.4. Pier Caps—Each
        - 1.2.5. Girder Spans – Each
        - 1.2.6. Decked Spans – Each
        - 1.2.7. Poured Spans – Each
    - 1.3. Roadway Excavation—CY per week

1.4. Roadway Structural Section
    1.4.1. Grading/Subgrade Preparation—SY
    1.4.2. Base Material Placement—Ton
    1.4.3. Base Material Subgrade Preparation—SY
    1.4.4. Asphalt Pavement—Ton
    1.4.5. Concrete Pavement – SY
1.5. Tunnels
    1.5.1. Drilled Shafts – Each
    1.5.2. Beam Seat/Cap - LF
    1.5.3. Girders - Each
    1.5.4. Deck – Percent
1.6. Noise Walls
    1.6.1. Drill/Set Ground Mounted Posts - Each
    1.6.2. Install Ground Mounted Panels - Each
    1.6.3. Anchor/Set Structure Mounted Posts - Each
    1.6.4. Install Structure Mounted Panels - Each

2. The actual daily production for the past week and the anticipated weekly production for the next week.

(2) Submit the data in an electronic spreadsheet format at the same time the Three-Week Look-Ahead is submitted. On a weekly basis, the department and the contractor shall agree on the production data or document all disagreements.

108.4.5 Progress Review Meetings

108.4.5.1 Weekly Progress Review Meetings

(1) After completing the weekly submittal of the Three-Week Look-Ahead and production data, attend a weekly meeting to review the submittals with the department. At the meeting, address comments as necessary, and document agreement or disagreement with the department.

108.4.5.2 Monthly Update Review Meetings

(1) After submitting the monthly update and receiving the engineer's comments, attend a job-site meeting, as scheduled by the engineer, to review the progress of the schedule. At that meeting, address comments as necessary, and document agreement or disagreement with the department. The monthly meeting will be coordinated to take place on the same day and immediately before or after a weekly meeting, whenever possible.

108.4.6 CPM Progress Schedule Revisions

(1) Revision by the contractor if necessary due to changes in the Work or project conditions and authorized by the engineer, a CPM Progress Schedule Revision may be submitted, although the next Monthly CPM Update is not yet due. Prepare the CPM Revision in the same format as required for Monthly CPM Updates, including justification for changes to the schedule. The process for comment and acceptance of a CPM Revision will be the same as for Monthly CPM Updates. If the CPM Revision is accepted, prepare

the next monthly update based on the revised CPM. If the CPM Revision is rejected, prepare the next monthly update based on the previous month's update.

(2) Engineer's Right to Request Revisions—The engineer will monitor the progress of the work and may request revisions to the CPM schedule. Revise the schedule as requested by the engineer, and submit a CPM Progress Schedule Revision within ten business days of the request. The process for comment and acceptance of a CPM Revision will be the same as for Monthly CPM Updates. The engineer may request that the contractor revise the CPM schedule for one or more of the following reasons:

1. The forecast completion date is scheduled to occur more than 14 calendar days after the contract completion date.
2. An intermediate milestone is scheduled to occur more than 14 calendar days after the date required by the contract.
3. The engineer determines that the progress of the work differs significantly from the current schedule.
4. A contract change order requires the addition, deletion, or revision of activities that causes a change in the contractor's work sequence or the method and manner of performing the work.

108.4.7 Documentation Required for Time Extension Requests

(1) To request a time extension to an intermediate milestone date or the contract completion date associated with changes to the work, provide a narrative detailing the work added or deleted and the other activities affected, based on the latest accepted CPM Update. For added work, submit a proposed fragnet of activities to be added or revised in the CPM schedule, indicating how the fragnet is to be tied to the CPM schedule.

(2) To request a time extension to an intermediate milestone date or the contract completion date associated with delays to the work, provide a narrative detailing the affected activities and the cause of the delay, based on the latest accepted CPM Update. Requests for time extensions due to delays should meet the following criteria:

1. For requests to extend the contract completion date, include a description of how the delay affected the project's critical path, based on the latest accepted CPM Update.
2. For requests to extend an intermediate milestone date, include a description of how the delay affected the controlling (longest) path to the milestone, based on the latest accepted CPM Update.
3. The department and the contractor agree that the float is not for the exclusive use or financial benefit of either party. Either party has the full use of the float on a first come basis until it is depleted.

108.4.8 Payment for CPM Progress Schedule

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.13	Baseline CPM Progress Schedule	EACH
SPV.0060.14	Monthly CPM Progress Schedule Updates	EACH

(2) The department will only make progress payments for the value of materials, as specified in 109.6.3.2.1, until the Baseline CPM schedule has been submitted. The department will retain ten percent of each estimate until the department accepts the Baseline CPM schedule.

(3) The department will only make progress payments for the value of materials, as specified in 109.6.3.2.1, until the Monthly CPM schedule updates have been submitted. The department will retain ten percent of each estimate until the department accepts the Monthly CPM schedule update.

(4) Payment is full compensation for all work required under these bid items. The department will pay the contract unit price for the Baseline CPM schedule after the department accepts the schedule. Then, the department will pay the contract unit price for each Monthly CPM Update acceptably completed.
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94. Tieback Anchors, Item SPV.0060.20; Tieback Anchor Performance Tests, Item SPV.0060.21.

A Description

A.1 General

(1) The work under this item consists of permanent, pressure-grouted or post grouted, ground anchors designed, furnished, installed, tested, and stressed according to these special provisions and as shown on the plans.

(2) Install ground anchors that shall develop the load carrying capacity indicated on the plans according to the testing subsection of these special provisions.

(3) The contractor has the option to provide an alternate permanent earth anchor system with the approval of the department. The contractor shall then be responsible for selecting the permanent earth anchor type, method of installation, and for determining the bond length and anchor diameter that shall develop the factored design loads indicated on the plans. The analysis, design, construction and testing of the post tiebacks shall conform to the AASHTO LRFD Bridge Design Specifications Seventh Edition with 2015 Interim and the AASHTO LRFD Bridge Construction Specifications Third Edition with 2015 Interim.

A.2 Qualifications of the Contractor

(1) The contractor performing the work described in these special provisions must have installed ground anchors for excavation retaining walls for a minimum of 5 years. Submit a list containing at least five projects where the contractor has installed ground anchors. Specifically, experience must demonstrate competence in the use of pressure or post

grouting. At least one project must show evidence of permanence with a 5-year minimum age. The project experience documentation must include a brief project description, construction methods used during installation, local soil conditions, actual construction time and contact information consisting of an individual's name and current phone number. Contacts must be capable of verifying project participation.

(2) Submit staff experience records of the engineer, drill operators, and on-site supervisors who will be assigned to the project. The staff records must contain a summary of each individual's experience and it must be complete enough for the engineer to determine whether each individual has satisfied the following qualifications.

(3) Assign an engineer to supervise the work who has at least four years of experience in the design and construction of anchored earth retaining structures in similar soils. Do not use consultants or manufacturer's representatives in order to meet the requirements of this section. Drill operators and on-site supervisors must have a minimum of one-year experience installing ground anchors with the contractor's organization.

(4) Submit your qualifications and staff experience records at the preconstruction meeting or 21 calendar days prior to the start of ground anchor installation, whichever date is earlier. The engineer will approve or reject the contractor's qualifications and staff experience records within 14 calendar days after receipt of the submission. Do not start work on any ground anchor installation until approval of the contractor's qualifications and staff experience are given by the engineer. The engineer may suspend the ground anchor work if the contractor substitutes unqualified personnel for approved personnel during construction. If work is suspended due to the substitution of unqualified personnel, the adjustment in contract time resulting from the suspension of work will not be allowed.

A.3 Submittals

(1) Prepare and submit to the engineer for review and approval working drawings and a design submission describing the ground anchor system or systems intended for use. The working drawings and design submission must be submitted thirty business days before the commencement of the ground anchor work. The working drawing and design submission must include certificates of compliance for the following materials, if used. The certificates must state that the material or assemblies to be provided will fully comply with the requirements of the contract.

- Prestressing steel or bar;
- Portland cement;
- Prestressing hardware;
- Bearing plates.

(2) The engineer will approve or reject the contractor's submittals within 30 business days after receipt of the submission.

(3) Submit to the engineer for review and approval or rejection mill test reports for the prestressing steel and the bearing plate steel. The engineer may require the contractor to provide samples of any ground anchor material intended for use on the project. The

engineer will approve or reject the prestressing steel and bearing plate steel within five business days after receipt of the test reports. Do not incorporate the prestressing steel and bearing plates in the work without the engineer's approval.

(4) Submit to the engineer for review and approval or rejection calibration data for each test jack, pressure gauge and reference pressure gauge to be used. The engineer will approve or reject the calibration data within five business days after receipt of the data. Do not commence testing until the engineer has approved the jack, pressure gauge, and reference pressure gauge calibrations.

(5) Submit to the engineer within 10 calendar days after completion of the ground anchor work, a report containing the following information:

- As-Built plans showing the location and vertical and horizontal orientation of the tiebacks, capacity, tendon type, total length, and unbonded length as installed.
- Steel tendon, corrosion protection elements and grout certifications and/or mill reports.
- Grouting records indicating the following:
    1. Cement type;
    2. Cube test strength results;
    3. Grout volume for bonded and unbonded lengths;
    4. Grout pressure.
- Show on the as-built plans the type of testing performed for each post tieback.
- Tieback tests results (Performance and proof test data with load-anchor elongation curves).
- Other records as required by standard spec 106.

A.4 Definitions

(1) Anchorage Devices. The anchor head wedges or nuts, which grip the prestressing steel.

(2) Bearing Plate. The steel plate, which distributes the ground anchor force to the structure.

(3) Bond Length. The length of the ground anchor, which is bonded to the ground and transmits the tensile force to the soil or rock.

(4) Factored Design Load. The factored design load is the maximum anticipated factored load that will be applied to the ground anchor during its service life after stressing and testing have been completed. Design loads and applicable load factors are per AASHTO LRFD Bridge Design Specifications, Fifth Edition with 2010 Interim.

(5) Ground Anchor. A system, referred to as a tieback or an anchor, used to transfer tensile loads to soil or rock. A ground anchor includes all prestressing steel, anchorage devices, bearing plates, grout, coatings, corrosion protection, and sheathings and couplers if used.

(6) Minimum Specified Ultimate Tensile Strength. The minimum breaking strength of the prestressing steel as defined by the specified standard.

(7) Tendon Bond Length. The length of the tendon, which is bonded to the anchor grout.

(8) Total Anchor Length. The unbonded length plus the tendon bond length.

(9) Unbonded Length. The length of the tendon, which is not bonded to the grout. The grout surrounding the unbonded length is a void filler and provides corrosion protection.

B Materials

B.1 References

(1) **AASHTO Standards**

- M85 Portland Cement
- M183 Structural Steel
- M275 Threadbar Prestressing Steel
- M203 Seven-wire, low relaxation strands
- M222 High-Strength Low-alloy Structural Steel with 50,000 psi Minimum Yield Point to 4 Inches Thick
- M252 Corrugated Polyethylene Drainage Tubing

(2) **ASTM Standards**

- A-53 Specification for Steel Pipe
- A-252 Specification for Welded and Seamless Steel Pipe Files
- A-500 Specification for Cold-formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes
- A-722 Threadbar Prestressing Steel
- A-779 Compact Seven-wire, low relaxation strands
- D-1248 Specification for Welded and Seamless Steel Pipe Files
- D-1784 Specification for Rigid Poly Vinyl Chloride (PVC) Compounds and Chlorinated Poly Vinyl Chloride (CPVC) Compounds
- D-4101 Specification for Propylene Plastic Injection and Extrusion Materials

(3) **Post-Tensioning Institute Standards**

- "Guide Specification for Post-Tensioning Materials," Post-Tensioning Manual, Post Tensioning Institute, 6th Edition, 2006.
- "Specification for Unbonded Single Strand Tendons," Post-Tensioning Institute, 2nd Edition, 2003.
- "Recommendations for Prestressed Rock and Soil Anchors," Post-Tensioning Institute, 4th Edition, 2004.

B.2 Tieback Anchors

(1) Admixtures that control bleed, improve flowability, reduce water content, and retard set may be used in the grout subject to the approval of the engineer. Expansive admixtures

may only be added to the grout used for filling sealed encapsulations, trumpets, and anchorage covers. Accelerators are not permitted. Admixtures, if used, must be compatible with the prestressing steels and mixed according to the manufacturer's recommendations.

(2) Fabricate exposed anchorage covers from steel or ductile cast iron with a minimum thickness of 0.10 inches. Securely attach the cover to the anchorage device or bearing plate. If the cover is to be grease filled, then the cover must form a permanent watertight enclosure for the anchorage device.

(3) Use anchorage devices capable of developing 95 percent of the minimum specified ultimate tensile strength of the prestressing steel tendon. The anchorage devices must conform to the static strength requirements of section 3.1.6 (1) and section 3.1.8 (1) of the PTI "Guide Specification for Post-Tensioning Materials".

(4) Fabricate the bearing plate from steel conforming to ASTM A572 Grade 50 or AASHTO M223 Grade 50 specifications.

(5) Fabricate the bondbreaker from a smooth plastic tube or pipe having the following properties:

- Resistant to chemical attack from aggressive environments, grout or grease.
- Resistant to aging by ultra-violet light.
- Fabricated from material nondetrimental to the tendon or bar.
- Capable of withstanding abrasion, impact, and bending during handling and installation.
- Enable the tendon to elongate during testing and stressing.
- Allow the tendon to remain unbonded after lock-off.

(6) Use Type I, II, or III Portland cement conforming to AASHTO M85 for grout. The corrosion inhibiting grease must conform to the requirements of section 3.2.5 of the PTI, "Specification for Unbonded Single Strand Tendons".

(7) Fabricate heat shrinkable tubes from a radiation crosslinked polyolefin tube internally coated with an adhesive sealant. Before shrinking, the tube must have a nominal wall thickness of 24 mils. The adhesive sealant inside the tube must have a nominal thickness of 20 mils.

(8) Fabricate ground anchor tendons from a single bar. Additionally, the ground anchor tendons must conform to the following:

- Steel bars conforming to AASHTO M275, or ASTM A722.
- Seven-wire, low relaxation strands conforming to M203.

(9) Use steel couplers capable of developing 95 percent of the minimum specified ultimate tensile strength of the tendon.

(10) Use a sheath as part of the corrosion protection system for the unbonded length portion of the tendon. Fabricate the sheath from one of the following:

- A polyethylene tube pulled or pushed over the prestressing steel. The polyethylene must be Type II, III, or IV as defined by ASTM D-1248 (or approved equal). The tubing must have a minimum wall thickness of 60 mils plus/minus 10 mils.
- A hot-melt extruded polypropylene tube. The polypropylene must be cell classification PP 210 B5554211 as defined by ASTM D-4101 (or approved equal). The tubing must have a minimum wall thickness of 60 mils plus/minus 10 mils.
- A hot-melt extruded polyethylene tube. The polyethylene must be high density Type III as defined by ASTM D-3350 and ASTM D1248 (or approved equal). The tubing must have a minimum wall thickness of 60 mils plus/minus 10 mils.
- Steel tubing conforming to ASTM A-500, minimum wall thickness of 0.20 inches.
- Steel pipe conforming to ASTM A-53, Schedule 40 minimum.
- Plastic pipe conforming to ASTM A-1185, Schedule 40 minimum.
- A corrugated tube conforming to the requirement of the tendon bond length encapsulation.

(11) Spacers must permit grout to freely flow up the drill hole. Fabricate spacers from plastic, steel, or material that is nondetrimental to the prestressing steel. Do not use wood. A combination centralizer-spacer may be used.

(12) Fabricate the trumpet used to provide a transition from the anchorage to the unbonded length corrosion protection from a steel pipe or tube conforming to the requirements of ASTM A-53 for pipe or ASTM A-500 for tubing. The trumpet must have a minimum wall thickness of 0.125 inches for diameters up to four inches and 0.20 inches for larger diameters.

(13) Use potable water for mixing grout.

(14) Fabricate tendons according to the following specifications:

- The tendons may be either shop or field fabricated from prestressing steel and materials conforming to the requirements of the Materials subsection of these special provisions. Fabricate the tendon as shown on the approved working drawings.
- The cement grout cover must provide corrosion protection of the tendon.
- Position spacers so their center-to-center spacing does not exceed ten feet. In addition, locate the upper spacer a maximum of five feet from the top of the tendon bond length, and locate the lower spacer a maximum of five feet from the bottom of the tendon bond length.
- The minimum unbonded length of the bar tendon must be 15 feet or as indicated on the plans or the approved working drawings, whichever is greater. The unbonded length must extend a minimum of 5 feet beyond the critical failure surface measured from the lowest subgrade level from the back of the retaining wall in the soil mass being retained by the wall. If the entire drill hole (tendon

bond length and unbonded length) is grouted in one operation, then for the corrosion protection of the unbonded length provide either a sheath completely filled with corrosion inhibiting grease or grout, or a heat shrinkable tube internally coated with an elastic adhesive. If grease is used under the sheath, make provisions to prevent the grease from escaping at the ends of the sheath. The grease must completely coat the tendon, fill the void between the tendon and the sheath, and fill the interstices between the wires of the seven-wire strands. Provide a transition between the bond length and the unbonded length corrosion protection as illustrated in the working drawings. If the sheath is grout filled, a separate bond breaker must be provided. The bond breaker must prevent the tendon from bonding to the grout surrounding the unbonded length. If a grease-filled sheath corrosion protection is provided and the drill hole above the bond length is grouted after the ground anchor has been locked off, then grout the tendon inside a second sheath.

- The total anchor length must not be less than the minimum length indicated on the plans or the approved working drawings.
- Size the bearing plates so that:
    1. The bending stresses in the plate do not exceed the yield strength of the steel when a load equal to 95 percent of the minimum specified ultimate tensile strength of the tendon is applied;
    2. The average bearing stress on the concrete does not exceed that recommended in section 3.1.7 of the PTI, “Guide Specification for Post-Tensioning Materials”.
- Weld the trumpet to the bearing plate. The trumpet must have an inside diameter equal to or larger than the hole in the bearing plate. The trumpet must be long enough to accommodate movements of the structure during testing and stressing. For strand tendons with encapsulation over the unbonded length, the trumpet must be long enough to enable the tendon to make a transition from the diameter of the tendon in the unbonded length to the diameter of the tendon at the anchor head without damaging the encapsulation. Trumpets filled with corrosion-inhibiting grease must have a permanent Buna-N synthetic rubber or approved equal seal provided between the trumpet and the unbonded length corrosion protection. Trumpets filled with grout must have a temporary seal provided between the trumpet and the unbonded length corrosion protection or the trumpet must overlap the unbonded length corrosion protection by a minimum of one foot and fit tightly over the unbonded length corrosion protection.

(15) Damage to the prestressing steel because of abrasions, cuts, nicks, welds and weld splatter will be cause for rejection by the engineer. Protect the prestressing steel if welding is to be performed in the vicinity. Grounding of welding leads to the prestressing steel is forbidden. Protect the prestressing steel from dirt, rust or deleterious substances. If heavy corrosion or pitting is noted, the engineer will reject the affected tendons.

(16) Use care in handling and storing the tendons at the site. Before inserting a tendon in the drill hole, the contractor and the engineer will examine the tendon for damage to the encapsulation and the sheathing. If, in the opinion of the engineer, the smooth sheathing has been damaged, repair it with ultra-high molecular weight polyethylene tape.

C Construction

C.1 Anchor Installation

C.1.1 General

(1) Unless otherwise directed, select the drilling method, pressure grouting, post grouting, the grouting procedure, and the grouting pressure used for the installation of the ground anchor.

C.1.2 Drilling Method

(1) Unless otherwise directed, the contractor may choose to utilize rotary drilling with casing, duplex or dual rotary drilling method, rotary drilling with stabilizing fluid, percussion drilling with casing, hollow stem auger drilling or driven casing provided that the anchor hole is maintained in a stable condition at all times, preventing collapse or excessive over-excavation of soils. Pervasive hole caving or ground loss problems must be repaired by grouting at the contractor's expense to prevent damage to the adjacent ground mass and supported structures.

(2) Use duplex drilling when drilling anchors in predominately granular soils, soils below the ground water table, or when directed by the engineer to use duplex drilling when other drilling methods do not produce satisfactory results.

(3) At the ground surface, locate the drill hole within twelve inches of the location shown on the plans or the approved working drawings. Locate the drill hole so the longitudinal axis of the drill hole and the longitudinal axis of the tendon are parallel. In particular, do not drill the ground anchor hole in a location that requires the tendon to be bent in order to enable the bearing plate to be connected to the supported structure. At the point of entry, the horizontal angle made by the ground anchor and the structure must be within plus/minus three degrees of a line drawn perpendicular to the plane of the structure unless otherwise shown on the plans or approved working drawings. Do not extend the ground anchors beyond the right-of-way or easement limits shown on the plans.

(4) The tendon must be inserted into the drill hole to the desired depth without difficulty. When the tendon cannot be completely inserted, remove the tendon from the drill hole and clean or redrill the hole to permit insertion. Do not drive or otherwise force partially inserted tendons into the hole.

C.1.3. Grouting Method

(1) Use a neat cement grout. The cement must not contain lumps or other indications of hydration. Admixtures, if used, must be mixed according to the manufacturer's recommendations.

(2) Use grouting equipment that produces a grout free of lumps and undispersed cement. Use a positive displacement grout pump. The pump must be equipped with a pressure gauge in order to monitor grout pressures. The pressure gauge must be capable of measuring pressures of at least 150 psi or twice the actual grout pressures used by the contractor whichever is greater. The grouting equipment must be sized to enable the grout to be pumped in one continuous operation. The mixer must be capable of continuously agitating the grout.

(3) Inject the grout from the lowest point of the drill hole. The grout may be pumped through grout tubes, casing, hollow-stem-augers, or drill rods. The grout may be placed before or after insertion of the tendon. Record the quantity of the grout and record the grout pressures. The grout pressures and grout takes must be controlled to prevent uncontrolled heave or fracturing.

(4) The grout above the top of the bond length may be placed at the same time as the bond length grout but it may not be placed under pressure. The grout at the top of the drill hole must not contact the back of the structure or the bottom of the trumpet.

(5) Upon completion of grouting and post grouting, the grout tube may remain in the hole but it shall be filled with grout. Do not load the tendon for a minimum of three days after grouting.

C.2 Installation of Trumpet and Anchorage

(1) The corrosion protection surrounding the unbonded length of the tendon must extend up beyond the bottom seal of the trumpet or one foot into the trumpet if no trumpet seal is provided. If the protection does not extend beyond the seal or sufficiently far enough into the trumpet, extend the corrosion protection or lengthen the trumpet.

(2) The corrosion protection surrounding the unbonded length of the tendon must not contact the bearing plate or the anchor head during testing and stressing. If the protection is too long, trim the corrosion protection to prevent contact.

(3) Completely fill the trumpet with corrosion inhibiting grease or grout. Trumpet grease can be placed any time during construction. Place trumpet grout after the ground anchor has been tested and stressed. Demonstrate to the engineer that the procedures selected for placement of either grease or grout will produce a completely filled trumpet.

(4) Cover all anchorages permanently exposed to the atmosphere with a corrosion inhibiting grease-filled or grout-filled cover. Demonstrate to the engineer that the procedures selected for placement of either grease or grout will produce a completely filled cover.

C.3 Anchor Testing

C.3.1 General

(1) Test each ground anchor. Do not apply any load greater than 10 percent of the factored design load to the ground anchor prior to testing. The maximum test load must not exceed 80 percent of the minimum specified ultimate tensile strength of the tendon. The test load must be simultaneously applied to the entire tendon. Stressing of single elements of multi-element tendons is not permitted.

(2) Supply the following testing equipment:

- A dial gauge or veneer scale capable of measuring to 0.01 inches used to measure the ground anchor movement. The movement-measuring device must have a minimum travel equal to the theoretical elastic elongation of the total anchor length at the maximum test load and it must have adequate travel so the ground anchor movement may be measured without resetting the device.
- A hydraulic jack and pump used to apply the test load. The jack and a calibrated pressure gauge must be used to measure the applied load. The jack and pressure gauge must be calibrated as a unit by an independent firm. The calibration must have been performed within forty-five business days of the date submitted. Testing cannot commence until the engineer has approved the calibration. The pressure gauge must be graduated in 100-psi increments or less. The ram travel of the jack must not be less than the theoretical elastic elongation of the total anchor length at the maximum test load.
- A calibrated reference pressure gauge must also be kept at the site. Calibrate the reference gauge with the test jack and pressure gauge.
- Provide an electrical resistance load cell and readout for use when performing a creep test.
- Place the stressing equipment over the ground anchor tendon in such a manner that the jack, bearing plates, load cells and stressing anchorage are axially aligned with the tendon and the tendon is centered within the equipment.

C.3.2 Performance Tests

(1) Install and conduct the performance tests. The anchors for the performance test must be similar to the production anchors shown on the plans, and must be selected as directed by the engineer. Record the encountered soil information through the entire depth of drilling holes. Submit performance test results and soil information to the engineer for approval. If the tested anchor(s) fail(s) to pass the performance tests, at least five workdays shall be allowed for the engineer to evaluate the test anchor(s) and the soil condition. Additional performance tests may be required upon request from the engineer. The additional performance test(s), as required, and time for the engineer to evaluate the test anchor(s), will be included in the work and will not be paid for separately. Do not order material for production anchors until the approval of the performance test results are given.

(2) Conduct performance tests according to the following procedures on five percent of the ground anchors or a minimum of three ground anchors per wall, whichever is greater. The engineer will select the ground anchors to be performance tested. Test the remaining ground anchors according to the proof test procedures.

(3) Conduct performance tests by incrementally loading and unloading the ground anchor according to the following schedule. Raise the load from one increment to another immediately after recording the ground anchor movement. Measure and record the ground anchor movement to the nearest 0.01 inches with respect to an independent fixed reference point at the alignment load and at each increment of load. Monitor the load with a pressure gauge. Place the reference pressure gauge in series with the pressure gauge during each performance test. If the load determined by the reference pressure gauge and the load determined by the pressure gauge differ by more than ten percent, recalibrate the jack, pressure gauge and reference pressure gauge at no expense to the department. At load increments other than the maximum test load, hold the load just long enough to obtain the movement reading.

(4) **Performance Test Schedule**

Load
AL
0.20 FDL*
AL
0.20 FDL
0.40 FDL*
AL
0.20 FDL
0.40 FDL
0.60 FDL*
AL
0.20 FDL
0.40 FDL
0.60 FDL
0.75 FDL
AL
0.20 FDL
0.40 FDL
0.60 FDL
0.75 FDL
1.00 FDL*
AL
0.20 FDL
0.40 FDL
0.60 FDL
0.75 FDL
0.90 FDL
1.15 FDL* (Max. test load)
Reduce to lock-off load – 0.60 FDL

Where, AL = Alignment Load
FDL = Factored Design Load for Tieback
* = Graph required

(5) Hold the maximum test load in a performance test for ten minutes. Repump the jack as necessary in order to maintain a constant load. Start the load-hold period as soon as the maximum test load is applied. Measure and record at 1, 2, 3, 4, 5, 6, and 10 minutes the ground anchor movement with respect to a fixed reference. If the ground anchor movement between one minute and ten minutes exceeds 0.04 inches, hold the maximum test load for an additional 50 minutes. If the load-hold period is extended, record the ground anchor movement at 15, 20, 25, 30, 45 and 60 minutes.

(6) Plot the ground anchor movement versus load for each load increment marked with an asterisk (*) in the performance test schedule and plot the residual movement of the tendon at each alignment load verses the highest previously applied load.

C.3.3 Proof Tests

(1) Perform the proof test by incrementally loading the ground anchor according to the following schedule. Raise the load from one increment to another immediately after recording the ground anchor movement. Measure and record the ground anchor movement to the nearest 0.01 inches with respect to an independent fixed reference point at the alignment load and at each increment of load. Monitor the load with a pressure gauge. At load increments other than the maximum test load, hold the load just long enough to obtain the movement reading.

(2) Hold the maximum test load in a proof test for ten minutes. Repump the jack as necessary in order to maintain a constant load. Start the load-hold period as soon as the maximum test load is applied. Measure and record the ground anchor movement with respect to a fixed reference at 1, 2, 3, 4, 5, 6, and 10 minutes. If the ground anchor movement between 1 minute and 10 minutes exceeds 0.04 inches, hold the maximum test load for an additional 50 minutes. If the load-hold period is extended, record the ground anchor movements at 15, 20, 25, 30, 45 and 60 minutes.

(3) **Proof Test Schedule**

Load
AL
0.20 FDL
0.40 FDL
0.60 FDL
0.75 FDL
1.00 FDL
1.15 FDL (Max. test load)
Reduce to lock-off load – 0.60 FDL

Where, AL = Alignment Load
FDL = Factored Design Load for Tieback

(4) Plot the ground anchor movement versus load for each load increment in the proof test.

(5) Submit proof tests for review by the engineer within 7 days of testing.

C.3.4 Ground Anchor Load Test Acceptance Criteria

(1) A performance- or proof-tested ground anchor with a 10-minute load-hold period is acceptable if the:

- The tieback resists the maximum test load with less than 0.04-inches of movement between 1 minute and 10 minutes.
- The total elastic movement of the tendon measured at the anchor head obtained from a proof or performance test must exceed 80 percent of the theoretical elastic elongation of the stressing or unbonded length for load increments 0.25 DL and above.
- The total movement of tendon must not exceed 100 percent of the theoretical elastic elongation of the unsupported length plus 50 percent of the supported length.

(2) A performance- or proof-tested ground anchor with a 60-minute load-hold period or a creep-tested ground anchor is acceptable if the:

- Ground anchor carries the maximum test load with a creep rate that does not exceed 0.08 inches/log cycle of time; and
- Total movement at the maximum test load exceeds 80 percent of the theoretical elastic elongation of the unbonded length.

(3) If the total movement of the ground anchors at the maximum test load does not exceed 80 percent of the theoretical elastic elongation of the unbonded length, replace the ground anchor at no additional cost to the department.

(4) Ground anchors that have a creep rate greater than 0.08-inches/log cycle of time can be incorporated in the finished work at a load equal to one-half its failure load. The failure load is the load carried by the ground anchor after the load has been allowed to stabilize for ten minutes.

(5) When a ground anchor fails, modify the design and/or the construction procedures. These modifications may include, but are not limited to, installing replacement ground anchors, reducing the factored design load by increasing the number of ground anchors, modifying the installation methods, increasing the bond length or changing the ground anchor type. Any modifications of design or construction procedures including installing additional anchors shall be at the contractor’s expense and at no additional charge to the department.

(6) Upon completion of the test, reduce the load to the lock-off load indicated on the plans and transfer the load to the anchorage device. The ground anchor may be completely unloaded prior to lock off. After transferring the load and before removing the jack,

record a lift-off reading. The lift-off reading must be within ten percent of the specified lock-off load. If the load is not within ten percent of the specified lock-off load, reset the anchorage and record another lift-off reading. Repeat this process until the desired lock-off load is obtained.

D Measurement

(1) The department will measure Tieback Anchors by each individual tieback anchor, acceptably completed, that are capable of carrying the load specified on the plans, which includes a proof test of each anchor.

(2) The department will measure Tieback Anchor Performance Tests by each individual performance test, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.20	Tieback Anchors	EACH
SPV.0060.21	Tieback Anchor Performance Tests	EACH

Payment is full compensation for drilling; grouting; furnishing all steel, bearing plates and corrosion-protection materials required; tensioning; testing; and for designing and providing additional or remediation anchors for failed ground anchors.

95. Abandoning Sanitary Force Main Manholes, Item SPV.0060.71.

A Description

This special provision amendment describes abandonment of sanitary force main manholes which were constructed over bends in the force main. The frame and cover, chimney, and cone section shall be removed and the remaining structure shall be backfilled with granular material. The existing force main which runs through the force main manholes is to remain in service. Care shall be taken to not damage the main.

B Materials

Backfill shall consist of granular material conforming to standard spec 209.

C Construction

Manholes to be abandoned shall be completed according to 3.2.24 of the Standard Specifications for Sewer and Water Construction in Wisconsin, Latest Edition, except manholes shall be removed to a depth of 3-feet below the existing ground surface or to the bottom of the cone, whichever is deeper. Granular backfill shall be placed in such a manner as to not damage the force main which is to remain in service.

All castings on abandoned structures are the property of the City of Waukesha and shall be salvaged and delivered to the City of Waukesha Municipal Garage at 300 Sentry Drive. Contact Joe Deleon, (262) 524-3615, to make arrangements.

D Measurement
The department will measure Abandoning Sanitary Force Main Manholes as each individual item, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.71	Abandoning Sanitary Force Main Manholes	EACH

The work includes breaking down, removing, closing, plugging or sealing, for hauling and disposing of materials, for backfilling, bentonite, concrete block or concrete, for restoring the roadway, all other incidental work required under this section.

96. Internal Manhole Sealing System, Item SPV.0060.72.

A Description
This special provision describes furnishing and installing an internal sanitary manhole sealing system.

B Materials
Frame seals shall consist of a flexible internal rubber sleeve and stainless steel expansion bands as manufactured by Cretex Specialty Products and conforming to the following requirements:

- Rubber Sleeve - The flexible rubber sleeve shall be extruded or molded from a high grade rubber compound conforming to the applicable material requirements of ASTM C-923, with a minimum 1500 psi tensile strength, maximum 18% compression set and a hardness (durometer) of 48±5.

  The rubber sleeve shall be double, triple or quadruple pleated with a minimum unexpanded vertical height of 8 inches and a minimum thickness of 3/16 inches. The top and bottom section of the sleeve that compresses against the manhole frame casting and the chimney/cone shall have an integrally formed expansion band recess and a series of sealing fins to facilitate a watertight seal. These sealing fins shall have teardrop holes or air pockets to allow the sealing area to conform to minor surface irregularities that may be encountered. Any splice used to fabricate the sleeve shall be hot vulcanized and have a strength such that the sleeve shall withstand a 180 degree bend with no visible separation.

- Expansion Bands - The expansion bands used to compress the sleeve against the manhole shall be integrally formed from 16 gauge stainless steel conforming to the applicable material requirements of ASTM A-240 Type 304, with no welded attachments and shall have a minimum width of 1-3/4 inches.

The bands shall have a minimum adjustment range of 2-1/2 diameter inches and the mechanism used to expand the band shall have the capacity to develop the pressures necessary to make a watertight seal. The band shall be permanently held in place with a positive locking mechanism which secures the band in its expanded position after tightening.

C Construction

The internal frame seals shall be installed according to the manufacturer's instructions in order to seal the joint between the frame and the Expanded Polypropylene (EPP) rings.

D Measurement

The department will measure Internal Manhole Sealing System 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.0060.72	Internal Manhole Sealing System	EACH

Payment is full compensation for furnishing all labor, equipment, material and sealant system accessories and supervision, and performing all work necessary to seal the manhole.

97. Pre-Paving Televising Sanitary Lateral, Item SPV.0060.73; Pre-Paving Televising Sanitary Main Line, Item SPV.0090.71.

A Description

This special provision amendment describes televising sanitary main line sewers and a lateral after all underground work is complete but before the final asphalt surface is placed. The underground work includes any activity that could potentially damage a sewer facility, which includes but is not limited to utility installation including third party utility work.

B Materials

The televising work shall be done by an independent television inspection service according to 7.1.2 in the Standard Specifications for Sewer and Water Construction in Wisconsin, 6th Edition and the National Association of Sewer Service Companies (NASSCO) Pipeline Assessment and Certification (PACP) and Lateral Assessment and Certification Program (LACP) standards. All inspection shall be collected using PipeTech Software by Peninsular Technologies. Inspections conducted with other software packages or converted to other formats will not be accepted.

The televising camera used for the inspection shall be one specifically designed and constructed for sanitary sewer inspection. The camera shall be a pan-and-tilt type capable of radial inspection of the top, bottom, and sides of the pipe including lateral connections. Lighting for the camera shall be suitable to allow a clear picture of the entire periphery of the pipe. The camera shall be operative in 100% humidity conditions. The camera,

television monitor, and other components of the video system shall be capable of producing picture quality to the satisfaction of the City of Waukesha. If the equipment proves to be unsatisfactory, it shall be replaced with adequate equipment.

Lateral cameras shall be color, shall be self-leveling, and equipped with a footage counter to provide on screen display of footage measurement.

C Construction

The main line sewer sections, defined as the length of pipe from center of manhole or structure to center of manhole or structure, shall be televised one section at a time.

For the televising of laterals, the main line sewer television camera shall be used to position the lateral camera launcher. At a minimum, the lateral sewer camera shall inspect laterals to the right-of-way limits, or in the case of a lateral replacement, to the upstream limit of the replacement plus an additional 5 feet upstream. Video recording shall continue during the entire camera withdrawal sequence. The television inspection of the lateral must be from inside the main line sewer up into the lateral and shall include a spot location with depth at the curb line and back of sidewalk. Inspections from cleanouts, excavations, or other access points will not be accepted.

The contractor shall fully televise both ends of the main line pipe so the connections at the manholes can be evaluated.

Wherever possible the inspections shall be performed in the upstream to downstream direction.

When sewer conditions prevent forward movement of the camera, the camera shall be withdrawn, and contractor shall televise the line from the opposite direction.

The camera shall be directed through the sewer at a uniform, slow rate. In no case will the video camera record while moving at a speed greater than 30 feet per minute. If the inspection is rejected due to camera speeds exceeding 30 feet per minute, the inspection recordings shall be redone at no additional cost to the City of Waukesha.

Flow levels within existing sewers to be inspected shall not exceed 5% of the pipe diameter. If water levels prevent adequate televising of the sewer, then conducting the work during low flow periods or other methods like plugging and bypass pumping shall be implemented.

The survey unit shall be slowed, stopped, or backed-up to perform detailed inspections of significant features. The camera shall be stopped at all defects, changes in material, water level, size, side connections, manholes, junctions, or other unusual areas. When stopped at the defect or feature, the operator shall pan the camera to the area and along the circumference of the pipe.

The operator shall also record audio of the type of defect or feature, clock position, footage, extent or other pertinent data.

Audio shall be recorded during each inspection by the operating technician, electronic voice text recognition or approved equal on the inspection video as the sewer is inspected and shall include the sewer location, identification of beginning and terminating manholes including location (address or cross streets), inspection direction, length of inspection, side sewer identification, flow information, complete descriptions of the sewer line conditions as they are encountered, description of the rehabilitation work, reason for termination, and other relevant commentary to the inspections. Voice descriptions should be made: 1) at points of pipe failure or weakness, 2) at points of infiltration, 3) at the location of service connections, 4) at points where unusual conditions are noted, and 5) at points where digital still photos are taken.

In addition, the audio reports shall include the distance traveled on the specific run, a description of abnormal conditions in the sewer and side sewer connections as they are encountered, explanations for pausing, backing up, or stopping the survey, and the final measured center to center distances between consecutive manholes. The audio portion of the composite video shall be sufficiently free from electrical interference and background noise to provide complete intelligibility of the oral report. Audio dubbing after the inspection is prohibited.

If the video and/or audio recording is of poor quality, the City of Waukesha has the right to require a re-submittal of the affected sewer sections and the inspection will not be deemed complete until an acceptable video and audio recording is made, submitted to, and accepted by the City of Waukesha.

Measurement for location of defects and actual length of pipe shall be by means of a calibrated meter on the camera with a digital readout on the video monitor. This readout shall be included in the video recording. Marking on cable, or the like, which would require interpolation for depth of manhole, will not be allowed. Measurement will be accurate to 1 foot per 100 feet of inspected pipe. Accuracy of the distance meter shall be checked by use of a walking meter, roll-a-tape, or other suitable device, and the accuracy shall be satisfactory to the City of Waukesha.

All inspections shall be performed by NASSCO PACP certified personnel. Use of PACP certified technicians to review/document defects in the office (post process) is not acceptable.

Any structural defects found along the main line sewer and laterals shall be immediately brought to the City of Waukesha’s attention for a determination of the necessary repair.

The inspection data shall be compatible with the city’s GIS and Asset Management Systems and shall be collected with PipeTech.

Television Inspection Logs: Electronic media location records shall be kept by the contractor and shall clearly show the location, by distance in 1/10 of a foot, from the center of the starting manhole or structure to each observation during inspection. Observations shall include, but not limited to, infiltration, service connections, unusual conditions, roots, cracks, fractures, broken pipe, presence of scale and corrosion, and other discernible features, as defined in the PACP defect codes, shall be recorded on electronic media and a copy of such records shall be supplied to the City of Waukesha.

Digital photographs of the pipe condition and all defects shall be taken by the contractor. Photographs shall be located by distance in 1/10 of a foot, from the center of the starting manhole or structure.

Electronic media recordings collected with including the digital video, images, and data files shall be created for each sewer section inspected. Files shall be submitted on DVD, flash drive, or portable hard drive. The purpose of electronic media recording shall be to supply a visual and audio record of the condition of the sewer lines that may be replayed by the City of Waukesha. Once recorded, the video shall become the property of the City of Waukesha.

The City of Waukesha will provide maps showing the structure and section numbers to be used.

The contractor will be notified in writing of any deficiencies revealed by the television inspection that will require repair, following which the contractor shall excavate and make the necessary repairs and schedule a television re-inspection of the repaired or corrected areas. Television re-inspection shall be at the contractor's expense.

D Measurement

The department will measure Pre-Paving Televising Sanitary Lateral by each, acceptably completed. The department will measure Pre-Paving Televising Sanitary Main Line 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.0060.73	Pre-Paving Televising Sanitary Lateral	EACH
SPV.0090.71	Pre-Paving Televising Sanitary Main Line	LF

Payment is full compensation for the above described work.

98. Hydrant Relocation, Item SPV.0060.74.

A Description

This special provision describes the relocation of existing water hydrants.

B Materials

Furnished materials shall be according to Chapter 4 of the Waukesha Water Utility standard specifications. Hydrants leads shall be 6-inch ductile iron pipe (Class 52) including polyethylene wrap, bedding, cover, and compacted granular or slurry backfill. If a new tap is required, Waukesha Water Utility shall furnish the tapping sleeve, tapping valve and valve box and tap the water main; the contractor shall dig the trench, provide shoring, and provide the means for lowering the tapping machine.

C Construction

The contractor must relocate hydrants as shown on the plans, outside of the new proposed roadway limits. The front nozzle shall be a minimum of 2 feet behind the back of curb. The contractor is responsible for the necessary materials, backfill, compaction, and maintenance of trenches for this work.

Final location of hydrants and direction they face shall be coordinated directly with the Waukesha Water Utility.

All hydrants shall be installed to the proper bury depth; the contractor is responsible for providing all hydrant extensions, if required. Any damage to a hydrant or hydrant valve during construction shall be the responsibility of the contractor.

Existing valves and hydrants shall be operated only by Waukesha Water Utility personnel or in the presence of the inspector, as authorized by Waukesha Water Utility.

A Waukesha Water Utility representative will provide inspection for all water main installation and abandonment. Contractor shall provide a minimum of 72 hours (3 working days) of the anticipated need for inspection services. No work shall be undertaken without an inspector being on-site or without the permission of the Waukesha Water Utility. Payments may be denied or removal of work may be ordered for work accomplished without an inspector present or without the approval of the Waukesha Water Utility.

All testing requirements shall be met, according to the Waukesha Water Utility Standard Specifications and stated above in Water Main Relocation item C.2.

D Measurement

The department will measure Hydrant Relocation by each hydrant 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.0060.74	Hydrant Relocation	EACH

Payment is full compensation for excavation, shoring, furnishing all materials, backfilling and any other adjustment required during construction.

99. Water Main Valve Adjustments 6-Inch, Item SPV.0060.75; Water Main Valve Adjustments 8-Inch, Item SPV.0060.76; Water Main Valve Adjustments 12-Inch, Item SPV.0060.77; Water Main Valve Adjustments 16-Inch, Item SPV.0060.78; Water Main Valve Adjustments 20-Inch, Item SPV.0060.79.

A Description

This special provision describes the adjustment of water valve boxes.

B Materials

Waukesha Water utility will supply a screw in type riser for existing valve boxes which cannot be adjusted to grade. Insert-type risers that slide into the valve box will not be allowed.

C Construction

The contractor must adjust all water valves to final pavement grade. The contractor will be required to use slurry backfill around all water valves being adjusted when the excavation for the adjustment work is deeper than 1-foot. Slurry backfill will not be paid for separately but will be considered a part of the cost for the water main valve adjustment.

Any damage to a water valve box during construction shall be the responsibility of the contractor.

Water shutoff valves that will be located in proposed concrete must have the cover replaced with a cover type meant to be set in concrete.

The Waukesha Water Utility is requiring the use of a special screw-in type riser for the water valve boxes. If the existing valve box cannot be adjusted to grade, the Waukesha Water Utility will supply the screw-in riser. Insert-type risers that slide into the valve box will not be allowed.

D Measurement

The department will measure Water Main Valve Adjustment (size) by each, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.75	Water Main Valve Adjustment 6-inch	EACH
SPV.0060.76	Water Main Valve Adjustment 8-Inch	EACH
SPV.0060.77	Water Main Valve Adjustment 12-inch	EACH
SPV.0060.78	Water Main Valve Adjustment 16-Inch	EACH
SPV.0060.79	Water Main Valve Adjustment 20-Inch	EACH

Payment is full compensation for roughly setting the valve box, and final adjustment of the valve box to finished grade and any other adjustment required during construction.

There will be no payment for repairing a damaged water valve box. If a repair is requested or required by the Waukesha Water utility, the contractor will be billed separately for the repair expenses.

100. Lighting Control Cabinets, Item SPV.0060.80.

A Description

This special provision describes furnishing and installing lighting control cabinet, associated electrical equipment and concrete base as shown on the plans and hereinafter provided.

B Materials

B.1 Contactor

Provide an electrically held multi-pole contactor with coil capable of operating at the nominal voltage specified integral. Provide Square D, Type S series (open type) or equal by General Electric or Cutler-Hammer.

B.2 Photocell

Provide a button type photocell that is rated for 240V, 1800W with a 30 to 60 second delay between “on-off” operation.

B.3 Circuit Breakers and Fuses

The circuit breakers shall be capable of surface mounting with line and load lugs by Square D, F-Frame type or equal by Cutler-Hammer or General Electric. Provide appropriate AIC ratings.

Provide a 1 pole, 15 amp, control breaker for the control circuit.

All breakers shall be from the same manufacturer.

B.4 Bus Bars

Provide aluminum or copper ground and insulated neutral bus bars with wire range capabilities as indicated on the plans.

B.5 Hand-Off-Auto Switch

Provide a 3-position manual return selector switch in a NEMA 1 enclosure with legend plate as manufactured by Square D Type K, or equal by Cutler-Hammer or General Electric.

B.6 Enclosure

Provide a NEMA 4X enclosure made from .125" Type 5052-H32 aluminum. Provide a double flanged doorframe. Provide stainless steel for all exterior hardware. Provide a

3/4-inch diameter stainless steel door handle with three point latching system and hasp. Provide a natural aluminum mounting panel at back (interior) of enclosure. Do not provide louvers. Cabinet secured by a contractor furnished weatherproof padlock. The enclosure shall have an aluminum mill finish. Provide an enclosure manufactured by APX Enclosures, Cleveland Manufacturing or Southern Manufacturing.

B.7 Power Distribution Blocks
Provide aluminum power distribution blocks with lug wire ranges on the main and branches as indicated on the plans with clear plastic covers as manufactured by Square D Type LB or equal by Cutler-Hammer or General Electric.

B.8 Concrete Base
Conform to standard spec 654.2.

C Construction
Use a UL Listed Panel Builder to assemble the lighting control cabinet. The control cabinet requires service entrance rating. Assemble the lighting control cabinet with all of its electrical components, wiring and parts in a neat and orderly fashion and as shown on the plans. Pretest the cabinet prior to shipment to the site.

Mount all equipment to panel in enclosure. Train the cables in straight horizontal and vertical directions and be parallel next to and adjacent to other cables whenever possible. Secure all wiring using screw attachment type straps; adhesive type will not be allowed.

Install photocell in the overhang of the control cabinet facing down and apply silicon caulk to maintain integrity of the enclosure.

Construct concrete base in conformance with standard spec 654.3.

Cabinet and components shall be designed as Service Equipment. No service disconnect exterior of the Lighting Control Cabinet shall be allowed.

Lighting Control Cabinet will be 480/240 volt single phase, 100 amps.

D Measurement
The department will measure Lighting Control Cabinets 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.0060.80	Lighting Control Cabinets	EACH

Payment is full compensation for photocontrol, contactor, circuit breakers, fusing, distribution blocks, enclosure, bus bars, selector switch, grounding and electrical components, and for concrete base.

101. Luminaires Utility 21 Count LED 75 Watt Type III, Item SPV.0060.81.

A Description

This special provision describes furnishing and installing luminaires according to standard spec 651 through 660, as shown on the plans or as approved by the engineer, and as hereinafter provided.

B Materials

Cooper Lumark LDRC-T3-E03-E. Heavy-duty cast aluminum housing and removable door 3G vibration tested to ensure strength of construction and longevity in application. Die-cast aluminum door frame features integral hinges for tool-less maintenance access.

C Construction

Furnish and install LED luminaires together with hardware and fittings as the plans show. Install luminaires on luminaire arms with an initial rake of plus 3-degrees, this measurement includes the rake of the arm. Install luminaires on luminaire arms level in the longitudinal direction of the roadway except on segments where the profile is sloped greater than 3-degrees. In this case the engineer will determine the longitudinal level of the luminaires.

D Measurement

The department will measure Luminaires Utility 21 Count LED 75 Watt Type III 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.0060.81	Luminaires Utility 21 Count LED 75 Watt Type III	EACH

Payment is full compensation for the providing all materials including luminaires, ballasts, lamps, fittings, brackets, hardware and attachments; and for luminaire fusing if required.

102. Post Mounted Lighting Control Cabinet 120/240 VAC, Item SPV.0060.82.

A Description

This special provision describes furnishing and installing Post Mounted Lighting Control Cabinet for lighting as shown on the plans and hereinafter provided. The concrete foundation shall be paid separately.

B Materials

B.1 Contactors

The contactors shall be electrically held, specification grade, two-pole, with 30A contacts and 120V coil voltage. Provide 1-inch high engraved plaque above each contactor indicating the circuit number in 0.5-Inch text as appropriate.

B.2 Photocell

Provide photocell receptacle to accommodate NEMA twist-lock photocell. Provide opening on side of cabinet housing to allow proper photocell operation.

B.3 HOA Switch

Provide a hand-off-auto switch that is accessible without opening dead-front door. Provide 4 position selector switch Square D 9001KS88BH13, Patlite CWB4L-M2-CD, or approved equal with legend plate to read “HAND-OFF-PHOTOCELL-TIMER”.

B.3 Panelboards

Provide 100A load center with plug in breakers. Provide quantity (1) 2P-100A back-fed main breaker, quantity (4) 1P-15A control, light, GFCI and spare, and quantity (3) 2P-30A C1, C2 and surge arrester.

Breakers shall be accessible without opening dead-front door.

B.4 Enclosures

The cabinet shall be of NEMA Type 3R rainproof construction and shall be UL listed as “Enclosed Industrial Control Equipment” (UL 508A). External construction shall comply with UL50 requirements. Cabinet dimensions shall be as indicated on the attached drawings.

Cabinet exterior shall be fabricated from 1/8” clear anodized 5052-H32 aluminum.

All fasteners, latches, and hardware shall be of stainless steel and all hinges shall be continuous piano type, except that exterior door hinge may be powder-coated zinc lift-off type if approved by the department. No fasteners except sealing screws shall be removable by external access.

All edges and corners on both exterior and interior must be rounded and smooth to prevent injuries.

The distribution equipment compartment shall be behind an external lockable door with a three point latch and standard #2 key locking mechanism. A door keeper shall be provided to keep the door in the open position. This door keeper shall be able to hold the door 180 degrees open. Electrical equipment shall be located behind an internal dead-front door with a quarter turn securing latch and hinged to open a minimum of 120 degrees. The dead-front door shall be hinged on the same side as the external door.

A metal print pocket shall be located on the inside of the customer door large enough to hold all circuit directories and instructions in a clear plastic 8”x10” weatherproof sleeve.

The cabinet mounting bolts shall not be externally accessible. Cabinet shall be mounted to a cement pad with stainless steel anchors.

Cabinet shall be rated for operation at 22k minimum AIC amps interrupting. Series rating is acceptable.

All distribution and control equipment shall be factory wired using 600 volt wire sized to NEC and UL requirements.

The cabinet shall be according to the state standard detail drawing 9D-3-2. The cabinet size shall be 25-inch wide x 41” high and 16” total depth, style post mounted controller, EXL-PED240 as manufactured by EXCEL LTD, INC., CP3BO131EQW130 as manufactured by Milbank Company, or approved equal. Manufacturer shall ensure that cabinet will accommodate conduit placement as described on the concrete base plan.

B.5 Field Wiring Termination Blocks

All connections from the field wiring to equipment in the lighting control cabinet shall be made through termination blocks. Provide quantity of channel mount NEMA rated, box lug, single terminal blocks as indicated on plans that are capable of holding #12 to #2 wire for power, neutral, and grounding connections. The terminal blocks shall be mounted on a mounting channel with end anchors and an end barrier. Each terminal block shall have a label indicating the appropriate circuit number, neutral (‘N’), or ground (‘G’) wire connected to block; handwritten numbers and letters are not acceptable means of identification.

B.6 Surge Protection Devices (SPD)

SPD for 120V or 120/240V Power: Install a Type 1 SPD on distribution panelboard on the load side of a dedicated 2-pole, 30A circuit breaker. Leads shall be as short and straight as possible.

SPDs shall be UL listed and labeled to UL 1449 Third Edition. SPDs shall be posted on VZCA at UL.com.

The following ratings shall not be exceeded on any mode of protection:

1. Short Circuit Current Rating (SCCR): 200kA or the available short circuit current, whichever is greater.
   - Nominal Discharge Current Rating (In): 20kA
   - Voltage Protection Rating (VPR): 700V
   - Maximum Continuous Operating Voltage (MCOV): 150V
   - Peak surge current rating: 50kA per phase (sum of L-N plus L-G)

SPD's SPDs shall include directly connected MOVs exceeding 32mm in diameter from L-N and either L-G, N-G, or both. SPD shall at a minimum be rated as NEMA 1.

B.7 Duplex Convenience Receptacle
Provide a specification grade, 15A, GFCI receptacle flush-mounted on the dead front door accessible from the front.

Provide dedicated 15A, single-pole breaker to feed receptacle.

B.8 Door-Activated light
Provide LED light on cabinet ceiling to illuminate inside of cabinet. Install so that front of dead front door receives some light when it is closed. Provide Pentair model LEDA1S35, Siemens 30MM Selector, or approved equal.

Provide button-type light at top of exterior door opening switch that operates the light when outer door is opened/closed.

Provide dedicated 15A, single-pole breaker to feed light.

B.9 Grounding
Grounding Electrode Conductors: Grounding electrode conductors shall be solid, soft drawn 1/C No. 6 copper and shall be installed according to NEC requirements.

Grounding Electrodes: Grounding electrodes shall be copper-clad steel with a minimum copper thickness of 10 mils and UL listed 467. Grounding electrodes shall be one piece, sectional (threaded) steel rods not less than 5/8-Inch in diameter and 10ft long.

Access Wells: Grounding electrode access wells shall be constructed of PVC or composite polyester resin/fiberglass material with a diameter of 8 to 12-Inch, a length of 36-Inch and a cast iron or composite polyester resin/fiberglass lid, secured via stainless steel hardware.

B.10 Control Equipment
SPST, 20 amp switch for the door shall be single pole single throw type heavy duty, temper resistant, rated for 125V, UL listed.

Control breaker shall be 15 amp, single pole 120V, bolt on, UL listed. The circuit breaker shall have 10K AIR rating at 120V, terminal for minimum wire size 14 AWG and maximum wire size 8 AWG.

Timer switch shall be astronomical microprocessor-based with 2-channels. Timer switch shall be UL listed, 120V or 240V as shown on the plans. The timer switch shall be from manufacturer TORK model DZS200, ITERMATIC model ET2825CR, or approved equal.

C Construction
Use a UL 508 Listed Panel Builder to assemble the lighting control cabinet. Assemble the lighting control cabinet with all of its electrical components, wiring and parts in a neat and

orderly fashion and as shown on the plans. Pretest the cabinet prior to shipment to the site. Panel Builder shall apply UL label inside cabinet.

Mount all equipment to panel in enclosure. Train the cables in straight horizontal and vertical directions and parallel next to and adjacent to other cables whenever possible. Install wiring in slotted wireway between terminal strip, contactor, and panelboard. Secure all remaining wiring using screw attachment type straps; adhesive type will not be allowed.

Surge arrester shall be installed to allow LED indicator(s) to be readily visible when viewing inside of cabinet. Connect the surge arresters as indicated on the plans.

Make all connections from the field wiring to equipment in the lighting control cabinet through termination blocks.

Make all connections from the underground field wiring to equipment in the lighting control cabinet through distribution blocks.

Install and connect the distribution center as shown in the plans. Make all connections for a complete and operable system.

Restore surfaces at locations where WE Energies has excavated for service extensions (to either side of its transformer) and rough backfilled.

The lighting cabinet shall be grounded such that the ground rod to earth resistance is not more than 10 ohms. If the measured resistance to ground exceeds 10 ohms, additional rods shall be added to the grounding electrode. A maximum number of three rods shall be coupled together. If coupling three rods together does not lower the resistance to 10 ohms, then additional grounding electrodes shall be installed, a minimum of 6 feet from each other and the initial installation and connected by a grounding electrode conductor to form a ground field. Ground rod access well shall be provided per NEC code.

Ground the chain link fence and electrically bond the gates to the fence with flexible jumpers whenever fences are crossed by an underground utility service lateral. For grounding use No. 4 AWG bare copper wire. A single ground rod shall be located directly under cable crossing. The ground wire shall be connected to the fabric and the ground rod by a mechanical clamp of a cast bronze body and bronze or stainless steel bolts and washers. The bottom connection of the ground wire shall be made to the tension cable.

Coordinate with the utility all necessary arrangements for installing and closing the utility service extension on behalf of the department. The department will pay all required utility service extension fees and will transfer ownership, maintenance, and services after construction and acceptance to the Department of Natural Resource (DNR), which will be the billing customer.

D Measurement
The department will measure Post Mounted Lighting Control Cabinet 120/240 VAC 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.0060.82	Post Mounted Lighting Control Cabinet 120/240 VAC	EACH

Payment is full compensation for hauling and installing the lighting control cabinet post mounted; for making connections; for providing and installing all parts, fittings, fasteners, connectors, and splice kits; for fence grounding; for restoration of WE Energies rough backfill; and for coordination with the utility.

103. Pond Edge Seed, Item SPV.0085.01.

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:

Minimum three of the following species (70% by weight of seed blend):
- Fescue, Cayenne, endophyte enhanced
- Fescue, Crossfire II, endophyte enhanced
- Fescue, Titan LTD, endophyte enhanced
- Fescue, Blackwatch, endophyte enhanced
- Fescue, Grade II, endophyte enhanced

Equal amounts of each of the five following species (10% total by weight of seed blend):
- Purple Prairie Clover (*Dalea purpurea*)
- Pale Purple Coneflower (*Echinacea pallida*)
- Purple Coneflower (*Echinacea purpurea*)
- Ox Eye Sunflower (*Heliopsis helianthoides*)
- Black Eyed Susan (*Rudbeckia hirta*)

WisDOT Seed No. 40 according to standard spec 630 (20% by weight of seed blend). Do not include temporary seed mixtures or nurse crops to the No. 40 blend.

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 1 or between 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 aerated subgrades to a minimum depth of 8 inches are present 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 spec 630 at a rate of 7 lbs/1000 sq. ft., 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.0085.01	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.

104. Seed Mixture, Short Grass Prairie, SPV.0085.02.

A General

This item describes preparing seed beds, furnishing and sowing specialty seed mixtures according to the applicable provisions of standard spec 630, as shown on the plans and as hereinafter provided.

B Materials

B.1 General

Provide all seed according to standard spec 630.2. Provide documentation of seed sources (supplier) and final proposed seed mixtures to the engineer a minimum of 30 calendar days prior to use for review. Obtain engineer's approval of each of the suppliers and mixes, in writing, prior to installation on this project.

Ensure that the seed mix does not contain Birdsfoot Trefoil or Crown Vetch.

B.2 Short Grass Prairie Mix

Provide a seed mixture at areas shown as Short Grass Prairie in the plans, conforming to the following species and mixture proportions:

Scientific Name	Common Name	% Mix by Weight	PLS Grams/ 1 Pound Mix
Grasses			
	Side Oats Grama	27.31	124
	Little Bluestem	25.55	116
	Prairie Dropseed	7.05	32
Wildflowers			
	Lavender Hyssop	0.88	4
	Nodding Pink Onion	2.64	12
	Sky Blue Aster	0.88	4
	Smooth Aster	0.88	4
	Lanceleaf Coreopsis	1.76	8
	Shooting Star	0.88	4
	Pale Purple Coneflower	5.29	24
	Purple Coneflower	3.52	16
	Rattlesnake Master	2.64	12
	Prairie Blazingstar	2.64	12
	Wild Quinine	0.88	4
	Smooth Penstemon	0.88	4
	Black-Eyed Susan	1.76	8
	Brown-Eyed Susan	0.88	4
	Stiff Goldenrod	0.88	4
	Spiderwort	1.76	8
	Golden Alexanders	1.32	6
Legumes			
	Canada Milk Vetch	0.88	4
	White Prairie Clover	3.52	16
	Purple Prairie Clover	4.41	204
	Roundhead Bushclover	0.88	

Do not include any additional cover crop or nurse crop as a part of the Short Grass Prairie mixes.

C Construction
Sow seeding mixtures according to standard spec 630.3.1(3) with a preference given to performing the Short Grass Prairie after October 15.

Doormant seeding after November 15 may be an option but would require additional coordination and instruction form the engineer. Dormant seeding must be approved, in writing, by the engineer.

Do not apply fertilizer to area to be seeded with Seeding Mixture, Short Grass Prairie.

Utilize Method C for Seeding Mixture, Shortgrass Prairie and perform seeding according to standard spec 630.3.3.3(3).

Seeding rate for Short Grass Prairie of 10 pounds per acre and apply at a rate not less than 150 seeds per square foot.

Guarantee the germination and vigorous growth of all Seeding Mixture, Short Grass Prairie. If germination and vigorous growth does not occur, contractor will be held responsible for making repairs, overseeding and/or re-seeding all areas that have not adequately germinated and demonstrated vigorous growth as directed by the engineer.

D Measurement
The department will measure Seed Mixture, Short Grass Prairie 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.0085.02	Seed Mixture, Short Grass Prairie	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.

105. Seeding Mixture Wetland, item SPV.0085.03.

A General
This special provision describes a wetland seeding mix to be used in restoring wetland areas which have temporary impacts from construction operations. Conform to standard spec 630 for native seed mixes 70 or 70A except as follows:

B Materials
Use a seed mix composed of the following with a sowing rate for seeds in pounds per 1000 square feet at 0.7 pounds:

Common Name	Botanical Name	Mixture %
Forbs		
Marsh Milkweed	*Asclepias Incamata*	5.0
Common Milkweed	*Asclepias Syriaca*	3.8
New England Aster	*Aster Novae-angliae*	1.3
White Wild Indigo	*Baptisia Alba*	3.8
Spotted Joe Pye Weed	*Eupatorium Maculatum*	1.3
Boneset	*Eupatorium Perfoliatum*	0.6
Sneezeweed	*Helenium Autumnale*	0.6
Ox Eye Sunflower	*Heliopsis Helianthoides*	1.9
Prairie Blazingstar	*Liatris pycnostachya*	3.8
Marsh Blazingstar	*Liatris spicata*	3.8
Great Blue Lobelia	*Lobelia siphilitica*	0.6
Bergamot	*Monarda Fistulosa*	0.6
Yellow Coneflower	*Ratibida Pinnata*	3.0
Black Eyed Susan	*Rudbeckia Hirta*	2.5
Green Headed Coneflower	*Rudbeckia Laciniate*	1.9
Sweet Black Eyed Susan	*Rudbeckia Subtomentosa*	1.3
Prairie Dock	*Silphium Terebinthinaceum*	5.0
Stiff Goldenrod	*Solodago Rigida*	0.6
Blue Vervain	*Verbena Hastate*	0.6
Golden Alexanders	*Zizia Aurea*	3.0
	Forbes subtotal	45%
Grasses		
Big Bluestem	*Andropogon Gerardi*	2.5
Fringed Brome	*Bromus Ciliatus*	10.0
Bebb's Sedge	*Carex Bebbii*	2.5
Awl Fruited Sedge	*Carex Stipata*	2.5
Brown Fox Sedge	*Carex Wipinoidea*	2.5
Virginia Wild Rye	*Elymus Viginicus*	27.5
Fowl Manna Grass	*Glyceria Striata*	1.9
Dark Green Bulrush	*Scirpus Atroviens*	2.5
Woolgrass	*Scipus Cyperinus*	1.9
Prairie Cordgrass	*Spartina Pectinate*	1.2
	Grasses subtotal	55%
Total		100%

Alternate Species

Common Name	Botanical Name	
Forbs	*Aster Puniceus*	[2]
Swamp Aster	*Gentiana Andrewsii*	[2]
Bottle Gentian	*Iris Shrevei*	[2]
Wild Iris	*Iris Shrevei*	[2]
Monkey Flower	*Mimulus Ringens*	[2]
Mountain Mint	*Pycnanthemum Virginianum*	[2]
Wild Senna	*Senna Hebecarpa*	[2]
Ohio Goldenrod	*Solidago Ohioensis*	[2]
Riddell's Goldenrod	*Solidago Riddedlii*	[2]
Purple Meadow Rue Vernonia	*Thallictrum Dasycarpum*	[2]
Ironweed Veronicastrum	*Fasciculate*	[2]
Culver's Root	*Vitginicum*	[2]
	Forbes	
Grasses		
Canada Blue Joint Grass	*Calamagrostis Canadensis*	[3]
Fringed Sedge	*Crex Crinite*	[3]
Lance Fruited Sedge	*Carex Scoparia*	[3]
	Grasses	

[2] The contractor may, if the engineer approves, substitute an alternate forb for a required forb that is not available using the same percentage as specified for the required forb. Use a different forb for each unavailable required forb. Provide documentation showing that a required forb is not available before using an alternate.

[3] The contractor may, if the engineer approves, substitute an alternate grass for a required grass that is not available using the same percentage as specified for the required grass. Use a different grass for each unavailable required grass. Provide documentation showing that a required grass is not available before using an alternate.

C Construction

Add the following to standard spec 630.2.1.5.1.3:

The seeding nurse crop bid item shall be placed at an application rate of 0.8 pounds per 1000 square feet for Seeding Mixture Wetland.

In addition to the weeds eradicated during the first growing season under standard spec 630.3.3.6.2, eradicate all Wisconsin NR40 prohibited and restricted invasive plant species and the following highly undesirable species that may pose a threat to the successful establishment of the planting: Reed Canary Grass (Phalaris arundinacea). Keep seeded areas free of unwanted species until the germinated seed reaches a minimum height of 4 inches.

Replace standard spec 630.3.1(4) with the following:

(4) Perform seeding at a rate of 0.7 pounds per 1000 square feet.

Once the seeding mixture is placed the contractor shall monitor the temporary restored areas with WisDOT and WDNR for final approval or corrective action. Monitoring of the restored areas shall be for six months or up to completion of the project whatever comes first. Final approval is when the native species have 50% vegetation.

D Measurement
The department will measure Seeding Mixture Wetland 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.0085.03	Seeding Mixture Wetland	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; and for furnishing and installing all materials, including but not limited to seed.

106. Heavy Duty Silt Fence, Item SPV.0090.01.

A Description
Furnish, install, and remove heavy duty silt fence as shown on the plans or as directed by the engineer before construction activities begin. Remove the silt fence only after construction activities have been completed. Remove trapped silt prior to removing the fence as directed by the engineer. Use in wetland areas with 6-12 inches of standing water.

B Materials
Furnish heavy duty silt fence consisting of a composite of woven wire fabric, posts, geotextile fabric, and fasteners to be assembled by the contractor. Woven wire fabric shall be a standard field fence type a minimum of 5 feet high with maximum mesh spacing of 6 inches and minimum 14 1/2-gage wire.

Posts shall be metal with a minimum length of 8 feet, 3 inches. Metal posts shall be “studded tee” or “U” type with a minimum weight of 1.3 pounds per foot.

The geotextile fabric shall be non-woven with properties as specified in standard spec 628.2.6.1.

C Construction
Install heavy duty silt fence as shown on the plans. Spacing of ties and anchors shall be adequate to resist current flow.

D Measurement
The department will measure Heavy Duty Silt Fence 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.0090.01	Heavy Duty Silt Fence	LF

Payment is full compensation for furnishing, installing, and removing fence.

Heavy Duty Silt Fence maintenance will be paid for under the bid item Silt Fence Maintenance.

107. Fence Chain Link Polymer Coated 4-FT, Item SPV.0090.02; Fence Chain Link Polymer Coated 6-FT, Item SPV.0090.03.

A Description
This special provision describes furnishing and installing a new polymer-coated fence system on structures according to the pertinent plan details, as directed by the engineer and as hereinafter provided. The color of all components in this fence system shall be the same and shall be as specified on the plans.

B Materials
All materials for this fence system shall be new stock, free from defects impairing strength, durability, and appearance. Fabric shall be produced by methods recognized as good commercial practice. Wire used in the manufacture of the fabric shall be capable of being woven into fabric without the polymer-coating cracking or peeling. Pipes used in framework shall be straight, true to section and free of defects. All burrs at the ends of pipes shall be removed before galvanizing. The polymer-coating shall be a dense impervious covering, applied without voids, tears or cuts that reveal the substrate. Excessive roughness, bubbles, blisters and flaking in the polymer-coating will be a basis for rejection.

B.1 Fabric
Provide steel chain link fence fabric that conforms to the requirements of ASTM F668, Class 2b, a polymer-coating fused and adhered to wire that is zinc-coated. Provide fabric woven from 9-gage wire using plan specified mesh size, diamond pattern, with both the top and bottom selvages knuckled. The minimum breaking strength of the wire shall be 1290 lbs. The color of polymer-coating shall conform to the requirements of ASTM F934.

B.2 Framework
Provide steel rails, posts and post sleeves conforming to the requirements of ASTM F1083, Standard Weight Pipe (Schedule 40) of the size (O.D.) and weight as shown on the

plans. The minimum yield strength shall be 30,000 psi and the minimum tensile strength shall be 48,000 psi. These components shall be zinc-coated inside and outside by the hot-dip process as stated in ASTM F1083. Provide polymer-coating over zinc-coating that conforms to ASTM F1043. The color of polymer-coating shall conform to the requirements of ASTM F934, and match the color of the other fence components. Weld base plate to posts or post sleeves and complete any additional welding of components before galvanizing.

B.3 Fittings

Provide end post caps, line post caps, top rail sleeves, rail ends, line rail clamps, brace bands, tension bands, tension bars, and tie wires that are steel and conform to the requirements of ASTM F626. Tie wires shall be round and 9-gage wire. These components (excluding tie wires) shall be zinc-coated by the hot-dip process as stated in ASTM F626. Provide polymer-coating over zinc-coating on components (excluding tie wires) that conforms to the requirements of ASTM F626. For tie wires, provide polymer-coating on wire that is zinc-coated using the same procedure as used for the wires in the fence fabric. End post caps and line post caps shall fit tightly over posts to prevent moisture intrusion. Supply dome style caps for end posts and loop type caps for line posts. The color of polymer-coating shall conform to the requirements of ASTM F934, and match the color of the other fence components.

B.4 Bolts

All bolts are to be supplied with lock washers and nuts. Use galvanized steel bolts, nuts and washers per plan details.

B.5 Tests

B5.1 Fabric and Tie Wire

Breaking Strength:	ASTM A370
Zinc-Coating Requirements	
Weight of Zinc-Coating:	ASTM A90
Polymer-Coating Requirements	
Thickness of Polymer-Coating:	ASTM F668
Adhesion:	ASTM F668
Accelerated Aging Test:	ASTM F668, D1499
Mandrel Bend Test:	ASTM F668

B.5.2 Framework

Tensile and Yield Strength:	ASTM E8
Zinc-Coating Requirements	
Weight of Zinc-Coating:	ASTM A90
Polymer-Coating Requirements	
Thickness of Polymer-Coating:	ASTM E376
Adhesion:	ASTM F1043
Accelerated Aging Test:	ASTM F1043, D1499

B.5.3 Fittings

Zinc-Coating Requirements		
Weight of Zinc-Coating:	ASTM A90	
Polymer-Coating Requirements		
Thickness of Polymer-Coating:	ASTM F626	
Adhesion:	ASTM F1043	(same test as for framework)
Accelerated Aging Test:	ASTM F1043, D1499	(same test as for framework)

B.6 Submittals

In addition to the engineer, send submittals listed in this section to the name below for informational purposes:

David Nelson
WisDOT (Bureau of Structures)
4822 Madison Yards Way (Room S416.25)
PO Box 7916
Madison, WI 53707

B.6.1 Shop Drawings

Submit shop drawings showing the details of fence construction. Show the fence height, post spacing, rail location, and all dimensions necessary for the construction of the chain link fence. Label the end posts, line posts, rails, post sleeves, top rail sleeves, bolts and fittings. State the polymer-coating type used on the fabric, framework and fittings and the Class of coating used on the fabric. State the color of polymer-coating to be used on the fence components. For the fabric, state the wire gage, mesh size, and type of selvages used. For the framework, state the size (O.D.) and unit weight for the posts and rails. For the fittings, state the size for top rail sleeves, brace bands, tension bands, tension bars, line rail clamps, size and type of bolts, and the tie wire gage. State the material type used for fabric, framework, and fittings. Also give the breaking strength for the fabric wire and the tensile and yield strength properties for the framework.

B.6.2 Specification Compliance

Submit certification of compliance with material specifications. Provide material certification and test documentation for fabric, framework, fittings and hardware that shows that all materials meet or exceed the specifications of this contract and the tests in B.5. This document shall provide the name, address and phone number of the manufacturer, and the name of a contact person.

C Construction

C.1 Delivery, Storage and Handling

Deliver material to the site in an undamaged condition. Upon receipt at the job site, all materials shall be thoroughly inspected to ensure that no damage occurred during shipping or handling and condition of materials is in conformance with these specifications. If polymer-coating is damaged, contractor shall repair or replace components as necessary to the approval of the engineer at no additional cost to the owner. Carefully store material off the ground to ensure proper ventilation and drainage and to provide protection against damage caused by ground moisture. Handle all polymer-coated material with care.

C.2 Touch-up and Repair
For minor damage caused by shipping, handling or installation to polymer-coated surfaces, touch-up the finish in conformance with the manufacturer's recommendations. Provide touch-up coating such that repairs are not visible from a distance of 6-feet. If damage is beyond repair, the fencing component shall be replaced at no additional cost to the Owner. The contractor shall provide the engineer with a copy of the manufacturer's recommended repair procedure and materials before repairing damaged coatings.

C.3 General
Install the chain link fence according to ASTM F567 and the manufacturer's instructions. The contractor shall provide staff that is thoroughly familiar with the type of construction involved and materials and techniques specified. Chain link fabric shall be installed on the side of the posts indicated on the plans. Fabric shall be attached to the end posts with tension bars and tension bands. It shall be attached to rails, and posts without tension bands, with tie wires. The fabric shall be installed and pulled taut to provide a smooth and uniform appearance free from sag, without permanently distorting the fabric diamond or reducing the fabric height. Install top rail to pass through line post caps and form a continuous brace between end posts. Minimum length of top rail between splices shall be 20-feet. Splice top rail at joints with sleeves for a rigid connection. Locate splices near 1/4 point of post spacing. Heads of bolts shall be on the side of the fence adjacent to pedestrian traffic.

D Measurement
The department will measure Fence Chain Link Polymer Coated 4-FT and 6-FT 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.0090.02	Chain Link Fence Polymer Coated 4-FT	LF
SPV.0090.03	Chain Link Fence Polymer Coated 6-FT	LF

Payment is full compensation for fabricating, galvanizing and polymer-coating all fence components, and transporting to jobsite; for erecting components to create a polymer-coated fence system, including any touch-up and repairs.

108. Construction Staking Sidewalk, Item SPV.0090.04.

A Description
Work under this item consists of contractor-performed construction staking required to establish the horizontal and vertical position for the sidewalk and to establish the required positions of the pedestrian ramps. Perform all work under this item according to standard spec 105.6 and 650. Construction Staking Sidewalk includes staking of the pedestrian ramps.

B (Vacant)

C Construction

Use methods that conform and are according to the pertinent requirements of standard spec 650.3. Place construction stakes for sidewalk at intervals of 25 feet. A minimum of two stakes per cross section is required. Set and maintain as necessary additional stakes per cross section to achieve the required accuracy and to satisfy the method of operations. Set additional construction stakes as necessary to establish location and grade of sidewalk, including points of change in alignment grade, along intersecting walks, at pertinent points of the pedestrian ramps, and at the radius points of intersecting walks. Locate all sidewalk construction stakes to within 0.02 foot of the true horizontal position and establish the grade elevation to within 0.01 foot of the true vertical position.

D Measurement

The department will measure Construction Staking Sidewalk by the linear foot, acceptably completed, measured along each sidewalk centerline. The staking of the pedestrian ramps is incidental to the item Construction Staking Sidewalk and will not be measured. The department will not measure construction staking for base underlying sidewalk. The department will not measure construction staking for sidewalk that is parallel to the adjacent 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.0090.04	Construction Staking Sidewalk	LF

Payment is full compensation for locating and setting all construction stakes and for relocating and resetting damaged or missing construction stakes. Standard spec 650.5(2) shall apply for final payment. The staking of the pedestrian ramps is incidental to the item Construction Staking Sidewalk.

109. Construction Staking Fence Safety, Item SPV.0090.05.

A Description

Work under this item consists of contractor-performed construction staking of safety fence to protect fen and interior forest areas, contractor required to establish the horizontal and vertical position for the safety fence to be installed around the fen and forest areas. Perform all work under this item according to standard spec 105.6 and 650.

B (Vacant)

C Construction

Use methods that conform and are according to the pertinent requirements of standard spec 650.3. Place construction stakes for sidewalk at intervals of 25 feet. A minimum of two stakes per cross section is required. Set and maintain as necessary additional stakes per cross section to achieve the required accuracy and to satisfy the method of operations. Set

additional construction stakes as necessary to establish location and grade of sidewalk, including points of change in alignment grade, along intersecting walks, at pertinent points of the pedestrian ramps, and at the radius points of intersecting walks. Locate all sidewalk construction stakes to within 0.02 foot of the true horizontal position and establish the grade elevation to within 0.01 foot of the true vertical position.

D Measurement

The department will measure Construction Staking Fence Safety by the linear foot, acceptably completed, measured along the fence centerline.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.05	Construction Staking Fence Safety	LF

Payment is full compensation for locating and setting all construction stakes and for relocating and resetting damaged or missing construction stakes. Standard spec 650.5.(2) shall apply for final payment.

110. Type UF Cable, 2 Conductor, No. 14, Item SPV.0090.41.

A Description

This special provision describes furnishing and installing cable for confirmation lights and making all connections conforming to standard spec 655, as shown on the plans and as hereinafter provided.

B Materials

When EVP confirmation lighting is installed in conjunction with traffic signals, conductors from the traffic signal control cabinet to the confirmation light(s) shall be Type UF, two conductor without ground, solid copper conductor cable, size No. 14.

C (Vacant)

D Measurement

The department will measure Type UF Cable, 2 Conductor, No. 14, by the linear foot of cable, 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.0090.41	Type UF Cable, 2 Conductor, No. 14	LF

Payment is full compensation for furnishing and installing cable; for making all connections; for furnishing and installing all connectors, including wire nuts, splice kits, tape, insulating varnish or sealant and ground lug fasteners, for testing; and incidentals necessary to complete the contract work.

111. Water Main Relocation 8-Inch, Item SPV.0090.72; Water Main Relocation 12-Inch, Item SPV.0090.73; Water Main Relocation16-Inch, Item SPV.0090.74; Water Main Relocation 20-Inch, Item SPV.0090.75.

A Description

This special provision describes relocating existing Waukesha Water Utility water main which is in conflict with proposed storm sewer, end walls, rip rap, or other proposed project work. The work shall be according to the Water Main Details and at the locations shown on the Storm Sewer Layout Plans.

A.1 Specifications

All construction and installation shall be according to the *Specifications for Water main & Service Lateral Materials and the Installation of Water Main & Appurtenances for Waukesha Water Utility of the City of Waukesha dated August 29, 2014*, the regulations of the Department of Natural Resources (WDNR), the *Standard Specifications for Sewer and Water Construction in Wisconsin – Sixth Edition*, AWWA Specifications, manufacturers' recommendations and these provisions.

A.2 Site Conditions

Contractor shall view the site prior to bidding to become familiar with the existing conditions. It will be the responsibility of the contractor to work with the utilities located within the right-of-way to resolve conflicts during construction. The location of structures and obstacles shall not be taken as conclusive. Verification to the satisfaction of the contractor shall be assumed as a condition of bidding and therefore the contractor shall be solely responsible for all damages resulting from the contractor's activities.

A.3 Insurance

Contractor shall submit a Certificate of Insurance, as required by the Waukesha Water Utility, indicating that the insurance meets the Waukesha Water Utility's requirements and limits and is in effect for the duration of the project.

A.4 Pre-Construction Meeting

Prior to commencing any water main work, a pre-construction meeting will be conducted. The contractor will not receive approval to undertake any work without a pre-construction meeting or approval of the Waukesha Water Utility.

A.5 Service Provided By Waukesha Water Utility

A.5.1 Staking

Staking will be provided by the Waukesha Water Utility on a one-time basis at no cost to the contractor. After stakes are set, it shall be the contractor's responsibility to protect all survey marks, stakes, nails, etc. Re-staking any portion of the work shall be done at the

contractor's expense. The contractor shall provide 72 hours (3 working days) notice of and staking needs.

A.6.2 Inspection
A Waukesha Water Utility representative will provide inspection for all water main installation and abandonment. Contractor shall provide a minimum of 72 hours (3 working days) of the anticipated need for inspection services. No work shall be undertaken without an inspector being on-site or without the permission of the Waukesha Water Utility. Payments may be denied or removal of work may be ordered for work accomplished without an inspector present or without the approval of the Waukesha Water Utility.

Contractor shall be responsible for damage to adjoining buildings and grounds caused during construction. The location of structures and obstacles shall not be taken as conclusive. Verification to the satisfaction of the contractor shall be assumed as a condition of bidding and therefore the contractor shall be solely responsible for all damages resulting from the contractor's activities. Claims for extra cost or time must be submitted in writing to the Waukesha Water Utility prior to proceeding with any work.

A.7 Notification
Contractor shall notify all utilities having facilities in the project area, the police and the fire departments when construction will commence. Notice shall be given 72 hours prior to the start of construction.

B Materials
Furnish materials according to Chapter 4 of the Waukesha Water Utility standard specifications.

Ductile Iron Pipe, Special Thickness Class 52, according to AWWA C151 with cement mortar lining complying with ANSI A-21.4 or AWWA C104 and with asphaltic outside coating 1 mil thick. Factory-manufactured ductile iron / cast iron long pattern sleeves shall be used at the connections to the existing cast iron water main. Joints shall be compact style according to AWWA C153 with cement mortar lining complying with AWWA C104 and with asphaltic outside coating 1 mil thick. All joints shall be restrained.

Contractor shall submit to the Inspector and Owner, for approval, a list of all materials intended to be used prior to ordering and delivery to the job site, including the names of all material suppliers.

Continuous tracer wire shall be installed with all water pipe, including PVC and Ductile Iron water mains. Tracer wire shall be installed in such a manner as to be able to trace all water mains without loss or deterioration of signal. Tracer wire system must pass a conductivity test before final acceptance of the water main installation is accepted by the Waukesha Water Utility. All tracer wire ends must be grounded. At the point of connection between either cast or ductile iron water mains, with any new water main, the tracer wire shall be properly connected to the iron pipe with either a cad weld or a conductivity clamp. Tracer wire shall be placed along the entire length of pipe and fitting

sand taped at a minimum of every 10 feet to the top of the pipe. Tracer wire shall be kept taut during backfill so the wire does not slide down along the side of the water main. Tracer wire shall be protected from damage during water main installation. No breaks or cuts in the tracer wire or wire insulation will be permitted. All tracer wire splices shall have the wire end looped a minimum of four times, the joint must be soldered and the connection shall be covered with a waterproof wrap that is approved for underground wire splices.

Tracer wire shall be a minimum of 12 gauge solid core copper electric wire with blue PVC coating and rated for wet conditions, or #12 AW HS-CCS high-strength copper clad steel conductor (HS-CCS), insulated with a 30 mil, high density, high molecular weight polyethylene (HDPE) insulation, and rated for direct burial use at 30 volts. HS-CCS conductor must be 21% conductivity for locating purposes, with minimum break load of 380 pounds. Standard tracer wire is unacceptable.

Whenever Ductile Iron pipe is installed, the contractor shall encase pipe in 8 mil polyethylene. The polyethylene shall be furnished in either tube or sheet form. Installation shall be by a method described according to ANSI/AWWA C105/A21.5 - Latest Revision. All joints shall be lapped and taped sufficiently to prevent the soil from coming in contact with the pipe. Contractor shall take care in placing the polyethylene and in backfilling to prevent tearing and puncturing the wrapping and shall conform to the requirements of Chapter 4.4.4 of the Standard Specifications for Sewer and Water Construction in Wisconsin.

Where the existing or new offset water main is within 24 inches of the storm sewer, or where rip rap is placed over existing water main, a minimum of 2-inches of closed cell rigid polystyrene insulation board intended for underground installation shall be placed between the two pipes. The cost for insulation shall be shall be included in the linear foot of pipe being constructed unless called out separately on the plans. Contractor shall provide insulation as noted and offset water main at the size and location noted on the Water Main Details and Storm Sewer Layout plans.

All cast-iron fittings and valves shall be completely wrapped with 8 mil polyethylene wrap to protect them from corrosion. If the fitting or valve cannot be wrapped practically in a tube, a double wrap of flat sheet or split tube shall be used. The wrap shall extend approximately 18 inches beyond all joints. All seams shall be taped securely.

Storage of materials for construction will be permitted on the job site with prior approval. Care shall be taken to avoid blocking driveways or interfering with traffic. Materials stored within the street right-of-way shall be barricaded and lighted with emergency flashers.

Bedding material is required 4-Inches under and 12-Inches over the pipe as a minimum. Sand is required around all copper water laterals and brass fittings. The cost for bedding, cover and mechanically compacted granular backfill shall be included in the linear foot of pipe being constructed.

The contractor is responsible for hauling and removal of all surplus excavated material.

C Construction
Install gate valves and valve boxes according to Chapter 6 of the Waukesha Water Utility standard specifications.

Contractor shall be solely responsible for providing trench support according to all applicable State and Federal regulations. The Waukesha Water Utility and Inspector shall be held harmless in all matters regarding shoring and bracing. Side sloping of trenches will not be allowed where damage to sidewalk, curb, structures and underground utilities would be caused by such side sloping.

C.1 Mechanical Compaction
Excavated material or granular backfill shall be mechanically compacted with an initial lift of 2 feet and subsequent lifts of 1 foot, according to Section 2.6.14 (b) of the Standard Specifications for Sewer & Water Construction in Wisconsin – Sixth Edition. Any deficiency in quantity of backfill material (caused by shrinkage or settlement) shall be supplied at no additional cost to the Owner. The cost of mechanically compacted backfill shall be included in the cost of linear foot of pipe being installed.

The Waukesha Water Utility has contracted with a soil testing firm to perform compaction testing on the trenches for all projects. The contractor for this project will be required to meet a minimum compaction of 90% Standard Proctor Density in the bottom 3 feet and a minimum compaction of 95% Standard Proctor Density in the top three feet of the excavated material or granular backfill. Testing will be done at no cost to the contractor.

C.2 Testing
All water mains shall be tested in full accordance with the requirements of Chapter 4.15.0 and Section 5.5.18 of the Standard Specifications for Sewer and Water Construction in Wisconsin.

All water mains (connections, pipe, and fittings) shall be disinfected by swabbing with a strong chlorinated solution. At the completion of construction, the relocated water main segment shall be flushed by opening a nearby hydrant. Contractor shall provide a clean fire hose or other approved device to directly convey the flushed water into the storm sewer. The fire hydrant and storm sewer structure shall be selected to comply with approved traffic control plans. These flushing methods must use the appropriate number of hoses or other DIRECT conveyance devices to reach the minimum water flow rate of 2 1/2 feet per second of water flow in the main as required for proper flushing. These hoses or devices must be supplied, installed and removed by the contractor.

The water must be discharged in such a manner as to not promote erosion of the area or movement of site materials off site or into the storm sewer system. This may require discharge directly into an established storm sewer inlet, or conveyance to a clean and paved surface to utilize the existing curbs and storm sewer system. Flow of water from flushing or testing directly across disturbed surfaces will not be allowed. Flow of water

within an existing curb and gutter line will only be allowed if the area is completely free of gravel and debris and if the flow fully remains on the undisturbed surface. It may be necessary to remove the inlet protection used during construction for the periods when flushing is occurring; these protections must be properly replaced when flushing has ended. Depending on the situation, it may also be necessary to stub up a temporary storm sewer inlet at flushing points if the distance to an established storm sewer system is too great.

C.3 Coordination
Contractor shall coordinate the following with Waukesha Water Utility:

Existing valves and hydrants shall be operated only by Waukesha Water Utility personnel or in the presence of the inspector, as authorized by Waukesha Water Utility.

Contractor shall coordinate with Waukesha Water Utility all work associated with connecting the offset water main to the old water main. The Waukesha Water Utility will assist in turning the existing valves to isolate these areas for the installation of the water main offsets. The water mains will not be allowed to be shut down before 8:00 AM. Contractor shall be responsible for notifying all customers when their water will be shut off. Notification should be done at least 24 hours prior to shut down whenever possible. No extra costs or change orders will be allowed for down time associated with the Waukesha Water Utility crews turning the water off or on.

A schedule showing tentative dates for water main construction shall be provided to the Water Utility at least 2 weeks prior to construction. Contractor shall provide 72 hours (3 work days) notice of the anticipated need for inspection services. No work shall be undertaken without an inspector being on site without the permission of the Waukesha Water Utility. Payments may be denied, or removal of work may be ordered, for work accomplished without an inspector present or without the approval of the Owner.

Waukesha Water Utility will provide inspection services for this work and shall be notified a minimum of three days prior to the work being performed.

Adjustment of valve boxes or curb stops. Contractor shall identify proposed grade changes that affect valve boxes or curb stops and notify Waukesha Water Utility providing at least 24 hours' notice.

D Measurement
The department will measure Water Main Relocation (x-Inch) 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.0090.72	Water Main Relocation 8-Inch	LF
SPV.0090.73	Water Main Relocation 12-Inch	LF
SPV.0090.74	Water Main Relocation 16-Inch	LF
SPV.0090.75	Water Main Relocation 20-Inch	LF

Payment is full compensation for all furnishing, assembling, erecting, maintaining, and removing the water main; for necessary materials, excavation, backfill, compaction and maintenance of trenches; and for hauling and disposal.

112. Conduit Flexible Metallic 2-Inch, Item SPV.0090.76.

A Description

This special provision describes furnishing and installing flexible metallic conduit between the concrete base / barrier wall and temporary junction box.

B Materials

Furnish flexible metallic conduit and adapters of the appropriate size to transition from PVC conduit installed in the adjacent structures.

The flexible metallic conduit shall be liquid tight with moisture, oil, and sunlight resistant polyvinyl chloride (PVC) jacket applied directly over the flexible metal conduit with wall thickness according to UL 360.

The flexible metallic conduit shall be UL listed for between -67º F and +221 º F.

According to UL 360, the flexible metallic conduit shall meet all of the following performance tests:

- Resistance and High Current
- Fault Current
- Impact
- Tension
- Crushing
- Pipe Stiffness
- Flexibility
- Low Temperature Flexibility
- Zinc Coating
- Vertical Flame
- Physical Properties
- Deformation
- Mechanical Water Absorption
- Moisture Penetration
- Sunlight Resistance
- Test for Secureness of Fittings

The fittings and adapters shall be of the same manufacturer as the conduit.

C Construction
Install the fittings, adapters, and conduit between PVC conduits installed in adjacent concrete bases / barrier wall per the manufacturer's instructions and as shown on the plans.

D Measurement
The department will measure Conduit Flexible Metallic 2-Inch by the linear foot of conduit installed, acceptably completed.

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

ITEM_NUMBER	DESCRIPTION	UNIT
SPV.0090.76	Conduit Flexible Metallic 2-Inch	LF

Payment is full compensation for furnishing and installing the conduit, including the connectors.

113. 3/4 – Inch Liquid Tight Conduit, Item SPV.0090.77.

A Description
This special provision describes furnishing and installing liquid tight flexible metallic conduit between wire ways utilized for tunnel lighting and the tunnel luminaires.

B Materials
The flexible metallic conduit shall be liquid tight with a moisture, oil, and sunlight resistant polyvinyl chloride (PVC) jacket applied directly over the flexible metal conduit with wall thickness according to UL 360.

The flexible metallic conduit shall be UL listed for between -67º F and +221 ºF According to UL 360, the flexible metallic conduit shall meet all of the following performance tests:

- Resistance and High Current
- Fault Current
- Impact
- Tension
- Crushing
- Pipe Stiffness
- Flexibility
- Low Temperature Flexibility
- Zinc Coating
- Vertical Flame
- Physical Properties
- Deformation
- Mechanical Water Absorption
- Moisture Penetration

- Sunlight Resistance
- Test for Secureness of Fittings

The fittings and adapters shall be of the same manufacturer as the conduit.

C Construction
Install the fittings, adapters, and conduit between the wire ways used in conjunction with tunnel lighting and the tunnel lighting. Install per the manufacturer's instructions and as shown on the plans.

D Measurement
The department will measure 3/4-Inch Liquid Tight Conduit by the linear foot of conduit installed, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.77	3/4 – Inch Liquid Tight Conduit	LF

Payment is full compensation for furnishing and installing the conduit, including the connectors.

114. Conduit Reinforced Thermosetting Resin 1-Inch, Item SPV.0090.78.

A Description
This special provision describes providing and installing conduit reinforced thermosetting resin 1-inch according to standard spec 652 and as shown on the plans.

B Materials
All conduit supports shall be of the double roller type as shown in the plans. Roller material shall be suitable for use with reinforced thermosetting resin conduit (RTRC).

Conduit supports shall be galvanized or stainless steel.

C Construction
The contractor is advised that all of this type of conduit is installed onto the underdeck of the freeway.

All nuts on supports shall be double nutted.

D Measurement
The department will measure Conduit Reinforced Thermosetting Resin 1-Inch by the linear foot, acceptably completed, and measured along the conduit centerline from the centerline of fittings or, where there are no fittings, from the free ends of the conduit.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.78	Conduit Reinforced Thermosetting Resin 1-Inch	LF

Payment is full compensation for providing the conduit, conduit bodies, and fittings; for providing all conduit hangers, clips, attachments, and fittings used to support conduit on structures; for pull wires or ropes; for expansion fittings and caps; for disposing of surplus materials; and for making inspection.

115. Removing Overhead Sign Support S-67-220, Item SPV.0105.02.

A Description

Work under this item shall consist of removing the overhead sign structure and footing. The sign on the structure is paid for under a separate pay item, i.e., Removing signs type II. See signing plans for location.

B (Vacant)

C Construction

Remove overhead sign supports and concrete footings, backfill the resulting holes, and dispose of all materials outside of the right-of-way according to standard spec 204.3 and 638.3. Concrete footing shall be removed to 2 feet below the existing ground. The reinforcement shall be cut off flush with the top of the concrete. The footing shall be then covered with topsoil and seeded. This is all incidental to Remove Overhead Sign Structure.

D Measurement

The department will measure Removing Overhead Sign Support S-67-220 as a single lump sum unit of work, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.02	Removing Overhead Sign Support S-67-220	LS

Payment in full compensation for disassembling, removing, including concrete footings, and disposal of all materials.

638-SER1 (20040405)

116. Temporary Bypass Channel Structure C-67-91, Item SPV.0105.03.

A Description

This special provision describes constructing temporary bypass channel for the drainage way through Structure C-67-91 according to the standard specifications, the plans, and hereinafter provided. The contractor may propose other alternatives for a temporary bypass

channel as long as the proposed alternative meets DNR approval in the ECIP. Any materials used for alternative proposals will be considered incidental to this item.

B Materials
Construct temporary bypass channel according to the details provided in the plan. Provide polyethylene sheeting according to standard spec 628.2 and provide select crushed material according to standard spec 312.

C Construction
Construct temporary bypass channel according to standard spec 205.3 and 628.3. Maintain channel flow at all times and minimize erosion into the existing stream using appropriate erosion control measures.

D Measurement
The department will measure Temporary Bypass Channel C-67-91 as a single lump sum unit of work, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.03	Temporary Bypass Channel Structure C-67-91	LS

Payment is full compensation for furnishing materials, any excavation required, hauling, placing all materials, including sand bags, polyethylene sheeting, anchors, and select crushed material, and for channel change removal.
(NER11-0128)

117. Bioretention Pond Items, Item SPV.0105.04.

A Description
This special provision describes the majority of work necessary to furnish and install bioretention facility, including the engineered soil media, pea gravel, gravel, sand, and clean-out ports. Additional work covered elsewhere includes but not limited to standard spec 612, 628, 630, and 645.

B Materials
All bioretention items shall meet the requirements of the following specifications. The engineer and department reserves the right to take samples of materials whenever deemed necessary. The landscape contractor who is responsible for furnishing and installing engineering soil shall also be solely responsible for obtaining mix components, blending the mix to the specified proportions, and for furnishing and installing the planting mix.

B.1 Engineering Soil

The engineering soil consists of the following specifications:

- The engineered soil media mixture shall consist of a mixture of 70% sand and 30% compost. The percentages are based on volume. Special attention should be given to plant selection when the percentage of sand exceeds 75%.
- The sand component of the engineered soil media shall meet one of the following gradation requirements:
    1. USDA Coarse Sand (.02 - .04 inches).
    2. ASTM C33 (Fine Aggregate Concrete Sand).
    3. Spec 501.2.5.3.4. (Fine Aggregate Concrete Sand) latest edition, or an equivalent as approved by the engineert. The sand shall meet the following gradation requirements:

Sieve Size	Percent Passing by Weight
3/8-inch	100
No. 4	90 to 100
No. 16	45 to 85
No. 50	5 to 30
No. 100	0 to 10

The preferred sand component consists of mostly Si02, but sand consisting of dolomite or calcium carbonate may also be used. Manufactured sand or stone dust is not allowed. The sand shall be washed and drained to remove clay and silt particles prior to mixing.

The compost component of the engineered soil media shall meet the requirements of Wisconsin Department of Natural Resources Specification S100, Compost, as follows:

- Particle Size – 98% of the compost shall pass through a 0.75-inch screen.
- Physical Contaminants – Less than 1% combined glass, metal and plastic.
- Organic Matter/Ash Content – At least 40% organic matter; less than 60% ash content.
- Carbon to Nitrogen Ratio – 10-20:1 C:N ratio.
- pH – Between 6 and 8.
- Soluble Salt – Electrical conductivity below 10 dS m-1 (mmhos cm-1)
- Moisture Content – Between 35% and 50% by weight.
- Maturity – The compost shall be resistant to further decomposition and free of compounds, such as ammonia and organic acids, in concentrations toxic to plant growth.
- Residual Seeds and Pathogens – Pathogens and noxious seeds shall be minimized.
- Pathogens – The compost shall meet the Class A requirements for pathogens as specified in s. NR 204.07(6)(a), Wis. Adm. Code.

- Other Chemical Contaminants – The compost shall meet the high quality pollutant concentrations as specified in s. NR 204.07(5)(c), Wis. Adm. Code.

The engineered soil media mixture shall be free of rocks, stumps, roots, brush or other material over 1 inch in diameter. No other materials shall be mixed with the planting soil that may be harmful to plant growth or prove a hindrance to planting or maintenance.

- Engineered soil media mixture shall have a pH between 5.5 and 8.0.
- Engineered soil media mixture shall have adequate nutrient content to meet plant growth requirements.
- Saturated hydraulic conductivity of the engineered soil media mixture shall be 6 to 10 inches per hour tested according to ASTM F1815. The total porosity shall be 35% to 55% and the moisture holding capacity shall be 15% to 25%. Conduct infiltration test to ensure soil mix meets the saturated hydraulic conductivity criteria.

Contractor shall submit engineered soil analysis by a qualified soil-testing laboratory showing conformance with engineered soil media mixture specifications. Submit soil analysis to the engineer or department for review and approval prior to installation.

Contractor shall conduct and submit results of an on-site infiltration test of the engineered soil media to ensure conformance with saturated hydraulic conductivity criteria. Using 5 cubic yards of the prepared engineered soil media, contractor shall place the material on site at the proper location and depth, allow for proper settlement of the engineered soil media, and conduct an infiltration test using a double-ring infiltrometer according to ASTM D3385. Submit infiltration test results to department for review and approval prior to installation of the remaining engineered soil media.

B.2 Gravel

The gravel storage layer below the engineered soil media is intended for temporary storage of stormwater runoff. The storage layer shall consist of gravel that shall conform to the following specifications:

- The gravel shall be a well-graded coarse aggregate that meets the coarse aggregate standard spec 501.2.5, latest edition, or an equivalent as approved by the engineer. Gravel shall be double-washed. The aggregate shall be sized according to AASHTO No. 4 aggregate (size number according to AASHTO M43) to meet the following gradation requirements:

Sieve Size	Percent Passing by Weight
2-inch	100
1 1/2-inch	90 to 100
1-inch	20 to 55
3/4-inch	0 to 15
3/8-inch	0 to 5

Contractor shall submit sieve analysis by a qualified testing laboratory showing conformance with specifications. Submit sieve analysis to department for review and approval prior to installation.

B.3 Sand

A sand soil interface layer is required. The sand interface layer shall conform to the following specifications:

- 3 inches of sand shall be placed below the storage layer, and vertically mixed with the native soil interface to a depth of 2 to 4 inches.
- The sand shall meet the same requirements specified above in the Engineered Soil materials section for sand.

Contractor shall submit sieve analysis by a qualified testing laboratory showing conformance with specifications. Submit sieve analysis to department for review and approval prior to installation.

B.4 Pea Gravel

A pea gravel interface between the engineering soil and gravel storage layer is required. The pea gravel shall conform to the following specifications:

- The pea gravel layer shall be at least 4 inches thick. Pea gravel shall be washed. Pea gravel shall be large enough to prevent its falling through the perforations of the underdrain pipe. The pea gravel shall be sized according to AASHTO No. 8 aggregate (size number according to AASHTO M43) to meet the following gradation requirements:

Sieve Size	Percent Passing by Weight
1/2-inch	100
3/8-inch	85 to 100
No. 4	10 to 30
No. 8	0 to 10
No. 16	0 to 5

Contractor shall submit sieve analysis by a qualified testing laboratory showing conformance with specifications. Submit sieve analysis to department for review and approval prior to installation.

B.5 Clean-Out Port

The underdrain pipe shall have two vertical, connecting standpipes to serve as a clean-out port for the underdrain pipe. The pipe, fittings, and cap shall be rigid, non- perforated SDR-35 PVC pipe, a minimum of 8 inches in diameter and covered with a watertight cap that is 3 inches above the finished surface elevation of the bioretention facility.

The contractor shall submit shop drawings of clean-out port showing conformance with specifications. Submit shop drawings to the department for review and approval prior to installation.

C Construction

Contractor shall notify the department following the excavation of bioretention facility, prior to installation of underdrains, backfill materials, and engineered soil media. Contractor shall only proceed with the installation of underdrains, backfill materials, and engineered soil media with approval of the engineer or department.

The contractor shall have five years' experience (minimum) and shall have completed work similar in material, design, and extent to that indicated for this project. Contractor must provide five or more successful installations of green infrastructure projects.

C.1 Site Stabilization

Contractor shall not construct bioretention facility until all of the contributing drainage areas are stabilized to the satisfaction of the engineer or department. Do not use the bioretention facility as temporary sediment control facilities during construction. It is the responsibility of the contractor to sequence the construction of the bioretention facility in a manner such to prevent sediment from entering the bioretention facility as a result of construction activities.

Construction site runoff from disturbed areas shall not be allowed to enter the bioretention facility. Sediment that enters the bioretention facility during construction as a result of construction activities shall be removed by the contractor at no cost to the department. In circumstances where, in the opinion of the engineer or department, sediment significantly impacts the functionality of the underdrains, backfill materials, engineered soil media, or plantings, these items shall be completely replaced by the contractor at no cost to the department.

Contractor shall not store any equipment or materials within the perimeter of the bioretention engineered soil media area. Engineering soil shall be delivered to project site and installed no more than seven days before the start of planting operations for areas receiving engineering soil. It is the sole responsibility of the landscape contractor to fully coordinate and schedule the delivery and installation of the Planting Mix with the delivery and installation of all landscape plant materials.

C.2 Suitable Weather

Construction of the bioretention facility shall be suspended during periods of rainfall or snowmelt. Construction shall remain suspended if ponded water is present or if residual soil moisture contributes significantly to the potential for clumping or other forms of compaction within the bioretention facility. Contractor shall provide, in writing to the engineer, a list of all materials used in Planting Mix including manufacturers and quantities and shall ensure that all materials meet the standards set forth in standard spec 625 and 632 and produce a planting mix that provides a stable, healthy soil for plant growth.

C.3 Compaction Avoidance

Compaction and smearing of the soils beneath the floor and side slopes of the bioretention area, and compaction of the soils used for backfill in the soil planting bed, shall be minimized. During site development, the area dedicated to the bioretention area shall be cordoned off to prevent access by heavy equipment. Acceptable equipment for constructing the bioretention strategy includes excavation hoes, light equipment with turf type tires, marsh equipment or wide-track loaders.

If compaction occurs at the base of the bioretention facility, the soil shall be refractured to a depth of at least 12 inches. If smearing occurs, the smeared areas of the interface shall be corrected by raking or roto-tilling. Refracturing shall not be used by contractor in lieu of proper compaction avoidance techniques.

C.4 Placement and settling of engineered soil

The following apply:

- Prior to placement in the bioretention facility, the engineered soil mixture shall be premixed and the moisture content shall be low enough to prevent clumping and compaction during placement. The engineer or department will review the bioretention soil mixture upon completion of premixing and before delivery to the site. No onsite mixing of soils shall be allowed. Only approved tested material shall be delivered to the site.
- The engineered soil mixture shall be placed in multiple lifts, each approximately 12 inches in depth.
- As approved by the engineer or department, steps may be taken to induce mild settling of the engineered soil bed as needed to prepare a stable planting medium and to stabilize the ponding depth. Vibrating plate-style compactors shall not be used to induce settling.
- The entire soil planting bed shall be mulched prior to planting vegetation to help prevent compaction of the planting soil during the planting process. Mulch shall be pushed aside for the placement of each plant.

D Measurement

The department will measure Bioretention Pond Items as a single lump sum unit of work, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.04	Bioretention Pond Items	LS

Payment is full compensation for furnishing and installing all materials.

118. Pebble Creek Debris Removal, Item SPV.0105.05.

A Description

This special provision describes removing rock and concrete debris from Pebble Creek under Structure B-67-314 according to the applicable portions of standard spec 204 and standard spec 205, as shown on the plans, and as follows.

B (Vacant)

C Construction

All rock and concrete debris larger than 6 inches shall be removed as directed by engineer and according to the plan details by use of manual labor. No in stream disturbance of Pebble Creek from the use of equipment will be allowed to perform this work. Equipment located outside of Pebble Creek may be used to assist with removal of debris by lifting items placed in roped netting or other approved device.

This work shall be performed during low water conditions in August 2019 in conjunction with the construction of Structure B-67-314.

Hydro excavation equipment may be utilized to facilitate removal of gravel provided that only the hose is in stream. The work operations for use of hydro excavation equipment shall be approved by the department and will be limited to one day of operation.

D Measurement

The department will measure Pebble Creek Debris Removal a single lump sum unit of work for all services, 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.0105.05	Pebble Creek Debris Removal	LS

Payment is full compensation for removing existing rocks and concrete debris under the structure, and for disposal of surplus debris.

119. Remove Loop Detector Wire and Lead-in Cable, STH 59 and CTH X/Saylesville Rd, Item SPV.0105.42.

A Description

This special provision describes removing loop detector wire and lead-in cable at the intersection of STH 59 and CTH X. Removal will be according to standard spec 204, as shown in the plans, and as hereinafter provided.

B (Vacant)

C Construction

Notify the department's Electrical Field Unit at (414) 266-1170 at least five working days prior to the removal of the loop detector wire and lead-in cable.

Remove and dispose of detector lead-in cable including loop wire for abandoned loops off the right-of-way.

D Measurement

The department will measure Remove Loop Detector Wire and Lead-in Cable (location) as a single lump sum unit of work for each intersection, 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.0105.42	Remove Loop Detector Wire and Lead in Cable, STH 59 and CTH X/Saylesville Rd	LS

Payment is full compensation for removing, scrapping, and disposing of material and incidentals necessary to complete the contract work.

120. Install State Furnished Traffic Signal Cabinet, STH 59 and CTH X/Saylesville Rd, Item SPV.0105.43; USH 18 and STH 59, Item SPV.0105.44; USH 18 and CTH D, Item SPV.0105.45; USH 18 and Madison Street, Item SPV.0105.46.

A Description

This special provision describes the transporting and installing of the state-furnished traffic signal cabinet, signal controller, and other cabinet equipment for traffic signals, and for making the cabinet fully operational as shown in the plans.

B Materials

Pick up the state-furnished materials at the department's Electrical Shop located at 935 South 60th Street, West Allis. Notify the department's Electrical Field Unit at (414) 266-1170 and make arrangements for picking up the materials five working days prior to picking the materials up.

Provide all other needed materials in conformance with standard spec 651.2, 652.2, 653.2, 654.2, 655.2, 656.2, 657.2, 658.2 and 659.2.

Coordinate directly with the department's traffic signal cabinet vender (TAPCO at (262) 814-7327 or rickk@tapconet.com / TCC at (651) 439-1737 or mallwood@trafficcontrolcorp) to schedule the cabinet acceptance testing.

Coordinate with the department's Electrical Field unit at (414) 266-1170 to participate in the acceptance testing. The department has final determination of the cabinet acceptance testing date and time.

C Construction

Perform work according to standard spec 651.3, 652.3, 653.3, 654.3, 655.3, 656.3, 657.3, 658.3 and 659.3 except as specified below.

Request a signal inspection of the completed signal installation to the engineer at least five working days prior to the time of the requested inspection. The department's Region Electrical personnel will perform the inspection.

Install the state-furnished traffic signal cabinet on the concrete control cabinet base the same day it is delivered to the site location.

D Measurement

The department will measure Install State-Furnished Traffic Signal Cabinet (location) as a single lump sum unit of work, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.43	Install State-Furnished Traffic Signal Cabinet, STH 59 and CTH X/Saylesville Rd	LS
SPV.0105.44	Install State-Furnished Traffic Signal Cabinet, USH 18 and STH 59	LS
SPV.0105.45	Install State-Furnished Traffic Signal Cabinet, USH 18 and CTH D	LS
SPV.0105.46	Install State-Furnished Traffic Signal Cabinet, USH 18 and Madison Street	LS

Payment is full compensation for installing and testing the traffic signal cabinet and cabinet equipment; for furnishing and installing all other items necessary (such as, wire nuts, splice kits and/or connectors, tape, insulating varnish, ground lug fasteners, etc.) to make the proposed system complete from the source of supply to the most remote unit; and for clean-up and waste disposal.

121. EVP Detector Head Installations, STH 59 and CTH X/Saylesville Rd, Item SPV.0105.47; USH 18 and STH 59, Item SPV.0105.48; USH 18 and CTH D, Item SPV.0105.49; USH 18 and Madison Street, Item SPV.0105.50.

A Description

This special provision describes the transporting and installing of department furnished Emergency Vehicle Preemption (EVP) Detector Heads, EVP Confirmation Lights and

EVP Detector Head Mounting Brackets at the intersections of STH 59 and CTH X, USH 18 and STH 59, USH 18 and CTH D and USH 18 and Madison Street.

B Materials

Use materials furnished by the department including: Emergency Vehicle Preemption (EVP) Detector Heads, EVP Confirmation Lights and EVP Detector Head Mounting Brackets.

Pick up the department furnished materials at the department's Electrical Shop located at 935 South 60th Street, West Allis. Notify the department's Electrical Field Unit at (414) 266-1170 and make arrangements for picking up the department furnished materials five working days prior to picking the materials up.

C Construction

Install the EVP detector heads, EVP Confirmation Lights and EVP detector head mounting brackets as shown on the plans. The department will determine the exact location to ensure that the installation does not create a sight obstruction. The contractor shall terminate the EVP cable ends and install the discriminators and card rack in the cabinet.

Notify the department's Electrical shop at (414) 266-1170 upon completion of the installation of the Emergency Vehicle Preemption (EVP) Detector Heads, EVP Confirmation Lights and EVP Detector Head Mounting Brackets.

D Measurement

The department will measure EVP Detector Head Installations (location) as a single lump sum unit of work, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.47	EVP Detector Head Installations, STH 59 and CTH X/Saylesville Rd	LS
SPV.0105.48	EVP Detector Head Installations, USH 18 and STH 59	LS
SPV.0105.49	EVP Detector Head Installations, USH 18 and CTH D	LS
SPV.0105.50	EVP Detector Head Installations, USH 18 and Madison Street	LS

Payment is full compensation for transporting and installing of department furnished Emergency Vehicle Preemption (EVP) Detector Heads, EVP Confirmation Lights and EVP Detector head Mounting Brackets.

122. Transporting Signal and Lighting Materials at STH 59 and CTH X/Saylesville Rd, Item SPV.0105.55; USH 18 and STH 59, SPV.0105.56; USH 18 and CTH D, Item SPV.0105.57; USH 18 and Madison Street, Item SPV.0105.58.

A Description

This special provision describes the transporting of department furnished materials for traffic signals and intersection lighting.

B Materials

Transport materials furnished by the department including: monotube arms and luminaire arms (to be installed on monotube assemblies).

Pick up the department furnished materials at the department's Electrical Shop located at 935 South 60th Street, West Allis. Notify the department's Electrical Field Unit at (414) 266-1170 and make arrangements for picking up the department furnished materials five working days prior to picking the materials up.

C (Vacant)

D Measurement

The department will measure Transporting Signal and Lighting Materials at (Intersection) as a single lump sum unit of work, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.55	Transporting Signal and Lighting Materials at STH 59 and CTH X/Saylesville Rd	LS
SPV.0105.56	Transporting Signal and Lighting Materials at USH 18 and STH 59	LS
SPV.0105.57	Transporting Signal and Lighting Materials at USH 18 and CTH D	LS
SPV.0105.58	Transporting Signal and Lighting Materials at USH 18 and Madison Street	LS

Payment is full compensation for transporting the monotube poles, monotube arms and luminaire arms (to be installed on monotubes). Installation of these materials is included under a separate pay item.

123. Temporary Vehicle Detection System for the Intersection of STH 59 and CTH X, Item SPV.0105.59; Waukesha Bypass and STH 59/Genesee Road, Item SPV.0105.60.

A Description

This work shall consist of furnishing, installing, maintaining and placing into operation a temporary non-intrusive vehicle detection system (NIVDS) at the intersection (Locations) as shown on the plans, and as directed by the engineer in the field.

B Materials

This specification sets forth the minimum requirements for a system that detects vehicles on a roadway and provides detection outputs to a traffic signal controller. The materials shall also include all brackets, mounting hardware, cable, terminations, interface panels, and all other incidentals for the installation of the non-intrusive vehicle detection equipment. This equipment shall meet the NEMA environmental, power and surge ratings as set forth in NEMA TS2 specifications.

All detection equipment, components, and terminations supplied under this item shall be fully compatible with the temporary traffic signal controller supplied for the project. The system architecture shall fully support Ethernet networking of system components. All required interface equipment needed for transmitting and receiving data shall be provided with the NIVDS.

The NIVDS shall provide flexible detection zone placement anywhere and at any orientation. Preferred detector configurations shall be detection zones placed across lanes of traffic for optimal count accuracy, detection zones placed parallel to lanes of traffic for optimal presence detection accuracy of moving or stopped vehicles. Detection zones shall be able to be overlapped for optimal road coverage.

C Construction

The temporary NIVDS shall be installed by supplier factory-certified installers and as recommended by the supplier and documented in installation materials provided by the supplier.

In the event, at installation or turn on date, a noticeable obstruction is present in line with the detection zone(s), the contractor shall be obligated to advise the engineer before setting the zone.

The non-intrusive vehicle detection system, as shown in the traffic signal construction plans, shall be complete, in place, tested, and in full operation during each stage of construction.

Maintain all temporary vehicle detection zones as the plans show or as the engineer directs. The temporary vehicle detection zones shall be set near the vicinity and with approximate distance from the stop bar as shown on the plans. Check temporary vehicle detection zones every other week and at the opening of each stage of temporary traffic signal operation to

ensure that they are working properly and aimed properly. Periodic adjustment of the detection zones and/or moving of the temporary vehicle detection sensors may be required due to changes in traffic control, staging, or other construction operations.

Ensure the non-intrusive vehicle detection system stays in clean working order. Periodic cleaning of the equipment may be required due to dirt and dust build-up.

D Measurement

The department will measure Temporary Vehicle Detection System for Intersection of (location) as a single lump sum unit of work, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.59	Temporary Vehicle Detection System for the Intersection of STH 59 and CTH X	LS
SPV.0105.60	Temporary Vehicle Detection System for the Intersection of Waukesha Bypass and STH 59 /Genesee Road	LS

Payment is full compensation for furnishing and installing the temporary non-intrusive vehicle detection system, including cabling, mounting brackets, mounting hardware, terminations, interface panels, testing and set up; for periodic checking and resetting of detection zones; for periodic cleaning for dirt and dust build-up; and for removing all equipment at the completion of the project.

124. Temporary Infrared EVP System for the Intersection of STH 59 and CTH X, Item SPV.0105.61; Waukesha Bypass and STH 59/Genesee Road, Item SPV.0105.62.

A Description

This special provision describes furnishing, installing, and maintaining temporary infrared EVP systems at the temporary signalized intersection at (Locations), as shown in the plans.

B Materials

Furnish an infrared emergency vehicle preemption system compatible with the city of Waukesha system and users. Contact the city of Waukesha Engineering Department, Alex Damien, (262) 524-3907, adamien@ci.waukesha.wi.us for information regarding the equipment needs and operational requirements of the emergency vehicle preemption system.

C Construction

The temporary infrared EVP system, as shown in the temporary traffic signal plans or as directed by the engineer, shall be complete in place, tested, and in full operation during each stage of construction.

Install the temporary infrared EVP system as shown in the plans and according to the manufacturer's recommendations. Detectors may be mounted on the temporary traffic signal span wire or wood poles. It shall be the contractor's responsibility to relocate the temporary infrared EVP detectors to a suitable location if there is impedance on the sensor operation. Arrange for testing of equipment prior to acceptance of the installation for each construction stage.

All cables associated with the temporary infrared EVP system shall be routed to the cabinet. Each lead shall be appropriately marked as to which EVP channel it is associated.

Periodic adjustment and/or moving of the temporary infrared EVP detectors may be required due to changes in traffic control, staging, or other construction operations.

Ensure that the temporary infrared EVP system stays in clean working order. Periodic cleaning of the equipment may be required due to dirt and dust build-up.

The temporary EVP system may not be used for the permanent installation.

D Measurement

The department will measure Temporary Infrared EVP System for the Intersection of (location), as a single lump sum unit of work per intersection, 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.0105.61	Temporary Infrared EVP System for the Intersection of STH 59 and CTH X	LS
SPV.0105.62	Temporary Infrared EVP System for the Intersection of Waukesha Bypass and STH 59/Genesee Road	LS

Payment is full compensation for furnishing and installing all required equipment, materials, and supplies; for maintaining and changing the EVP detectors to match the plans, traffic control, and construction staging; for relocating the temporary EVP detectors due to construction activities, if required; for testing the EVP system for each stage and sub-stage of construction; for periodically cleaning all temporary EVP detectors; and for cleaning up and properly disposing of waste.

125. Watering Rootstock, Item SPV.0120.01.

A Description

This special provision describes furnishing, hauling and applying water areas planted with Rootstock 2 1/2-Inch, as directed by the engineer, and as hereinafter provided.

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

C Construction
If rainfall is not sufficient, keep all pond plant plugs thoroughly moist by watering or sprinkling. Maintain soil moisture in the top 4 inches of pond plant plug areas, for 90 days after pond plant plug 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 90-day period unless the engineer determines the soil moisture is adequate.

D Measurement
The department will measure Watering Rootstock 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.0120.01	Watering Rootstock	MGAL

Payment is full compensation for furnishing, hauling, and applying the water.

126. Water for Seeded Areas, Item SPV.0120.02.

A Description
This special provision describes furnishing, hauling and applying water to seeded areas as the engineer directs and as follows.

B Materials
Furnish water that is clean, 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. The equivalent of one inch of rainfall and/or applied water per week shall be considered the minimum amount of water. Water for 30 days after seed placement or as the engineer directs. Apply water in a gentle and even 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. Continue to water after seed germination to allow grass to become established.

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.0120.02	Water For Seeded Areas	MGAL

Payment is full compensation for furnishing, hauling, and applying the water.
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127. Wall Modular Block Mechanically Stabilized Earth C-67-88, Item SPV.0165.01; R-67-145, Item SPV.0165.03.

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 Mechanically Stabilized Earth (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.

B Materials

B.1 Proprietary Wall Systems

The supplied wall system must be from the department's approved list of Modular Block Gravity Wall systems. Proprietary wall systems must conform to the requirements of this specification and be pre-approved for use by the department's Bureau of Structures. The department maintains a list of pre-approved proprietary wall systems. 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 facing units shall be furnished to the engineer at least 14 days prior to the project delivery.

To be eligible for use on this project, a system must have been pre-approved by the Bureau of Structures and added to that list prior to the bid closing date. To receive pre-approval, the retaining wall system must comply with all pertinent requirements of this provision and 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 Bureau of Structures, Structures Maintenance Section in 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 submit a design and supporting documentation as required by this special provision, for review and acceptance by the department, to show the proposed wall design is in compliance with the design specifications. The submittal shall include the following items for review: detailed plans and shop drawings, complete design calculations, explanatory notes, supporting materials, and specifications. The detailed plans and shop drawings shall include all details, dimensions, quantities and cross-sections necessary to construct the walls. Submit electronically to the engineer and Bureau of Structures for review and acceptance. Submit no later than 60 days from the date of notification to proceed with the project and a minimum of 30 days prior to the date proposed to begin wall construction.

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 WisDOT 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 wall shall be in compliance with the current American Association of State Highway and Transportation Officials LRFD (AASHTO LRFD) Bridge Design Specifications with latest interim specifications for Mechanically Stabilized Earth Walls, WisDOT's current Standard Specifications for Highway and Structure Construction (standard spec), 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 Table 11.5.7-1 in AASHTO 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.

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 Ratio (CDR) for sliding, eccentricity, and bearing checks is provided by the department and are provided on the wall plans.

The design of the 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 wall facing-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. Sample analyses and hand calculations shall be submitted to verify the output of any software used. The design calculations and notes shall clearly indicate the Capacity to Demand Ratios (CDR) for all internal and external stabilities as defined in AASHTO LRFD.

Wall facing units shall be designed according to AASHTO LRFD 11.10.2.3.

The minimum length of soil reinforcement measured from the back face of the wall shall be equal to 0.7 of the wall height, or as shown on the plan. In no case shall this length be less than 6.0 feet. The soil reinforcement length shall be the same from the bottom to the top of the wall. All soil reinforcement layers shall be connected to facings. 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 two times the block depth (front face to back face) or 32 inches, whichever is less. The first (bottom) layer of reinforcement shall be placed no further than 12 inches above the top of the leveling pad or the height of the block, but at least one block height above the leveling pad. The last (top) layer of soil reinforcement shall be no further than 21 inches below the top of the uppermost block.

All soil reinforcement required for the reinforced soil zone shall be connected to the wall facing.

Soil reinforcement shall be fabricated or designed to avoid piling, drainage structures or other obstacles in the fill without field modifications. Unless approved by the Bureau of Structures cutting or altering of the basic structural section of either the strip or grid at the site is prohibited, a minimum clearance of 3 inches shall be maintained between any obstruction and reinforcement, and splicing reinforcement is not allowed.

The minimum embedment of the wall shall be 1 foot 6 inches below finished grade, or as given on the plans. All walls shall be provided with a concrete leveling pad. Minimum wall embedment does not include the leveling pad depth. Step the leveling pad to follow

the general slope of the ground line. Frost depth shall not be considered in designing the wall for depth of leveling pad.

Wall facing units shall be installed on a concrete leveling pad. The bottom row of blocks shall be horizontal and 100% of the block surface shall bear on the leveling pad.

Concrete leveling pads shall be as wide as the proposed blocks plus six inches, with six inches of the leveling pad extending beyond the front face of the blocks. The minimum thickness of the leveling pad shall be 6-inches.

B.3 Wall System Components

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

B.3.1 Wall Facing

Wall facing units shall consist of precast modular concrete blocks. Furnish concrete produced by a dry-cast or wet-cast process. Concrete for all blocks shall not contain less than 565 pounds of cementitious materials per cubic yard. The contractor may use cement conforming to standard spec 501.2.1 or may substitute for portland cement at the time of batching conforming to standard spec 501.2.6 for fly, 501.2.7 for slag, or 501.2.8 for other pozzolans. In either case the maximum total supplementary cementitious content is limited to 30% of the total cementitious content by weight.

Dry-cast concrete blocks shall be manufactured according to ASTM C1372 and this specification.

All units shall incorporate a mechanism or devices that develop a mechanical connection between vertical block layers. Units that are broken, have cracks wider than 0.02 inches and longer than 25% of the nominal height of the unit, chips larger than 1 inch, have excessive efflorescence, or are otherwise deemed unacceptable by the engineer, shall not be used within the wall. A single block type and style shall be used throughout each wall. The color and surface texture of the block shall be as given on the plan.

The top course of facing units shall be as noted on the plans, either:

- Solid precast concrete unit designed to be compatible with the remainder of the wall. The finishing course shall be bonded to the underlying facing units with a durable, high strength, flexible adhesive compound compatible with the block material.
- A formed cast-in-place concrete cap. A cap of this type shall have texture, color, and appearance, as noted on the plans. The vertical dimension of the cap shall not be less than 3 1/2 inches. Expansion joints shall be placed in the cap to correspond with each 24 inch change in vertical wall height and at maximum spacing of 10 feet. Use Grade A, A-FA, A-S, A-T, A-IS, A-IP or A-IT concrete conforming to 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.

Block dimensions may vary no more than ±1/8 inch from the standard values published by the manufacturer. Blocks must have a minimum depth (front face to back face) of 8 inches. The minimum front face thickness of blocks shall be 4 inches measured perpendicular from the front face to inside voids greater than 4 square inches. The minimum allowed thickness of any other portions of the block is 1 3/4 inches. The front face of the blocks shall conform to plan requirements for color, texture, or patterns.

If pins are used to align modular block facing units, they shall consist of a non-degrading polymer, or hot dipping galvanized steel and be made for the express use with the modular block units supplied, to develop mechanical interlock between facing unit block layers. Connecting pins shall be capable of holding the wall in the proper position during backfilling. Furnish documentation that establishes and substantiates the design life of such devices.

For concrete leveling pad, use Grade A, A-FA, A-S, A-T, A-IS, A-IP, or A-IT 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 III Concrete.

B.3.2 Material Testing

Provide independent quality verification testing of project materials according to the following requirements:

Test	Method	Requirement	
		Dry-cast	Wet-cast
Compressive Strength (psi)	ASTM C140	5000 min.	4000 min.
Air Content (%)	AASHTO T152	N/A	6.0 +/-1.5
Water Absorption (%)	ASTM C140	6 max.[3]	N/A
Freeze-Thaw Loss (%) 40 cycles, 5 of 5 samples 50 cycles, 4 of 5 samples	ASTM C1262[1]	1.0 max.[2][3] 1.5 max.[2][3]	N/A

[1] Test shall be run using a 3% saline solution and blocks greater than 45 days old.

[2] Test results that meet either of the listed requirements for Freeze-Thaw Loss are acceptable.

[3] The independent testing laboratory shall control and conduct all sampling and testing. Prior to sampling, the manufacturer's representative shall identify materials by lot. Five blocks per lot shall be randomly selected for testing. Solid blocks used as a finishing or top course shall not be selected. The selected blocks shall remain under the control of the person who conducted the sampling until shipped or delivered to the testing laboratory. All pallets of blocks within a lot shall be strapped or wrapped to secure the contents and tagged or marked for identification. The engineer will reject any pallet of blocks delivered to the project without intact security measures. At no expense to the department, the contractor shall remove all rejected blocks from the project. If a random sample of five blocks of any lot tested by the

department fails to meet any of the above testing requirements, the entire lot will be considered non-conforming.

The contractor and fabricator shall coordinate with the independent testing agency to ensure that strength and air content samples can be taken appropriately during manufacturing. At the time of delivery of materials, furnish the engineer a certified report of test from an AASHTO-registered or ASTM-accredited independent testing laboratory for each lot.

The certified test report shall include the following:

- Project ID
- Production process used (dry-cast or wet-cast)
- Name and location of testing facility
- Name of sampling technician
- Lot number and lot size

Testing of project materials shall be completed not more than 18 months prior to delivery. Independent testing frequency shall not exceed 5000 blocks for dry-cast blocks and the lesser of 150 CY or 1 day's production for wet-cast blocks. The certified test results will represent all blocks within the lot. Each pallet of blocks delivered shall bear lot identification information. Block lots that do not meet the requirements of this specification or blocks without supporting certified test reports will be rejected and shall be removed from the project at no expense to the department.

Nonconforming materials will be subject to evaluation according to standard spec 106.5.

B.3.3 Backfill

Furnish and place backfill for the wall as shown on the plans and as hereinafter provided.

Wall Backfill, Type A, shall comply with the requirements for Coarse Aggregate Size No. 1 as given in standard spec 501.2.5.4. All backfill placed within a zone from the top of the leveling pad to the top of the final layer of wall facing units and within 1 foot behind the back face of the wall shall be Wall Backfill, Type A. This includes all material used to fill openings in the wall facing units.

Wall Backfill, Type B, shall be placed in a zone extending horizontally from 1 foot behind the back face of the wall to 1 foot beyond the end of the reinforcement and extending vertically from the top of the leveling pad to a minimum of 3 inches above the final reinforcement layer.

Use natural sand or a mixture of sand with gravel, crushed gravel or crushed stone. Do not use 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 Type A and Type B shall meet the following requirements.

Test	Method	Value
pH	AASHTO T-289	4.5-9.0
Sulfate content [1]	AASHTO T-290	200 ppm max.
Chloride content [1]	AASHTO T-291	100 ppm max.
Electrical Resistivity	AASHTO T-288	3000 ohm-cm min.
Organic Content [1]	AASHTO T-267	1.0% max.
Angle of Internal Friction	AASHTO T-236[2]	30 degrees min. (At 95.0% of maximum density and optimum moisture, per AASHTO T99, or as modified by C.2)

[1] Requirement does not apply to walls with non-metallic reinforcement.

[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 D5821, on the R-4 material. f 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 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. For the additional required testing for every 2000 cubic yards of backfill placement, if the characteristic of the backfill and/or the source has not changed then Angle of Internal Friction tests are not included in the additional required testing. All

certified reports of test results shall be less than 6 months old and performed by a certified independent laboratory.

B.3.4 Soil Reinforcement

B.3.4.1 Geogrids

Geogrid supplied as reinforcing members shall be manufactured from long chain polymers limited to polypropylene, high-density polyethylene, polyaramid, and polyester. Geogrids shall form a uniform rectangular grid of bonded, formed, or fused polymer tensile strands crossing with a nominal right angle orientation. The minimum grid aperture shall be 0.5 inch. The geogrid shall maintain dimension stability during handling, placing, and installation. The geogrid shall be insect, rodent, mildew, and rot resistant. The geogrid shall be furnished in a protective wrapping that shall prevent exposure to ultraviolet radiation and damage from shipping or handling. The geogrid shall be kept dry until installed. Each roll shall be clearly marked to identify the material contained.

The wall supplier shall provide the nominal long-term design strength (T_{al}) and nominal long-term connection strength, Talc as discussed below.

Nominal Long-Term Design Strength (T_{al})

The wall supplier shall supply the nominal long-term design strength (T_{al}) used in the design for each reinforcement layer and shall be determined by dividing the Ultimate Tensile Strength (T_{ult}) by the factors RF_{ID}, RF_{CR}, RF_D.

Hence,

$$T_{al} = \frac{T_{ult}}{RF_{ID} \, x RF_{CR} \, x RF_{D}}$$

where:

T_{ult} = Ultimate tensile strength of the reinforcement determined from wide width tensile tests (ASTM D6637) for geogrids based on the minimum average roll value (MARV) for the product.

RF_{ID} = Strength reduction factor to account for installation damage to the reinforcement. In no case shall RF_{ID} be less than 1.1.

RF_{CR} = Strength reduction factor to prevent long-term creep rupture of the reinforcement. In no case shall RF_{CR} be less than 1.2.

RF_D = Strength reduction factor to prevent rupture of the reinforcement due to chemical and biological degradation. In no case shall RF_D be less than 1.1.

Values for RF_{ID}, RF_{CR}, and RF_D shall be determined from product specific test results. Guidelines for determining RF_{ID}, RF_{CR}, and RF_D from product specific data are provided in FHWA Publication No. FHWA-NHI-10-024 and FHWA–NHI-10-025 “Design and Construction of Mechanically Stabilized Earth Walls and Reinforced Soil Slopes”.

Nominal Long-term Connection Strength T_{ac}

The nominal long term connection strength, T_{ac}, shall be based on laboratory geogrid connection tests between wall facing and geogrids. T_{ac} shall be as given below

$$T_{ac} = \frac{T_{ult} * CR_{cr}}{RF_D}$$

where:

T_{ac} = Nominal long-term reinforcement facing connection strength per unit reinforcement width at a specified confining pressure.

T_{ult} = Ultimate tensile strength of the reinforcement for geogrids defined as the minimum average roll value (MARV) for the product.

CR_{cr} = Long term connection strength reduction factor to account for reduced ultimate strength resulting from connection.

RF_D = Strength reduction factor to prevent rupture of the reinforcement due to chemical and biological degradation.

T_{ac} shall be developed from the tests conducted by an independent laboratory on the same facing blocks and geogrids as proposed for the wall and shall cover a range of overburden pressures comparable to those anticipated in the proposed wall. The connection strength reduction factor CR_{cr} shall be determined according to long-term connection test as described in Appendix B of FHWA Publication No. FHWA-NHI 10-025 “Design and Construction of Mechanically Stabilized Earth Walls and Reinforced Soil Slopes”. CR_{cr} may also be obtained from the short term connection test meeting the requirements of NCMA test method SRWU-1 in Simac et al 1993 or ASTM D4884.

The contractor shall provide a manufacturer’s certificate that the Tult (MARV) of the supplied geogrid has been determined according to ASTM D4595 or ASTM D6637 as appropriate. Contractor shall also provide block to block and block to reinforcement connection test reports prepared and certified by an independent laboratory. Also provide calculations according to AASHTO LRFD, and using the results of laboratory tests, that the block-geogrid connections shall be capable of resisting 100% of the maximum tension load in the soil reinforcements at any level within the wall, for the design life of the wall system.

B.3.4.2 Galvanized Metal Reinforcement

In lieu of polymeric geogrid earth reinforcement, galvanized metal reinforcement may be used. Design and materials shall be according to AASHTO LRFD 11.10.6.4.2. The design life of steel soil reinforcements shall also comply with AASHTO LRFD. Steel soil reinforcement shall be prefabricated into single or multiple elements before galvanizing.

C Construction

C.1 Excavation and Backfill

Excavation and preparation of the foundation for the MSE wall and the leveling pad shall be 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.

Place backfill materials in the areas as indicated on the plans and as detailed in this specification. Backfill lifts shall be no more than 8-inches in depth, after compaction. Backfilling shall closely follow erection of each course of wall facing units.

Conduct backfilling operations in such a manner as to prevent damage or misalignment of the wall facing units, soil reinforcement, or other wall components. At no expense to the department, correct any such damage or misalignment as directed by the engineer. A field representative of the wall supplier shall be available during wall construction to provide technical assistance to the contractor and the engineer.

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. Place and compact material beyond the reinforced soil zone to allow for proper compaction of material within the reinforced zone. The MSE reinforcement shall lay horizontally on top of the most recently placed and compacted layer of MSE backfill.

Do not operate tracked or wheeled equipment on the backfill within 3 feet from the back face of modular blocks. The engineer may order the removal of any large or heavy equipment that may cause damage or misalignment of the wall facing units.

C.2 Compaction

Compact wall backfill Type A with at least three passes of lightweight manually operated compaction equipment acceptable to the engineer.

Compact all backfill Type B as specified in standard spec 207.3.6. Compact the backfill Type B to 95.0% of maximum dry density as determined by AASHTO T-99 (modified to compute densities to the nearest 0.1 pcf).

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 modular blocks. Do not use sheepsfoot or padfoot rollers within the reinforced soil zone.

A minimum of 6 inches of backfill shall be placed over the MSE reinforcement prior to working above the reinforcement.

C.3 Wall Components

C.3.1 General

Erect wall facing units and other associated elements according to the wall manufacturer's construction guide and to the lines, elevations, batter, and tolerances as shown on the plans. Center the initial layer of facing units on the leveling pad; then level them and properly align them. Fill formed voids or openings in the facing units with wall backfill, Type A. Remove all debris on the top of each layer of facing units, before placing the next layer of facing units.

Install all pins, rods, clips, or other devices used to develop mechanical interlock between facing unit layers according to the manufacturer's directions.

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.3.2 Soil Reinforcement

C.3.2.1 Geogrid Layers

Place soil reinforcement at the positions and to the lengths as indicated on the accepted shop drawings. Take care that backfill placement over the positioned soil reinforcement elements does not cause damage or misalignment of these elements. Correct any such damage or misalignment as directed by the engineer. Do not operate wheeled or tracked equipment directly on the soil reinforcement. A minimum cover of 6 inches is required before such operation is allowed.

Place and anchor geogrid material between wall unit layers in the same manner as used to determine the Geogrid Block-to-Connection Strength. Place the grid material so that the machine direction of the grid is perpendicular to the wall face. Each grid layer shall be continuous throughout the lengths indicated on the plans. Join grid strips with straps, rings, hooks or other mechanical devices to prevent movement during backfilling operations. Prior to placing backfill on the grid, pull the grid taunt and hold in position with pins, stakes or other methods approved by the engineer.

C.3.2.2 Steel Layers

Place the steel reinforcement full width in one piece as shown on the plans. No splicing will be allowed. Maintain elements in position during backfilling.

C.4 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.
8. A proposed sequencing plan of wall construction operations and random test locations.

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 Grading Technician I (GRADINGTEC-I); or Assistant Certified Technician, Grading (ACT-GRADING); or Aggregate Technician I (AGGTEC-I); or Assistant Certified Technician, Aggregate (ACT-AGG) present at the each grading site during all wall backfill placement, compaction, and nuclear testing activities. Have a HTCP Nuclear Density Technician I (NUCDENSITYTEC-I) or Assistant Certified Technician, Nuclear Density Gauge Operator (ACT-NUC) 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/. 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 D6938 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 Documentation

(1) Document all observations, inspection records, and process adjustments daily. Submit test results to the department's project materials coordinator on the same day they become available.

(2) Use forms provided in CMM Chapter 8. Note other information in a permanent field record and as a part of process control documentation enumerated in the contractor's quality control plan. Enter QC data and backfill material certified report results into the applicable materials reporting system (MRS) software within 5 business days after results are available.

(3) Submit final testing records and other documentation to the engineer electronically within 10 business days after all contract-required information becomes available. The engineer may allow submission of scanned copies of hand-written documentation.

C.4.5 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 in each lift. 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 2,250 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.4.6 Department Testing

C.4.6.1 General

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

C.4.6.2 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.4.6.3 Independent Assurance (IA)

(1) Independent 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.4.6.4.

C.4.6.4 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 E178 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 Modular Block Mechanically Stabilized Earth (structure) by the square foot, acceptably completed, measured at the front face of wall as defined by the pay limits the contract plans show. 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 measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.01	Wall Modular Block Mechanically Stabilized Earth C-67-88	SF
SPV.0165.03	Wall Modular Block Mechanically Stabilized Earth R-67-145	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 wall system including cap, copings and leveling pad; constructing the retaining system including drainage system; providing backfill, backfilling, compacting, developing/completing/documenting the quality management program, and performing compaction testing.

Payment limit for furnishing all walls is the line of minimum embedment per section B.2. No payment will be made for additional embedment detailed for construction purposes. Parapets, railings, 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 for those items.

SPV.0165.03 (20170629)

128. Precast Panels For Post and Panel Walls, Item SPV.0165.02.

A Description

This special provision describes manufacturing, transporting and erecting the precast concrete panels according to the plans, the standard specifications, and as hereinafter provided.

B Materials

B.1 General

Provide precast panels that conform to the details shown on the plans.

Furnish steel reinforcement conforming to standard spec 505.

Furnish Grade A, A-FA, A-S, A-T, A-IS, or A-IP air-entrained concrete conforming to standard spec 501.

C Construction

C.1 General

Prior to fabricating panels, verify that no field modifications were made to the top of footing elevations. Field modifications will require adjustments to the panel heights listed on the plans.

C.2 Placing Concrete
Handle and place the concrete as specified in standard spec 502.3.5.

C.3 Curing
Cure the concrete panels by any of the methods specified in standard spec 502.3.8.

C.4 Transportation, Storage, and Erection
Handle, store, and erect precast panels in a way that prevents cracking or other damage to the panels. Discard and replace units damaged by improper handling or storing.

D Measurement
The department will measure Precast Panels for Post and Panel Walls 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.0165.02	Precast Panels for Post and Panel Walls	SF

Payment is full compensation for furnishing all materials, including leveling blocks; manufacturing; transporting; placing precast panels.

129. Wall Modular Block Gravity R-67-145, Item SPV.0165.04.

A Description
This special provision describes designing, furnishing materials and erecting a permanent modular block retaining wall 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.

B Materials
B.1 Proprietary Wall Systems
The supplied wall system must be from the department's approved list of Modular Block Gravity Wall systems. Proprietary wall systems must conform to the requirements of this specification and be pre-approved for use by the department's Bureau of Structures.-The department maintains a list of pre-approved proprietary wall systems. 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 facing units shall be furnished to the engineer at least 14 days prior to the project delivery.

To be eligible for use on this project, a system must have been pre-approved by the Bureau of Structures and added to that list prior to the bid closing date. To receive pre-approval, the retaining wall system must comply with all pertinent requirements of this provision and 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 Bureau of Structures, Structures Maintenance Section in the Hill Farms State Transportation Building in Madison or by calling (608) 266-8494.

It is the responsibility of the contractor to submit a design and supporting documentation as required by this special provision, for review and acceptance by the department, to show the proposed wall design is in compliance with the design specifications. The submittal shall include the following items for review: detailed plans and shop drawings, complete design calculations, explanatory notes, supporting materials, and specifications. The detailed plans and shop drawings shall include all details, dimensions, quantities and cross-sections necessary to construct the walls. Submit electronically to the engineer and Bureau of Structures for review and acceptance. Submit no later than 60 days from the date of notification to proceed with the project and a minimum of 30 days prior to the date proposed to begin wall construction.

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 WisDOT 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 wall shall be in compliance with the current American Association of State Highway and Transportation Officials LRFD (AASHTO LRFD) Bridge Design Specifications with latest interim specifications for Mechanically Stabilized Earth Walls, WisDOT's current Standard Specifications for Highway and Structure Construction (standard spec), 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 Table 11.5.7-1 in AASHTO 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.

Walls shall be designed for a minimum live load surcharge of 100 psf according to Chapter 14 of the WisDOT LRFD Bridge Manual or as shown 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 Ratio (CDR) for sliding, eccentricity, and bearing checks is provided by the department and are provided on the wall plans.

The design of the wall by the contractor shall consider the internal and compound stability of the wall mass according to AASHTO LRFD 11.10.6. Internal stability shall also be considered at each block level. Calculations for factored stresses and resistances shall be based upon assumed conditions at the end of the design life. The width of the modular block from front face to back face of the wall shall be included in the design computations and shown on the wall shop drawings. Compound stability shall be computed for the applicable strength limits. Sample analyses and hand calculations shall be submitted to verify the output of any software program used. The design calculations and notes shall clearly indicate the Capacity to Demand Ratios (CDR) for all internal and external stabilities as defined in AASHTO LRFD.

Wall facing units shall be designed according to AASHTO LRFD 11.10.2.3.

The minimum embedment of the wall shall be 1 foot 6 inches below finished grade, or as given on the plans. All walls shall be provided with a concrete leveling pad. Minimum wall embedment does not include the leveling pad depth. Step the leveling pad to follow the general slope of the ground line. Frost depth shall not be considered in designing the wall for depth of leveling pad.

Wall facing units shall be installed on concrete leveling pads. The bottom row of blocks shall be horizontal and 100% of the block surface shall bear on the leveling pad.

Concrete leveling pads shall be as wide as the proposed blocks plus 6 inches, with 6 inches of the leveling pad extending beyond the front face of the blocks. The minimum thickness of the leveling pad shall be 6 inches.

B.3 Wall System Components

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

B.3.1 Wall Facing

Wall facing units shall consist of precast modular concrete blocks. Furnish concrete produced by a dry-cast or wet-cast process. Concrete for all blocks shall not contain less than 565 pounds of cementitious materials per cubic yard. The contractor may use cement conforming to standard spec 501.2.1 or may substitute for portland cement at the time of batching conforming to standard spec 501.2.6 for fly, 501.2.7 for slag, or 501.2.8 for other pozzolans. In either case the maximum total supplementary cementitious content is limited to 30% of the total cementitious content by weight.

Dry-cast concrete blocks shall be manufactured according to ASTM C1372 and this specification.

All units shall incorporate a mechanism or devices that develop a mechanical connection between vertical block layers. Units that are broken, have cracks wider than 0.02” and longer than 25% of the nominal height of the unit, chips larger than 1”, have excessive efflorescence, or are otherwise deemed unacceptable by the engineer, shall not be used within the wall. A single block type and style shall be used throughout each wall. The color and surface texture of the block shall be as given on the plan.

The top course of facing units shall be as noted on the plans, either;

- Solid precast concrete unit designed to be compatible with the remainder of the wall. The finishing course shall be bonded to the underlying facing units with a durable, high strength, flexible adhesive compound compatible with the block material.
- A formed cast-in-place concrete cap. A cap of this type shall have texture, color, and appearance, as noted on the plans. The vertical dimension of the cap shall not be less than 3 1/2 inches. Expansion joints shall be placed in the cap at a maximum spacing of 20 feet unless noted otherwise on the plan. Use Grade A, A-FA, A-S, A-T, A-IS, A-IP or A-IT concrete conforming to 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.

Block dimensions may vary no more than ±1/8 inch from the standard values published by the manufacturer. Blocks must have a minimum depth (front face to back face) of 8 inches. The minimum front face thickness of blocks shall be 4 inches measured perpendicular from the front face to inside voids greater than 4 square inches. The minimum allowed thickness of any other portions of the block is 1¾ inches. The front face of the blocks shall conform to plan requirements for color, texture, or patterns.

If pins are used to align modular block facing units, they shall consist of a non-degrading polymer, or hot dipping galvanized steel and be made for the express use with the modular block units supplied, to develop mechanical interlock between facing unit block layers. Connecting pins shall be capable of holding the wall in the proper position during backfilling. Furnish documentation that establishes and substantiates the design life of such devices.

For concrete leveling pad, use Grade A, A-FA, A-S, A-T, A-IS, A-IP, or A-IT 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 III Concrete.

B.3.2 Material Testing

Provide independent quality verification testing of project materials according to the following requirements:

Test	Method	Requirement	
		Dry-cast	Wet-cast
Compressive Strength (psi)	ASTM C140	5000 min.	4000 min.
Air Content (%)	AASHTO T152	N/A	6.0 +/-1.5
Water Absorption (%)	ASTM C140	6 max.[3]	N/A
Freeze-Thaw Loss (%) 40 cycles, 5 of 5 samples 50 cycles, 4 of 5 samples	ASTM C1262[1]	1.0 max.[2][3] 1.5 max.[2][3]	N/A

[1] Test shall be run using a 3% saline solution and blocks greater than 45 days old.

[2] Test results that meet either of the listed requirements for Freeze-Thaw Loss are acceptable.

[3] The independent testing laboratory shall control and conduct all sampling and testing. Prior to sampling, the manufacturer's representative shall identify materials by lot. Five blocks per lot shall be randomly selected for testing. Solid blocks used as a finishing or top course shall not be selected. The selected blocks shall remain under the control of the person who conducted the sampling until shipped or delivered to the testing laboratory. All pallets of blocks within a lot shall be strapped or wrapped to secure the contents and tagged or marked for identification. The engineer will reject any pallet of blocks delivered to the project without intact security measures. At no expense to the department, the contractor shall remove all rejected blocks from the project. If a random sample of five blocks of any lot tested by the department fails to meet any of the above testing requirements, the entire lot will be considered non-conforming.

The contractor and fabricator shall coordinate with the independent testing agency to ensure that strength and air content samples can be taken appropriately during manufacturing. At the time of delivery of materials, furnish the engineer a certified report of test from an AASHTO-registered or ASTM-accredited independent testing laboratory for each lot.

The certified test report shall include the following:

- Project ID
- Production process used (dry-cast or wet-cast)
- Name and location of testing facility
- Name of sampling technician
- Lot number and lot size

Testing of project materials shall be completed not more than 18 months prior to delivery. Independent testing frequency shall not exceed 5000 blocks for dry-cast blocks and the lesser of 150 CY or 1 day's production for wet-cast blocks. The certified test results will represent all blocks within the lot. Each pallet of blocks delivered shall bear lot identification information. Block lots that do not meet the requirements of this specification or blocks without supporting certified test reports will be rejected and shall be removed from the project at no expense to the department.

Nonconforming materials will be subject to evaluation according to standard spec 106.5.

B.3.3 Backfill
Furnish and place backfill for the wall as shown on the plans and as hereinafter provided.

Wall Backfill, Type A, shall comply with the requirements for Coarse Aggregate Size No. 1 as given in standard spec 501.2.5.4. All backfill placed within a zone from the top of the leveling pad to the top of the final layer of wall facing units and within 1 foot behind the back face of the wall shall be Wall Backfill, Type A. This includes all material used to fill openings in the wall facing units.

A layer of Geotextile Type "DF" (Schedule B) shall be placed vertically between the backfill and the Type A backfill. The geotextile shall extend from the top of the leveling pad to 6 inches below the surface of the retained soil. The geotextile shall then wrap across the top of the Type A backfill to the back of block wall facing.

Backfill placed between retained soil and Type A backfill shall comply with the requirements for Granular Backfill Grade 1 as contained in standard spec 209.2.2. The contractor may substitute Type A Backfill for Granular Backfill Grade 1.

C Construction
C.1 Excavation and Backfill
Excavation and preparation of the foundation for the wall and the leveling pad shall be according to standard spec 206. 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.

Place backfill materials in the areas as indicated on the plans and as detailed in this specification. Backfill lifts shall be no more than 8-inches in depth, after compaction. Backfilling shall closely follow erection of each course of wall facing units.

Conduct backfilling operations in such a manner as to prevent damage or misalignment of the wall facing units or other wall components. At no expense to the department, correct any such damage or misalignment as directed by the engineer. A field representative of the wall supplier shall be available during wall construction to provide technical assistance to the contractor and the engineer.

Do not operate tracked or wheeled equipment on the backfill within 3 feet from the back face of modular blocks. The engineer may order the removal of any large or heavy equipment that may cause damage or misalignment of the wall facing units.

C.2 Compaction
Compact wall backfill Type A with at least three passes of lightweight manually operated compaction equipment acceptable to the engineer.

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 modular blocks.

C.3 Wall Components
Erect wall facing units and other associated elements according to the wall manufacturer's construction guide and to the lines, elevations, batter, and tolerances as shown on the plans. Center the initial layer of facing units on the leveling pad; then level them and properly align them. Fill formed voids or openings in the facing units with wall backfill, Type A. Remove all debris on the top of each layer of facing units, before placing the next layer of facing units.

Install all pins, rods, clips, or other devices used to develop mechanical interlock between facing unit layers according to the manufacturer's directions.

C.4 Geotechnical Information
Geotechnical data to be used in the design of the wall is given on the wall plan. After completing wall excavation, notify the department and allow the Regional Soils Engineer two working days to review the foundation.

D Measurement
The department will measure Wall Modular Block Gravity R-67-145 by the square foot acceptably completed, measured at the front face of wall as defined by the pay limits the contract plans show. 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 measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.04	Wall Modular Block Gravity R-67-145	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 wall system including cap, copings and leveling pad; constructing the retaining system including drainage system; providing backfill, backfilling, compacting, and performing compaction testing.

Payment limit for furnishing all walls is the line of minimum embedment per section B.2. No payment will be made for additional embedment detailed for construction purposes.

Parapets, railings, 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 for those items.
SPV.0165.04 (20170629)

130. Geotextile Fabric Type FF, Item SPV.0180.01.

A Description
This special provision describes the furnishing, installing and removing of geotextile fabric and fabric hold down systems for filtering storm water as shown in the plans.

B Materials
Use type FF geotextile fabrics conforming to standard spec 645.2.1 except use a woven polypropylene fabric. Furnish type FF geotextile fabrics selected from the department's erosion control product acceptability list (PAL). Obtain copies of the erosion control PAL and prequalification procedure from the bureau of highway construction.

C Construction
Meet the pertinent requirements as set forth in standard spec 645.3 and as follows:

Install according to the plan details for the intended use in such a manner to preclude ripping and tearing of the fabric, or otherwise rendering the fabric or assembly ineffective for its intended use.

D Measurement
The department will measure Geotextile Fabric, Type FF by the square yard of surface area of the fabric placed, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.01	Geotextile Fabric, Type FF	SY

Payment is full compensation for furnishing, transporting, installing and removing the fabric and fabric hold down systems.

131. Salvaged Sundrop Topsoil, Item SPV.0180.02.

A Description
This special provision describes removing topsoil in which native Sundrop seeds have fallen, temporary stockpiling the topsoil/seed mixture and replacing topsoil/seed mixture around specified locations adjacent to the Glacial Drumlin Trail to re-establish the native Sundrop plants after construction according to the plan details and as hereinafter provided.

B Materials
Conform to the requirements of spec 625.2.

C Construction
Conform to the requirements of spec 625.3.

D Measurement
The department will measure Salvaged Sundrop Topsoil by the square yard of surface area, 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.0180.02	Salvaged Sundrop Topsoil	SY

Payment is full compensation for stripping the topsoil/seed mixture, temporarily stockpiling and replacing.

132. Rootstock Protection, Item SPV.0180.03.

A Description
This special provision describes installing rootstock protection for wetland plantings as shown on the plans and as hereinafter provided.

B Materials
Furnish posts that consist of 1-inch by 2-inch by 5-foot wooden stakes. Furnish cross members that consist of biodegradable, natural organic fiber bailing twine.

C Construction
Install rootstock protection prior to the rootstock planting. Install posts a minimum of 2 feet into the ground or to a depth that secures the post and resists being pushed over. Install rootstock protection in such a manner as to provide a grid-like pattern 10 feet by 20 feet through the area of the rootstock plantings. Extend the perimeter of the Rootstock Protection to a minimum of 5 feet in all directions beyond the limits of the rootstock plantings.

Attach bailing twine, used as cross members, to all posts as shown in the plan. Attach bailing twine to the posts using knots or any other means approved by the engineer so that no more than 3 cross members may be affected if any one cross member breaks or becomes unattached. Use means approved by the engineer when bailing twine is attached to all intermediate posts. Maintain rootstock protection through the life of the contract, as needed, or within 24 hours of notification by the engineer.

D Measurement
The department will measure Rootstock Protection by the square yard of protection, 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.0180.03	Rootstock Protection	SY

Payment is full compensation for furnishing all materials, installing all posts, cross members, disposal of surplus materials; and for maintaining the rootstock protection through the life of the contract.
SER-632.1 (20161220)

133. Enhanced Turbidity Barriers, Item SPV.0180.04.

A Description
This special provision describes furnishing and installing enhanced turbidity barriers according to standard spec 628, the plans and as hereinafter provided.

B Materials
Provide materials conforming to standard spec 628.2.

C Construction
Delete standard spec 628.3.10(2) and replace with the following:

Place all barriers before beginning adjacent construction in a way that causes minimum disturbance of the streambed and banks. Extend the barrier into the stream banks far enough to preclude washing out or erosion around the ends. Drive posts securely into the streambed at 4 to 6 foot intervals along the line of the barrier installation. Fasten the barrier to the posts and securely anchor the barrier load lines at the barrier ends and at 4 to 6 foot intervals between the barrier ends, unless the engineer directs otherwise. Provide additional anchoring if necessary to maintain the barrier location during construction operations. Install a continuous line of rock bags to anchor the barrier to the streambed to isolate the work area. The engineer may require additional rock bags to ensure adequate performance. The contractor, as required by permit under standard spec 107.19, shall provide and anchor both danger buoys and navigational markers. One day prior to removing the enhanced turbidity barrier, remove the rog bags from the base of the barrier.

Delete standard spec 628.10(5).

D Measurement
The department will measure Enhanced Turbidity Barriers by the square yard of barrier, acceptably completed. The department will make no allowance for portions of the turbidity barrier considered as part of the anchorages, required overlaps or having a bottom flap greater than 48 inches.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.04	Enhanced Turbidity Barriers	SY

Payment is full compensation for furnishing all materials including rock bags, buoys, navigational markers, anchors and anchor ropes, assembling, installing, maintaining, and for removing the turbidity barrier.

134. Salvaged Wetland Topsoil, Item SPV.0180.05.

A Description

This special provision describes removing wetland topsoil/peat mixture from the designated temporary impacted wetland areas, temporary stockpiling the wetland topsoil/peat mixture and replacing the wetland topsoil/peat mixture within the same wetland locations after the completion of the temporary construction activities according to the plan details and as hereinafter provided.

B Materials

Conform to the requirements of spec 625.2.

C Construction

Conform to the requirements of spec 625.3.

D Measurement

The department will measure Salvaged Wetland Topsoil by the square yard of surface area, 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.0180.05	Salvaged Wetland Topsoil	SY

Payment is full compensation for stripping the wetland topsoil/peat mixture, temporarily stockpiling and replacing the wetland topsoil/peat mixture once the temporary construction activities are completed.

135. Pipe Insulation Polystyrene, 2-Inch, Item SPV.0180.81.

A Description

This special provision describes furnishing and installing water main and pipe insulation according to the plans and as hereinafter provided.

B Materials
Provide water main insulation as shown on the plans.

All insulation shall be closed cell rigid polystyrene insulation board 2-Inch.

C Construction
Prior to placement of the insulation board, bring the indicated placement surface to the required lines, grades, and dimensions as shown on the plans. Smooth and shape the surface to eliminate any rocks, clods, or other items that may cause damage to the insulation board during placement or covering.

Where the existing water mains are within 24-inches of the storm sewer, or where rip rap is placed over existing water main, a minimum of 2-inches of closed cell rigid polystyrene insulation board intended for underground installation shall be placed between the two pipes.

Contractor shall provide insulation at the size and location as noted on the Water Main Details and Storm Sewer Layout plans.

Place the water main insulation board on the prepared surface at the locations and to the limits as shown on the plans. No vehicles or construction equipment shall be permitted to operate directly on the board.

After placement, cover the insulation board to the indicated depth with the type of material required on the plans or in the special provisions. Placing, spreading, and compacting of this material shall comply with the applicable sections of the standard specifications or special provisions. Place, spread, and compact the required backfill material so that the insulation board is not displaced or damaged. The engineer may require changes in equipment and/or operations to prevent such damage or displacement.

D Measurement
The department will measure Pipe Insulation Polystyrene 2-Inch by the square yard of surface area, upon which the insulation board has been placed, 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.0180.81	Pipe Insulation Polystyrene 2-Inch	SY

Payment is full compensation for furnishing, transporting, and installing the pipe insulation.

136. Select Crushed Material For Wildlife Travel Corridor, Item SPV.0195.01.

A Description
Place select crushed material to fill voids and create a wildlife travel corridor, as shown in the plans and as hereinafter provided.

B Materials
Furnish select crushed material according to the pertinent requirements of standard spec 312. Material shall be clean and substantially free from material passing the No. 4 (4.75mm) sieve.

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

D Measurement
The department will measure Select Crushed Material for Wildlife Travel Corridor by the ton, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0195.01	Select Crushed Material for Wildlife Travel Corridor	TON

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

137. Coarse Aggregate For Spring, Item SPV.0195.02.

A Description
This special provision describes aggregate for the spring conveyance material located on the construction details, as directed by the engineer, and as hereinafter provided.

B Materials
Washed natural gravel, crushed gravel, or crushed rock, free from dirt, clay balls, roots, and organic material, and meeting the following gradation requirements (ASTM C-33, Size No. 3).

Sieve Size	Percent Passing Passing By Weight
2-1/2-Inch	100
2-Inch	90 - 100
1-1/2-Inch	35 - 70
1-Inch	0 – 15
1/2-Inch	0 – 5

C Construction
Conform to the requirements of standard spec 209.

D Measurement
The department will measure Coarse Aggregate for Spring by the ton, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0195.02	Coarse Aggregate for Spring	TON

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

138. Reconstructing Sanitary Manholes, Item SPV.0200.71.

Conform to standard spec 611, except revise standard spec 611.3.5 and standard spec 611.3.7 with the following:

A Description
This special provision amendment describes replacement or addition of the barrel, cone, chimney, frame, and cover. The barrel and cone sections shall be replaced in those locations indicated on the plans, and shall consist of a precast barrel and cone or slab section as site conditions dictate. The entire chimney shall be replaced with adjustment rings manufactured from Cretex Specialty Products, ARPRO Expanded Polypropylene (EPP) rings. Remove all existing rings and do not mix concrete and EPP rings.

B Materials
The rings shall be manufactured using a high compression molding process to produce a finished density of 120 g/l (7.5 pcf). Material shall be Pro-Ring as supplied by Cretex Specialty Products.

Any non-shrink mortar grout shall be Ipatop-Penngrout manufactured by IPA Systems, Inc. (www.ipasystems.com) or engineer approved equal. The material shall contain a balanced blend of washed and graded silica sand, finely ground Portland cement, and applicable special additive(s). Contractor must supply the engineer with verification of the product used.

Any adhesive or sealant used for watertight installation of the Pro-Ring manhole grade adjustment rings shall be M-1 Structural Adhesive/Sealant or equal meeting the following specifications:

- ASTM C-920, Type S, Grade NS, Class 25, Uses NT, T, M, G, A and O.
- Federal Specification TT-S-00230-C Type II, Class A.
- Corps of Engineers CRD-C-541, Type II, Class A.
- Canadian Standards Board CAN 19, 13-M82.
- AAMA 802.3-08 Type II, AAMA 803.3-08 Type I and AAMA 805.2-08 Group C.

No other material shall be used in the construction of the chimney section beyond those materials indicated above. This includes wood shims, bricks, stones, etc.

C Construction

Reuse existing sanitary frames and covers for the following forcemain manholes owned by the City of Waukesha to be reconstructed:

- Station 268+12, 66’ LT along Waukesha Bypass southbound
- Station 269+34, 66’ LT along Waukesha Bypass southbound
- Station 269+65, 36’ RT along Waukesha Bypass northbound
- Station 270+25, 36’ RT along Waukesha Bypass northbound

Abandon the existing sanitary frames and covers for the following forcemain manholes owned by the City of Waukesha to be abandoned:

- Station 254+45, 26’ RT along Waukesha Bypass northbound
- Station 254+81, 4’ LT along Waukesha Bypass southbound

The adjustment rings shall be installed as follows:

- Installation and surface preparation shall be according to the manufacturer’s instructions.
- Repair any surface defects or irregularities of the top of the manhole using a uniform bed of non-shrink grout meeting the requirements noted below.
- The joint between the first grade ring and manhole cone shall be sealed using an adhesive/sealant meeting the requirements noted below.
- The joints between all manhole adjustment rings shall be sealed using an adhesive/sealant noted below.
- The joint between the top manhole adjustment ring and the frame shall not be sealed with adhesive/sealant. This joint shall be sealed with an internal frame-chimney seal.
- All castings shall be centered over the opening of the corbel and adjusting rings. The top adjusting ring upon which the casting is set shall be level from side to side unless a pitch is required to match the existing surface in paved areas.

The contractor must adjust all manholes to final pavement grade. No other material shall be used in the construction of the chimney section beyond those materials specified. This includes shims of any material, bricks, stones, etc. If after pavement placement, foreign

material is discovered (i.e. shims) in a chimney, the pavement surrounding the structure shall be removed and replaced at the contractor's expense to the limits described below:

Required correction at manholes in concrete pavement:

- The contractor shall sawcut the concrete pavement along longitudinal and transverse joints in order to re-set the manhole chimney according to the specifications. The concrete areas to be removed must be full panels.
- Place new concrete around the manhole according to the concrete pavement section of these specifications.

Required correction at manholes in HMA pavement:

- The contractor shall sawcut the HMA pavement that is to be removed in order to re-set the manhole chimney according to the specifications.
- The HMA surface shall be milled from the flange to the nearest HMA pavement joint (if the structure is in the centerline, the area to be milled is flange to flange). The length of the milled area shall be equal to the width.
- The lower courses around the manhole shall be replaced and compacted.
- Place a tack coat and pave a new surface lift of HMA pavement that matches the existing HMA pavement and the re-set manhole.
- The seam created at the existing HMA pavement shall be infrared heated to blend and fuse the new HMA pavement to the existing.

D Measurement

The department will measure Reconstructing Sanitary Manholes by the vertical 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.0200.71	Reconstructing Sanitary Manholes	VF

Payment for Reconstructing Sanitary Manholes is full compensation for providing and installing all required materials and incidentals necessary to complete the contract work.

ADDITIONAL SPECIAL PROVISION 1 (ASP 1)
FOR TRANSPORTATION ALLIANCE FOR NEW SOLUTIONS (TrANS)
PROGRAM EMPLOYMENT PLACEMENTS AND APPRENTICESHIPS

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Section 5204(e) – Surface Transportation Workforce Development Training and Education, provides for 100 percent Federal funding if the core program funds are used for training, education, or workforce development purposes, including "pipeline" activities. The core programs includes: Congestion Mitigation and Air Quality Improvement (CMAQ) Program, Highway Bridge Program (HBP), Interstate Maintenance (IM), National Highway System (NHS), and Surface Transportation Program (STP). These workforce development activities cover surface transportation workers, including OJT/SS programs for women and minorities as authorized in 23 U.S.C. §140(b).

TrANS is an employment program originally established in 1995 in Southeastern Wisconsin. Currently TrANS has expanded to include TrANS program locations to serve contractors in Southeast (Milwaukee and surrounding counties), Southcentral (Dane County and surrounding counties including Rock County), and most Northeastern Wisconsin counties from locations in Keshena, Rhinelander and surrounding far Northern areas. TrANS attempts to meet contractor's needs in other geographic locations as possible. It is an industry driven plan of services to address the outreach, preparation, placement and retention of women, minorities and non-minorities as laborers and apprentices in the highway skilled trades. These candidate preparation and contractor coordination services are provided by community based organizations. For a list of the TrANS Coordinators contact the Disadvantaged Business Enterprise Office at (414) 438-4583 in Milwaukee or (608) 266-6961 in Madison. These services are provided to you at no cost.

I. BASIC CONCEPTS

Training reimbursements to employing contractors for new placements, rehires or promotions to apprentice of TrANS Program graduates will be made as follows:

1) **On-the-Job Training, Item ASP.1T0G, ASP 1 Graduate.** At the rate of $5.00 per hour on federal aid projects when TrANS graduates are initially hired, or seasonally rehired, as unskilled laborers or the equivalent.

   Eligibility and Duration: To the employing contractor, for up to 2000 hours from the point of initial hire as a TrANS program placement.

   Contract Goal: To maintain the intent of the Equal Employment Opportunity program, it is a goal that 20 *(number)* TrANS Graduate(s) be utilized on this contract.

2) **On-the-Job Training, Item ASP.1T0A, ASP 1 Apprentice.** At the rate of $5.00 per hour on federal aid projects at the point when an employee who came out of the TrANS Program is subsequently entered into an apprenticeship contract in an underutilized skilled trade (this will include the Skilled Laborer Apprenticeship when that standard is implemented).

Eligibility and Duration: To the employing contractor, for the length of time the TrANS graduate is in apprentice status.

Contract Goal: To maintain the intent of the Equal Employment Opportunity program, it is a goal that 12 *(number)* TrANS Apprentice(s) be utilized on this contract.

3) The maximum duration of reimbursement is two years as a TrANS graduate plus time in apprentice status.

4) If a TrANS program is not available in the contractor's area and another training program is utilized, payment of On-the-Job Training hours may be approved by the Wisconsin Department of Transportation (WisDOT) if the training program meets the established acceptance criteria. Only On-the-Job Training Hours accumulated after WisDOT approval will be reimbursed as specified under Items ASP.1T0G and ASP.1T0A. For more information, contact the Disadvantaged Business Enterprise Office at the phone numbers listed above.

5) WisDOT reserves the right to deny payments under items ASP.1T0G and ASP.1T0A if the contractor either fails to provide training or there is evidence of a lack of good faith in meeting the requirements of this training special provision.

I. RATIONALE AND SPECIAL NOTE

The $5.00 per hour now being paid for TrANS placements is intended to cover the duration of two years to allow for reaching entry-level laborer status. An additional incentive, the $5.00 rate, would promote movement into the underutilized skilled trades' apprenticeships and applies until the individual completes their apprenticeship. These incentives benefit TrANS candidates by giving them a better opportunity to enter a skilled trade; benefits contractors who will be assisted in meeting their EEO profiles and goals; and benefits the public who will see the program reinforce larger public-private employment reform in Wisconsin. The pool of TrANS graduates was created for the purpose of addressing underutilization in the skilled trades, an objective that is further reinforced by a parallel retention pilot program, known as the Companywide Reporting. *Whether or not reimbursement is involved, the WisDOT reassures contractors who are in the Companywide Program that TrANS placements still contribute toward fulfilling the new hire goal of 50% women and minorities.* Based on data administered by United States Department of Labor (US DOL), the highway skilled trades remain underutilized for women statewide (less than 6.9%); and for minorities in all counties (% varies by county).

NOTE: *Unless using other advancement strategies, contractors are encouraged to use some or all of this monetary incentive to offset the cut in hourly wages an individual may incur when entering an apprenticeship if the full general laborer hourly rate has been previously paid. No special accounting measures are required.*

II. IMPLEMENTATION

The implementation of ASP 1 is intended to cover only the amount of time it takes for underutilization to be resolved across the trades. This will be measured annually at the county and/or state levels using data administered by WisDWD in relation to goals set by the USDOL-

OFCCP. With appropriate state and federal approvals, we may also do some measurement at the company level.

It is the contractor's responsibility to note on their Certified Payrolls if their employee is a TrANS graduate or a TrANS apprentice. The District EEO Coordinators utilize the information on the Certified Payrolls to track the hours accumulated by TrANS Graduates and TrANS apprentices on WisDOT contracts. Payment under this ASP 1 is made based on the hours recorded off of the Certified Payrolls. Tracking may eventually include improved linkages with the WisDWD apprentice database, information from company and committee level sources.

TrANS is nondiscriminatory by regulation, and is a tool for optional use by contractors to address the underutilization of women and minorities as laborers and apprentices in our industry's skilled trades.

IV. *TRANS TRAINING*

As part of the contractor's equal employment opportunity affirmative action program, training shall be provided to employees enrolled in apprenticeship and on-the-job training programs as follows:

The contractor shall provide on-the-job training aimed at developing full journey workers in the type of trade or job classifications involved. In the event the contractor subcontracts a portion of the contract work, the contractor shall determine how many, if any, of the trainees are to be trained by the subcontractor provided, however, that the contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The contractor shall also insure that this training special provision is made applicable to such subcontract.

Training and upgrading of minorities and women toward journey workers status is a primary objective of this training special provision. Accordingly, the contractor shall make every effort to enroll minority trainees and women (e.g., by conducting systematic and direct recruitment through public and private sources likely to yield minority trainees and women trainees); to the extent such persons are available within a reasonable area of recruitment. The contractor will be given an opportunity and will be responsible for demonstrating the steps that they have taken in pursuance thereof, prior to determination as to whether the contractor is in compliance with this training special provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which they have successfully completed a training course leading to journey workers status or in which they have been employed as a journey worker. The contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used, the contractor's records should document the findings in each case.

V. APPRENTICESHIP TRAINING

The Federal Highway Administration's (FHWA) policy is to require full use of all available training and skill improvement opportunities to assure increased participation of minority groups, disadvantaged persons and women in all phases of the highway construction industry. The FHWA On-the-Job Training (OJT) Program requires the State transportation agencies (STAs) to establish apprenticeships and training programs targeted to move women, minorities, and disadvantaged individuals into journey-level positions to ensure that a competent workforce is available to meet highway construction hiring needs, and to address the historical under-representation of members of these groups in highway construction skilled crafts.

The OJT Supportive Services (OJT/SS) Program was established in Title 23 Code of Federal Regulations (CFR), Part 230) to supplement the OJT program and support STA training programs by providing services to highway construction contractors and assistance to highway construction apprentices and trainees. The primary objectives of OJT/SS are:

(1) To increase the overall effectiveness of the State highway agencies' approved training programs.
(2) To seek other ways to increase the training opportunities for women, minorities, and disadvantaged individuals.

The STAs are responsible for establishing procedures, subject to the availability of Surface Transportation and Bridge Funds under 23 U.S.C. §140(b*)* (Nondiscrimination), for the provision of supportive services with respect to training programs approved under 23 CFR, Part 230(a*)* (Equal Employment Opportunity on Federal and Federal-aid Construction Contracts – including Supportive Services).

The contractor and subcontractor shall maintain records to demonstrate compliance with these apprenticeship requirements. Reasonable exemptions and modifications to and from any or all of these requirements will be determined by the Wisconsin Department of Transportation-Civil Rights Office. A request for an exemption or modification, with justification, shall be made in writing, addressed to WisDOT Civil Rights Office, 4802 Sheboygan Avenue, P.O. Box 7965, Rm. 451, Madison, WI 53707.

ADDITIONAL SPECIAL PROVISION 3

DISADVANTAGED BUSINESS ENTERPRISE [DBE] PROGRAM IMPLEMENTATION

1. Description

a. The federal DBE program requirements outlined in the Code of Federal Regulations at 49 CFR Part 26 apply to this Wisconsin Department of Transportation contract. WisDOT is a recipient of federal funds and this contract includes federal funds. United States Department of Transportation Federal DBE Program requires the following provisions:

(1) Pursuant to the federal DBE program regulation at 49 CFR Part 26, a contractor's failure to comply with any provision of the DBE regulations will be considered a material breach of contract. This is non-negotiable. If a contractor fails to carry out the DBE program and Title VI nondiscrimination requirements of its contracts, the following sanctions will be assessed depending upon the facts, reasoning, severity and remedial efforts of the contractor: termination of contract, withholding payment, assessment of monetary sanctions, assessment of liquidated damages and/or suspension/debarment proceedings that may result in the disqualification of the contractor from bidding for a designated period of time.

(2) The contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the contractor obtains the federal fund recipient's [DOT] written consent. Unless [WisDOT] consent is provided, the contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE.

b. The Wisconsin Department of Transportation [WisDOT] is committed to the compliant administration of the DBE Program. Each WisDOT Secretary affirms this commitment with his/her signed assurance. http://wisconsindot.gov/Documents/doing-bus/civil-rights/dbe/policy-statement.pdf

(1) The department encourages the contractor to assist and develop DBE firms to become fully knowledgeable contractors to successfully perform on its contracts. Under the contract, the contractor agrees to provide the assistance to participating DBE's in the following areas:

i. Produce accurate and complete quotes.
ii. Understand highway plans applicable to their work.
iii. Understand specifications and contract requirements applicable to their work.
iv. Understand contracting reporting requirements.

(2) Wisconsin DOT identifies the assigned DBE goal in its contract advertisements and posts the contract DBE goal on the cover of the bidding proposal. The contractor can meet the assigned, specified contract DBE goal by subcontracting work to a DBE or by procuring services or materials from a DBE. The department calculates the DBE participation as the dollar value of DBE participation included in the bid expressed as a percentage of the total contract bid amount.

(3) For more comprehensive information on the disadvantaged business program, visit the department's Civil Rights and Compliance Section website at: http://wisconsindot.gov/Pages/doing-bus/civil-rights/dbe/default.aspx

2. Definitions

Interpret these terms, used throughout this additional special provision, as follows:

a. **Bid Percentage:** The DBE percentage indicated in the bidding proposal at the time of bid.

b. **DBE:** A small business certified as disadvantaged business enterprise (DBE) under the federal DBE program and included on the Wisconsin UCP DBE Directory deemed ready, willing and able.

c. **DBE goal:** The amount of DBE participation expected in the contract as shown on the cover of the Highway Work Proposal.

d. **Manufacturer:** A firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract.

e. **Supplier:** A firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment required under the contract are bought, kept in stock, and regularly sold or leased to the public.

f. **Voluntary Achievement:** The amount of DBE participation achieved and reported in the contract in excess of the assigned goal.

3. DBE Percentage Required at Bid Submission

Indicate the bid percentage (i.e. 0% through 100%) of DBE participation on the completed bidding proposal. For electronic submittals, show the percentage in the miscellaneous data folder, Item 3, DBE Percent. For paper submittals, show the percentage on the sheet included after the schedule of items. By submission of the bid, the bidder contractually commits to DBE participation at or above the bid percentage, or certifies that they have utilized comprehensive good faith efforts to solicit and utilize DBE firms to meet the DBE participation requirements of this contract proposal, and that the bid percentage is reflective of these good faith efforts. The bid percentage should demonstrate the efforts of the prime contractor prior to bid. If the bidder does not indicate the bid percentage of DBE participation on the completed bidding proposal, the department will consider the bid irregular and may reject the bid.

4. WisDOT Interpretation of Federal DBE Program Provision

Prime contractors must utilize the specific DBEs listed to perform the work and/or supply the materials for which each is listed on the Commitment to Subcontract to DBE Form [DT1506] and approved by WisDOT's DBE office to execute its contract. The approved Commitment to Subcontract to DBE Form [DT1506] becomes a contract document/record.

a. **Department's DBE Evaluation Process**
WisDOT evaluates DBE using the Commitment to Subcontract to DBE, payments to subcontractors and contract documentation. The prime contractor shall list the specific DBE certified firms and items of work s/he intends to use toward the fulfillment of the assigned DBE contract goal. The prime contractor receives DBE credit for payments made to the DBE firms performing the work listed on the approved Form DT1506.

b. **Documentation Submittal**
The contractor is to identify, by name, the DBE firms whose utilization is intended to satisfy this provision, the items of work of the DBE subcontract or supply agreement and the dollar value of those items of work by completing the Commitment to Subcontract to DBE Form [DT1506]. Effective January 1, 2017, the contractor will be required to submit the documentation within 5 business days after bid opening. All necessary supporting documentation including Attachment 'A' forms and/or Good Faith Efforts Form

[DT1202] must be submitted no later than 2 business days from contractor's initial submission of the DT 1506. The contractor must provide a signed Attachment 'A' form to the DBE office within the time limit in order to receive authorization for contract execution; the DBE office reserves the right accept alternate documentation in lieu of the signed form in extenuating circumstances. Documentation must be submitted to the DBE Office by email at DBE_Alert@dot.wi.gov (DBE_Alert@dot.wi.gov) or by postal mail ATTN: DBE Office, PO Box 7965, Madison, WI 53707-7965.

(1) **Bidder Meets DBE Goal**
If the bidder indicates that the contract DBE goal is met, after award and before execution, the department will evaluate the Commitment to Subcontract to DBE Form DT1506 and attachment A(s) to verify the actual DBE percentage calculation. If the DBE commitment is verified, the contract is eligible for execution with respect to the DBE commitment.

(2) **Bidder Does Not Meet DBE Goal**

i. If the bidder indicates a bid percentage on the Commitment to Subcontract to DBE Form [DT1506] that does not meet the contract DBE goal, the bidder must submit a Good Faith Efforts Form [DT1202] and supporting documentation. After award and before execution, the department will evaluate the bidder's DBE commitment and consider the bidder's good faith efforts submission.

ii. The department will evaluate the bidder's good faith effort request and notify the bidder of one of the following:

(a) If the department grants a good faith efforts, the bid is eligible for contract execution with respect to DBE commitment.

(b) If the department rejects the good faith efforts request, the department may declare the bid ineligible for execution. The department will provide a written explanation of why the good faith efforts request was rejected. The bidder may appeal the department's rejection as allowed under 7 a. & b.

c. **Bidder Fails to Submit Documentation**
If the contractor fails to furnish the Commitment to Subcontract to DBE Form [DT1506] within the specified time, the department may cancel the award. Delay in fulfilling this requirement is not a cause for extension of the contract time and shall not be used as a tool to delay execution.

5. Department's Criteria for Good Faith Effort

Appendix A of 49 CFR Part 26, is the guiding regulation concerning good faith efforts. However, the federal regulations do not explicitly define "good faith" but states that bidder must actively and aggressively attempt to meet the goal. The federal regulations are general and do not include every factor or effort that can be considered. As a result, each state must establish its own processes and consider the factors established in its own practices to create a process for making a determination of adequate good faith. WisDOT evaluates good faith on a contract basis just as each contract award is evaluated individually.

The department will only approve a contractor's good faith efforts if the bidder has made the effort, given the relevant circumstances under the contract that a bidder actively and aggressively seeking to meet the goal would make. The department will evaluate the bidder's good faith effort to determine whether a good faith efforts will be granted. The bidder must demonstrate, on the DT1202 that they have aggressively solicited DBE participation in an attempt to meet the contract DBE goal and attaining the stated DBE goal is not feasible.

a. The department, in conjunction with industry stakeholders, has developed the following guidance for contractor good faith effort. The guidance and the attached appendices provide a framework for the actions required by all parties in the processing and evaluation of bidder's total efforts to achieve the project specific DBE goal prior to the bid letting date.

b. Prime Contractors should:

(1) Document all efforts and decisions made toward achieving the DBE goal on the contract. The bidder should use the Civil Rights & Compliance System [CRCS] and related WisDOT- approved DBE outreach tools, including the Bid Express Small Business Network, to foster DBE participation on all applicable contracts.

(2) Prime contractors may request assistance with DBE outreach and follow-up by contacting the department's DBE Support Services Office by phone or email request at least 14 days prior to the bid letting date. Requesting assistance with outreach is not a decisive factor in the review Good faith effort evaluation. Phone numbers are 414-438-4584 and/or 414-659-0487; Fax: 414-438-5392; E-mail: DOTDBESupportServices@dot.wi.gov.

(3) Request quotes by identifying potential items to subcontract and solicit. Prime contractors are strongly encouraged to include in their initial contacts a single page including a detailed list of items for which they are accepting quotes, by project, within a letting. *See attached sample entitled "Sample Contractor Solicitation Letter" in Appendix A*. Prime contractors should also indicate a willingness to accept quotes in areas they are planning to perform themselves, as required by federal rules. In some cases, it might be appropriate to use DBE's to do work in a prime contractor's area of specialization.

i. Solicit quotes from certified DBE firms who match 'possible items to subcontract' using all reasonable and available means. Additionally, forward copies of solicitations highlighting the work areas for which you are seeking quotes to DOTDBESupportServices@dot.wi.gov.

ii. SBN is the preferred outreach tool. https://www.bidx.com/wi/main. Other acceptable means include postal mail, email, fax, phone call.

(a) Primes must ask DBE firms for a response in their solicitations. See *Sample Contractors Solicitation Letter* in Appendix. This letter can be included as an attachment to the SBN sub-quote request.

(b) Solicit quotes at least 10 calendar days prior to the letting date, at least two Fridays before the letting, to allow DBE firms sufficient time to respond. Prime contractors should contact DBE firms early, asking if they need help organizing their quote, assistance confirming equipment needs, or other assistance supporting their submission of a competitive quote for their services.

(c) Second solicitation should take place within 5 calendar days. Email and SBN are the preferred delivery of the follow-up solicitation.

iii. Upon request, provide interested DBE firms with adequate information about plans, specifications and the requirements of the contract by letter, information session, email, phone call and/or referral.

iv. When potential exists, the contractor should advise interested DBE firms on how to obtain bonding, line of credit or insurance if requested.

v. Document DBE firm's interest in quoting by taking appropriate steps to follow up initial solicitation with:

(a) Email to all prospective DBE firms in relevant work areas.

(b) Phone call log to DBE firms who express interest via written response or call.

(c) Fax/letter confirmation

(d) Signed copy of Bid Express SBN Record of Subcontractor Outreach Effort.

c. Evaluate DBE quotes Documentation is critical if a prime does not utilize the DBE firm's quote for any reason.

(1) Evaluate DBE firm's capability to perform 'possible items to subcontract' using legitimate reasons, including but not limited to, ***a discussion with the DBE firm*** regarding its capabilities prior to the bid letting. If lack of capacity is your reason for not utilizing the DBE quote, you are required to contact the DBE by phone and email regarding their ability to perform the work indicated in the UCP directory listed as their work area by NAICS code. Only the work area and/or NAICS code listed in the UCP directory can be counted toward DBE credit. Documentation of the conversation is required.

(2) In striving to meet an assigned DBE contract goal, prime contractors are expected to use DBE quotes that are responsive and reasonable. This includes DBE quotes that are not the low quote.

(3) **Special Circumstance** - Evaluation of DBE quotes with tied bid items. “Tied quotes are the condition in which a subcontractor submits quotes including multiple areas of expertise across multiple work areas noting that the items and price are tied. Typically this type of quoting represents a cost saving to the prime but is not clearly stated as a discount; tied quotes are usually presented as ‘all or none’ quote to the prime.” When non-DBE subcontractors submit tied bid items in their quotes to the prime, the DBE firms’ quote may seem not competitive. In such a case, the following steps are taken in comparing the relevant quotes. These are qualitative examples.

i. Compare bid items common to both quotes, noting the reasonableness in the price comparison.
ii. Review quotes from other firms for the bid items not quoted by the DBE firm to see if combining both can provide the same competitive advantage that the tied bid items offered.

d. Immediately after notification of contract award, the prime submits all **'Commitment to Subcontract'** forms to the DBE Office. Prime contractor has 5 days to submit the completed form for the DBE firms it intends to use on the contract for DBE credit. If the goal is not met in full, the prime contractor must provide the following information along with WisDOT form DT1202: Certificate of Good Faith Efforts.

(1) The names, addresses, e-mail addresses, telephone numbers of DBE's contacted. The dates of both initial and follow-up contact.
(2) A description of information provided to the DBE's regarding the plans, specifications, and estimated quantities for portions of the work to be performed by that DBE.
(3) Photocopies or electronic copies of all written solicitations to DBE's. A printed copy of SBN solicitation is acceptable.
(4) Documentation of each quote received from a DBE and, if rejected, the reason for that rejection.
(5) Bidder attendance at any pre-solicitation or pre-bid meetings the department held to inform DBE's of participation opportunities available on the project.

The prime contractor must obtain written consent from the DBE Office to change or replace any DBE firm listed on the approved Commitment to Subcontract to DBE Form [DT1506]. If the prime contractor utilizes another contractor, including the use of its own workforce, to perform the work assigned to a DBE on the approved DT1506, the prime contractor will not be entitled to payment for that work. Any changes to DBE after the approval of the DT1506 must be reviewed and approved by the DBE office prior to the change.

6. Use of Joint Checks

The *use of joint checks is allowable if it is a commonly recognized business practice in* the material industry. A joint check is defined as a two-party check between a DBE, a prime contractor and the regular dealer of materials supplier who is neither the prime nor an affiliate of the prime. Typically, the prime contractor issues one check as payor to the DBE subcontractor and to the supplier jointly (to guarantee payment to the supplier) as payment for the material/supplies used by the DBE in cases where the prime has submitted the DBE and material for DBE credit. The DBE subcontractor gains the opportunity to establish a direct contracting relationship with the supplier to potentially facilitate a business rapport that results in a line of credit or increased partnering opportunities.

The cost of material and supplies purchased by the DBE is part of the value of work performed by the DBE to be counted toward the goal. To receive credit, the DBE must be responsible for negotiating price, determining quality and quantity, ordering the materials, and installing (where applicable) and "paying for the material itself." See 49 CFR 26.55(c)(1).

The approval to use joint checks constitutes a commitment to provide further information to WisDOT, upon request by staff. WisDOT will allow the use of joint checks when the following conditions are met:

a. The Prime must request permission to use joint checks from the DBE Office by submitting the Application to Use Joint Checks.
   (1) Request should be made when the DBE Commitment form or Request to Sublet is submitted; the request will not be considered if submitted after the DBE Subcontractor starts its work.
   (2) Approval/Permission must be granted prior to the issuance of any joint checks.
   (3) The payment schedule for the supplier must be presented to the DBE office before the first check is issued.
   (4) The joint check for supplies must be strictly for the cost of supplies.

b. DBE subcontractor is responsible to furnish and/or install the material/work item. The DBE subcontractor shall not be an 'extra participant' in the transaction; the DBE's role in the transaction cannot be limited solely to signing the check(s) to release payment to the material supplier. At a minimum, the DBE subcontractor's tasks should include the following.
   (1) The DBE subcontractor (not the prime/payor) negotiates the quantities, price and delivery of materials;
   (2) The DBE subcontractor consents to sign/release the check to the supplier by signing the Application to Use Joint Checks after establishing the conditions and documentation of payment within the subcontract terms or in a separate written document.

c. The Prime contractor/payor acts solely as a guarantor,
   (1) The prime agrees to furnish the check used for the payment of materials/supplies under the contract.
   (2) The prime contractor/payor cannot require the subcontractor to use a specific supplier or the prime contractors negotiated unit price.

7. Bidder's Appeal Process

a. A bidder can appeal the department's decision to deny the bidder's good faith effort submission. The bidder must provide written documentation refuting the specific reasons for rejection as stated in the department's rejection notice. The bidder may meet in person with the department if so requested. Failure to appeal within 7 calendar days after receiving the department's written denial notice of a good faith effort evaluation constitutes a forfeiture of the bidder's right of appeal. A contract cannot be executed without documentation that the DBE provisions have been fulfilled.

b. The department will appoint a representative, who did not participate in the original determination, to assess the bidder's appeal. The department will issue a written decision within 5 calendar days after the bidder presents all written and oral testimony. In that written decision, the department will explain the basis for finding that the bidder did or did not meet the contract DBE goal or make an adequate good faith effort to meet the contract DBE goal. The department's decision is final. If the department finds that the bidder did not meet the contract DBE goal or did not make adequate efforts to meet the DBE goal, the department may declare the bid ineligible for execution.

8. Department's Criteria for DBE Participation

Directory of DBE firms

a. The only resource for DBE certified firms certified in the state of Wisconsin is the Wisconsin Unified Certification Program [UCP] DBE List. Wisconsin Department of Transportation maintains a current list of certified DBE firms titled Wisconsin UCP DBE Directory on the website at:
   http://wisconsindot.gov/Documents/doing-bus/civil-rights/dbe/dbe-ucp-directory.xlsx

b. The DBE office is also available to assist at 414-438-4583 or 608-267-3849.

9. Counting DBE Participation

Assessing DBE Work

a. The department will only count the DBE usage towards the contract DBE goal if the DBE firm is certified as a DBE by one of the unified certification program agencies. If a firm becomes DBE certified before entering into a subcontract, the department may consider that DBE usage towards the contract goal. The department only counts the value of the work a DBE actually performs towards the DBE goal. The department assesses the DBE work as follows:

b. The department counts work performed by the DBE's own resources. The department includes the cost of materials and supplies the DBE obtains for the work. The department also includes the cost of equipment the DBE leases for the work. The department will not include the cost of materials, supplies, or equipment the DBE purchases or leases from the prime contractor or its affiliate, except the department will count non-project specific leases the DBE has in place before the work is advertised.

c. The department counts fees and commissions the DBE charges for providing a bona fide professional, technical, consultant, or managerial services. The department also counts fees and commissions the DBE charges for providing bonds or insurance. The department will only count costs the engineer deems reasonable based on experience or prevailing market rates.

d. If a DBE subcontracts work, the department counts the value of the subcontracted work only if the DBE's subcontractor is also a DBE.

e. The contractor shall maintain records and may be required to furnish periodic reports documenting its performance under this item.

f. It is the prime contractor’s responsibility to determine whether the work that is committed and/or contracted to a DBE certified firm can be counted for DBE credit by referencing the work type and NAICS code listed for the DBE firm on the Wisconsin UCP DBE Directory.

g. It is the prime contractor’s responsibility to assess the DBE firm’s ability to perform the work for which s/he is committing/contracting the DBE to do. Note that the department encourages the prime contractor to assist and develop DBE firms to become fully knowledgeable contractors to successfully perform on its contracts.

10. Commercially Useful Function

a. Commercially useful function is evaluated after the contract has been executed, while the DBE certified firm is performing its work items. A DBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved.

b. The department uses Form DT1011: DBE Commercially Useful Function Review and Certification to evaluate whether the DBE is performing a commercially useful function. WisDOT counts expenditures of a DBE toward the DBE goal only if the DBE is performing a commercially useful function on that contract.

c. A DBE is performing a commercially useful function if the following conditions are met:
   (1) For contract work, the DBE is responsible for executing a distinct portion of the contract work and it is carrying out its responsibilities by actually performing, managing, and supervising that work.
   (2) For materials and supplies, the DBE is responsible for negotiating price, determining quality and quantity, ordering, and paying for those materials and supplies.

11. Credit Evaluation for Trucking

All bidders are expected to adhere to the department's current trucking policy posted on the HCCI website at http://wisconsindot.gov/Documents/doing-bus/civil-rights/dbe/trucking-utilization-policy.pdf

12. Credit Evaluation for Manufacturers, Suppliers, Brokers

The department will calculate the amount of DBE credit awarded to a prime using a DBE firm for the provisions of materials and supplies on a contract-by-contract basis. The department will count the material and supplies that a DBE provides under the contract for DBE credit based on whether the DBE is a manufacturer, supplier or broker. Generally, DBE crediting measures and evaluates the DBE owner's role, responsibility and contribution to the transaction: maximum DBE credit when the DBE manufactures materials or supplies; DBE credit decreases when the DBE solely supplies material and minimal credit is allotted when the DBE's role is administrative or transactional.

It is the bidder's responsibility to find out if the DBE is considered a supplier or a manufacturer before listing them on Commitment to Subcontract to DBE form DT1506.

a. Manufacturers
   (1) A manufacturer is a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract and of the general character described by the specifications.
   (2) If the materials or supplies are obtained from a DBE manufacturer, count **100%** percent of the cost of the materials or supplies toward DBE goals.

b. Regular Dealers of Material and/or Supplies
   (1) A regular dealer is a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business.
   (2) If the materials or supplies are purchased from a DBE regular dealer, count **60%** percent of the cost of the materials or supplies toward DBE goals.
   (3) At a minimum, a regular dealer must meet the following criteria to be counted for DBE credit:
      i. The DBE firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question.
      ii. The DBE firm must both own and operate distribution equipment for the product--bulk items such as petroleum products, steel, cement, gravel, stone, or asphalt. If some of the distribution equipment is leased, the lease agreement must accompany the DBE Commitment form for evaluation of the dealer's control before the DBE office approves the DBE credit.

c. Brokers, Transaction Expediters, Packagers, Manufacturers Representatives
   (1) No portion of the cost of the materials, supplies, services themselves will count for DBE credit; however, WisDOT will evaluate the fees or commissions charged when a prime purchases materials, supplies or services from a DBE certified firm which is neither a manufacturer nor a regular dealer, namely: brokers, packagers, manufacturers' representatives or other persons who arrange or expedite transactions.
   (2) Brokerage fees have historically been calculated as **10%** of the purchase amount.
   (3) WisDOT may count the amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on a job site.
   (4) The evaluation will review the contract need for the item/service, review the sub-contract or invoice for the item/service, compare the fees customarily allowed for similar services to determine whether they are reasonable.

When DBE suppliers are contracted, additional documentation must accompany the DT1506 and Attachment 'A' forms. An invoice or bill-of-sale that includes the company names of the bidder and the DBE supplier and documentation of the calculations used as the basis for the purchase agreement, subcontract or invoice. *WisDOT recognizes that the amount on the Attachment 'A' form may be more or less than the amount on the invoice*. Please respond to the following questions and submit with your DBE Commitment Form.

1. What is the product or material?
2. Is this item in the prime's inventory or was the item purchased when contract was awarded?
3. Which contract line items were referenced to develop this quote?
4. What is the amount of material or product used on the project?

13. Credit Evaluation for DBE Primes

Wisconsin DOT calculates DBE credit based on the amount and type of work performed by DBE certified firms. If the prime contractor is a DBE certified firm, the department will only count the work that DBE prime contractor performs with its own forces for DBE credit. We will also calculate DBE credit for the work performed by any other DBE certified subcontractor, DBE certified supplier, DBE certified manufacturer on that contract in that DBE's approved work areas/NAICS code. Crediting for manufacturers and suppliers is calculated consistent with paragraph 12 of this document and 49 CFR Part 26.

14. Joint Venture

If a DBE performs as a participant in a joint venture, the department will only count that portion of the total dollar value of the contract equal to that portion of the work that the DBE performs with its own forces for DBE credit.

15. Mentor Protégé

a. If a DBE performs as a participant in a mentor protégé agreement, the department will count for credit the portion of the work performed by the DBE protégé firm.

b. DBE credit will be evaluated and confirmed by the DBE Office for any contracts on which the mentor protégé team identifies itself to the DBE Office as a current participant of the Mentor Protégé Program.

c. Refer to WisDOT's Mentor Protégé guidelines for guidance on the number of contracts and amount of DBE credit that can be counted on any WisDOT project.

16. DBE Replacement or Termination

Contractual Requirement

The contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the contractor obtains written consent from the Department's DBE Office. If the Department does not provide consent to replace or terminate a DBE firm, the prime contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE.

Contractor Considerations

a. A prime contractor cannot terminate and/or replace a DBE subcontractor listed on the approved Commitment to Subcontract to DBE Form [DT1506] without prior written consent from the DBE Office. This includes, but is not limited to, instances in which a prime contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm.

b. If a prime contractor feels it is necessary to replace or terminate a DBE firm that has been approved for DBE credit toward its contract, s/he will be required to provide reasons and documentation to support why the prime cannot fulfill the contractual commitment that it made to the Department regarding the DBE utilization.

c. Prime contractor is required to make affirmative efforts to find another DBE subcontractor to perform at least the same amount of work under the contract as the DBE that was terminated, to the extent needed to meet the assigned DBE contract goal.

d. In circumstances when a DBE subcontractor fails to complete its work on the contract for any reason or is terminated from a contract, the prime contractor is expected to make affirmative efforts to maintain its commitment to the assigned DBE goal.

e. The DBE firm should communicate with the prime contractor regarding its schedule and capacity in the context of the contract. If the DBE anticipates that it cannot fulfill its subcontract, s/he shall advise the prime contractor and suggest a DBE that may replace their services or provide written consent to be released from its subcontract.

(1) Before the prime contractor can request to terminate or substitute a DBE firm; s/he must:
   i. Make every effort to fulfill the DBE commitment by working with the listed DBE to ensure that they are fully knowledgeable of your expectations for successful performance on the contract. Document these efforts in writing.
   ii. If those efforts fail, provide written notice to the DBE subcontractor of your *intent to* request to terminate and/or replace the firm including the reason(s) you want to pursue this action.
   iii. Copy the DBE Office on all correspondence related to changing a DBE firm who has been approved for DBE credit on a contract including the preparation and coordination efforts with the DBE on the contract.
   iv. Clearly state the amount of time the DBE firm has to remedy and/or respond to your notice of intent to replace/terminate their firm from the contract. The DBE shall be allowed five days to respond, in writing. **EXCEPTION:** The prime contractor must provide a verifiable reason for a response period shorter than five days. For example a WisDOT project manager must verify that waiting 5 days for a DBE performing traffic control work to respond would affect the public safety.
   v. The DBE subcontractor must forward a written response to the prime contractor and copy the DBE Office. The written response must outline why it objects to the proposed termination of its subcontract and list the reasons that WisDOT should not approve the request for their firm to be replaced or removed from the contract.

The Request to Replace or Terminate a DBE

The prime contractor must provide a written request to replace or terminate a DBE firm that has been approved for DBE credit on a WisDOT contract. The written request can be an email or printed document delivered by email or fax; at minimum, the request must contain the following:

1. Contract ID number.
2. Wisconsin DOT Contract Project Manager name and contact information.
3. DBE name and work type and/or NAICS code.
4. Contract's progress schedule.
5. Reason(s) for requesting that the DBE be replaced or terminated.
6. Attach/include all communication with the DBE to deploy/address/resolve work completion,

WisDOT will review your request and any supporting documentation that you submit to evaluate whether the circumstance and the reasons constitute a good cause for replacing or terminating the DBE that was approved for DBE credit on that contract.

Examples of Good Causes to Replace a DBE according to the federal DBE program guidelines {49 CFR part 26.53}

- The listed DBE subcontractor fails or refuses to execute a written contract.
- The listed DBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the DBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the prime contractor.
- The listed DBE subcontractor fails or refuses to meet the prime contractor's reasonable, nondiscriminatory bond requirements.
- The listed DBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness.
- The listed DBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant 2 CFR Parts 180, 215 and 1,200 or applicable state law.
- You have determined that the listed DBE subcontractor is not a responsible contractor.
- The listed DBE subcontractor voluntarily withdraws from the project and provides to you written notice of its withdrawal.
- The listed DBE is ineligible to receive DBE credit for the type of work required.
- A DBE owner dies or becomes disabled with the result that the listed DBE contractor is unable to complete its work on the contract.

Evaluation and Response to the Request
If WisDOT determines that your reasons comply with the good cause standards; the DBE office will send the prime contractor and the WisDOT project manager an email stating that we concur with the reasons and approve the replacement or termination.

If WisDOT determines that your reasons do not comply with the good cause standards of the federal DBE program, the DBE Office will send the prime contractor an email that includes *the requirement* to utilize the committed DBE, *remedial actions* to support the completion of the contractual commitment, a list of available WisDOT support services *and administrative remedies that may be invoked* for failure to comply with federal DBE guidelines for DBE replacement.

The Wisconsin Department of transportation contact for all actions related to replacing a DBE is the DBE Program Chief and/or the DBE Program Engineer which can be reached at DBE_Alert@dot.wi.gov or by calling 608-267-3849.

17. DBE Utilization beyond the approved DBE Commitment Form DT1506

If the Prime/subcontractor increases the scope of work for a participating DBE or adds a DBE subcontractor that was not on the approved Form DT1506 at any time after contract award, s/he should follow these steps so that the participation can be accurately credited toward the DBE goal.

a. Send an email to the DBE Engineer at DBE_Alert@dot.wi.gov describing the work to be performed by the new DBE including the proposed schedule or duration, DBE name and contact information. You may also call the DBE Engineer at 414-659-0487 to notify him of the change verbally.
If the scope change added work for a participating DBE; list the date and reason for the scope change.

b. Forward a complete, signed Attachment 'A' form to the DBE Office at DBE_Alert@dot.wi.gov. A complete Attachment A includes DBE contact information, signature, subcontract value and proper description of the work areas to be performed by the DBE.
The DBE office will confirm the DBE participation and revise the DT1506 based on the email/discussion and attach the new/revised Attachment A to the Contract record/documentation.

18. Contract Modifications

When additional opportunity is available by contract modifications, the Prime Contractor shall utilize DBE Subcontractors that were committed to equal work items, in the original contract.

19. Payment

Costs for conforming to this Additional Special Provision (ASP) and any associated DBE requirements are incidental to the contract.

APPENDIX A
Sample Contractor Solicitation Letter Page 1
This sample is provided as a guide not a requirement

GFW SAMPLE MEMORANDUM

TO:	DBE FIRMS
FROM:	POTENTIAL PRIME CONTRACTOR OR MAJOR SUBCONTRACTOR
SUBJECT:	**REQUEST FOR DBE QUOTES** **LET DATE & TIME**
DATE:	MONTH DAY YEAR
CC:	DBE OFFICE ENGINEER

Our company is considering bidding on the projects indicated on the next page, as a prime and/or a subcontractor for the Wisconsin Department of Transportation Month- date -year Letting. Page 2 lists the projects and work items that we may subcontract for this letting. We are interested in obtaining subcontractor quotes for these projects and work categories. Also note that we are willing to accept quotes in areas we may be planning to perform ourselves as required by federal rules.

Please review page 2, respond whether you plan to quote, highlight the projects and work items you are interested in performing and return it via fax or email within 3 days. Plans, specifications and addenda are available through WisDOT at the DBE Support Services office or at the Highway Construction Contract Information (HCCI) site at http://roadwaystandards.dot.wi.gov/hcci/

Your quote should include all of the costs required to complete the items you propose to perform including labor, equipment, material, and related bonding or insurance. The quote should note items that you are DBE certified to perform, tied items, and any special terms. Page 2, with the indicated projects and items you plan to quote, should be used as a cover sheet for your quote.

Please make every effort to have your quotes into our office by time deadline the prior to the letting date. ***Make sure the correct letting date, project ID and proposal number, unit price and extension are included in your quote.*** We prefer quotes be sent via SBN but prime's alternatives are acceptable. Our office hours are include hours and days. Please call our office as soon as possible prior to the letting if you need information/clarification to prepare your quote at contact number.

If you wish to discuss or evaluate your quote in more detail, contact us after the contract is awarded. Status of the contract can be checked at WisDOT's HCCI site at http://roadwaystandards.dot.wi.gov/hcci/

All questions should be directed to:

Project Manager, John Doe,
Phone: (000) 123-4567
Email: Joe@joetheplumber.com
Fax: (000) 123- 4657

Sample Contractor Solicitation Letter Page 2

This sample is provided as a guide not a requirement

REQUEST FOR QUOTATION

Prime's Name: _____

Letting Date: _____

Project ID: _____

Please check all that apply

- ☐ Yes, we will be quoting on the projects and items listed below
- ☐ No, we are not interested in quoting on the letting or its items referenced below
- ☐ Please take our name off your monthly DBE contact list
- ☐ We have questions about quoting this letting. Please have someone contact me at this number

Prime Contractor 's Contact Person	DBE Contractor Contact Person
Phone:	Phone
Fax:	Fax
Email:	Email

Please circle the jobs and items you will be quoting below

Proposal No.	1	2	3	4	5	6	7
County							

WORK DESCRIPTION:

Clear and Grub	X		X	X		X	X
Dump Truck Hauling	X		X	X		X	X
Curb & Gutter/Sidewalk, Etc.	X		X	X		X	X
Erosion Control Items	X		X	X		X	X
Signs and Posts/Markers	X		X	X		X	X
Traffic Control		X	X	X		X	X
Electrical Work/Traffic Signals		X	X	X		X	
Pavement Marking		X	X	X	X	X	X
Sawing Pavement		X	X	X	X	X	X
QMP, Base	X	X		X	X	X	X
Pipe Underdrain	X			X			
Beam Guard				X	X	X	X
Concrete Staining							X
Trees/Shrubs	X						X

Again please make every effort to have your quotes into our office by time deadline prior to the letting date.

We prefer quotes be sent via SBN but prime's preferred alternatives are acceptable.

If there are further questions please direct them to the prime contractor's contact person at phone number.

APPENDIX B
BEST PRACTICES FOR PRIME CONTRACTOR & DBE SUBCONTRACTOR GOOD FAITH EFFORT

This list is not a set of requirements; it is a list of potential strategies

Primes

- Prime contractor open houses inviting DBE firms to see the bid "war room" or providing technical assistance.
- Participate in speed networking and mosaic exercises as arranged by DBE office.
- Host information sessions not directly associated with a bid letting.
- Participate in a formal mentor protégé or joint venture with a DBE firm.
- Participate in WisDOT advisory committees i.e. TRANSAC, or Mega Project committee meetings.
- Facilitate a small group DBE 'training session' Clarifying how your firm prepares for bid letting, evaluates subcontractors, preferred qualifications and communication methods.
- Encourage subcontractors to solicit and highlight DBE participation in their quotes to you.
- Quality of communication, not quantity creates the best results. Contractors should do as thorough a job as possible in communicating with DBE firms before the bid and provide any assistance requested to assure best possible bid.

DBE

- DBE firms should contact primes as soon as possible with questions regarding their quotes or bid; seven days prior is optimal.
- Continually check for contract addendums on the HCCI website through the Thursday prior to letting to stay abreast of changes.
- Review the status of contracts on the HCCI website reviewing the 'apparent low bidder' list, and bid tabs at a minimum.
- Prepare a portfolio or list of related projects and prime and supplier references; be sure to note transportation-related projects of similar size and scope, firm expertise and staffing.
- Participate in DBE office assessment programs.
- Participate on advisory and mega-project committees.
- Sign up to receive the DBE Contracting Update.
- Consider membership in relevant industry or contractor organizations.
- Active participation is a must. Quote as many projects as you can reasonably work on; quoting the primes and bidding as a prime with the department are the only ways to get work.

APPENDIX C
Types of Efforts considered in determining GFE
This list represents concepts being assessed; analysis requires additional steps

1. Whether the contractor attended any pre-solicitation or pre-bid meetings that were scheduled by WisDOT to inform DBEs of contracting and subcontracting opportunities.
2. Whether the contractor provided written notice to a reasonable number of specific DBEs that their interest in the contract was being solicited, in sufficient time to allow the DBEs to participate effectively.
3. Whether the contractor followed up initial solicitations of interest by contacting DBEs to determine if the DBEs were interested; returned the phone calls of interested DBE firms.
4. Whether the contractor selected portions of the work to be performed by DBEs in order to increase the likelihood of meeting the DBE goal.
5. Whether the contractor provided interested DBEs with adequate information about the plans, specifications and requirements of the contract.
6. Whether the contractor negotiated in good faith with interested DBEs, not rejected DBEs as unqualified without sound reasons based on a thorough investigation of their capabilities.
7. Whether the contractor made efforts to assist interested DBEs in being more competitive.
8. Whether the contractor effectively used the services of available minority community organizations: minority contractors groups, local, state, and Federal minority business assistance offices, and other organizations that provide assistance to small businesses and DBE firms.
9. Whether Prime used CRCS to identify DBE who specialize in relevant work areas.
10. Whether the contractor used available resources including contacting the DBE office, using WisDOT's website
11. Whether the contractor returned calls of firms expressing interest in a timely manner.

APPENDIX D
Good Faith Effort Evaluation Guidance
Excerpt from Appendix A of 49 CFR Part 26

APPENDIX A TO PART 26 -- GUIDANCE CONCERNING GOOD FAITH EFFORTS

I. When, as a recipient, you establish a contract goal on a DOT assisted contract, a bidder must, in order to be responsible and/or responsive, make good faith efforts to meet the goal. The bidder can meet this requirement in either of two ways. First, the bidder can meet the goal, documenting commitments for participation by DBE firms sufficient for this purpose. Second, even if it doesn't meet the goal, the bidder can document adequate good faith efforts. This means that the bidder must show that it took all necessary and reasonable steps to achieve a DBE goal or other requirement of this part which, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not fully successful.

II. In any situation in which you have established a contract goal, part 26 requires you to use the good faith efforts mechanism of this part. As a recipient, it is up to you to make a fair and reasonable judgment whether a bidder that did not meet the goal made adequate good faith efforts. It is important for you to consider the quality, quantity, and intensity of the different kinds of efforts that the bidder has made. The efforts employed by the bidder should be those that one could reasonably expect a bidder to take if the bidder were actively and aggressively trying to obtain DBE participation sufficient to meet the DBE contract goal. Mere pro forma efforts are not good faith efforts to meet the DBE contract requirements. We emphasize, however, that your determination concerning the sufficiency of the firm's good faith efforts is a judgment call: meeting quantitative formulas is not required.

III. The Department also strongly cautions you against requiring that a bidder meet a contract goal (i.e., obtain a specified amount of DBE participation) in order to be awarded a contract, even though the bidder makes an adequate good faith efforts showing. This rule specifically prohibits you from ignoring bona fide good faith efforts.

IV. The following is a list of types of actions which you should consider as part of the bidder's good faith efforts to obtain DBE participation. It is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases.

A. Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBEs who have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the DBEs to respond to the solicitation. The bidder must determine with certainty if the DBEs are interested by taking appropriate steps to follow up initial solicitations.

B. Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces.

C. Providing interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.

D. (1) Negotiating in good faith with interested DBEs. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBEs to perform the work.

(2) A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the work of a

contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Prime contractors are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable.

E. Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The contractor's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non solicitation of bids in the contractor's efforts to meet the project goal.

F. Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or contractor.

G. Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.

H. Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBEs.

V. In determining whether a bidder has made good faith efforts, you may take into account the performance of other bidders in meeting the contract. For example, when the apparent successful bidder fails to meet the contract goal, but others meet it, you may reasonably raise the question of whether, with additional reasonable efforts, the apparent successful bidder could have met the goal. If the apparent successful bidder fails to meet the goal, but meets or exceeds the average DBE participation obtained by other bidders, you may view this, in conjunction with other factors, as evidence of the apparent successful bidder having made good faith efforts.

Appendix E
Small Business Network [SBN] Overview

The Small Business Network is a part of the Bid Express® service that was created to ensure that prime bidders have a centralized online location to find subs - including small and disadvantaged business enterprises (DBEs). It is available for prime bidders to use as part of their Basic Service subscription.
Within the Small Business Network, **Prime Contractors** can:

1. Easily select proposals, work types and items:
    a. After adding applicable work types, select items that you wish to quote. Enter the sub-quote quantities and add comments, if desired. Adding or removing items and work types can be done quickly. If needed, you can save the sub-quote for completion at a later time.

2. Create sub-quotes for the subcontracting community:
    a. Create sub-quotes with ease using the intuitive sub-quote creator. In seven short steps, you can rapidly create a custom sub-quote directed to all subcontractors that bid on the applicable work types. Steps include: provide contact information and sub-quote expiration date, select letting and proposal, add work types and items, specify terms and conditions, upload attachments, and select vendors.
    b. Create a sub-quote to send to subcontractors or suppliers that lists the items in a proposal that you want quoted
    c. Create an unlimited number of sub-quotes for items you want quoted, and optionally mark them as a DBE-preferred request.
    d. Add attachments to sub-quotes.

3. View sub-quote requests & responses:
    a. After logging into the Bid Express service, you can quickly review all of your sub-quote requests and all unsolicited sub-quote requests from subcontractors. To simplify the Small Business Network home screen, sub-quote requests can be hidden with one click if they are not applicable.
    b. View or receive unsolicited sub-quotes that subcontractors have posted, complete with terms, conditions and pricing.

4. View Record of Subcontractor Outreach Effort:
    a. For each sub-quote produced, a *Record of Subcontractor Outreach Effort* is generated that shows the response statistics for a particular sub-quote. If accepted by the letting agency, this report may serve as proof of a "Good Faith" effort in reaching out to the DBE community.
    b. Easily locate pre-qualified and certified small and disadvantaged businesses.
    c. Advertise to small and disadvantaged businesses more efficiently and cost effectively.
    d. Document your interactions with subs/DBEs by producing an Outreach Report (may be accepted as proof of DBE outreach at the discretion of each agency).

The Small Business Network is a part of the Bid Express® service that was created to ensure that small businesses have a centralized area to access information about upcoming projects. It can help small businesses learn more about opportunities, compete more effectively, network with other contractors and subcontractors, and win more jobs.

1. View and reply to sub-quote requests from primes:
    a. After logging into the Bid Express service, you can quickly review all incoming sub-quote requests and all unsolicited sub-quotes created by your company. Receive notifications by selected work type. To simplify on the Small Business Network home screen, sub-quote requests can be filtered by work types relevant to your interests, or hidden with one click if they are not applicable.

2. Select items when responding to sub-quote requests from primes:
    a. You have the freedom to choose and price any number of items when responding to a sub-quote request. Quantities can be modified, and per-item comments are also available.
    b. View requests for sub-quotes for work that primes have posted for projects they are bidding, add your pricing, terms, and conditions, and submit completed sub-quotes to the requesting primes.
    c. Add attachments to a sub-quote.

3. Create and send unsolicited sub-quotes to specific contractors:
    a. Create unsolicited sub-quotes with ease using the intuitive sub-quote creator. In eight short steps, you can rapidly create a custom sub-quote directed at any number of specific vendors of your choosing. Steps include: provide contact information and sub-quote expiration date, select letting and proposal, add work types and items, specify terms and conditions, upload attachments, and select vendors.

4. Easily select and price items for unsolicited sub-quotes:
    a. After adding applicable work types, select items that you wish to quote. The extended price calculates automatically, cutting out costly calculation errors. Comments can be provided on a per-item basis as well.
    b. Create an unsolicited sub-quote that lists the items from a proposal that you want to quote, include pricing, terms and conditions, and send it to selected prime/plan holder.
    c. Add attachments to a sub-quote.
    d. Add unsolicited work items to sub-quotes that you are responding to.

5. Easy Access to Valuable Information
    a. Receive a confirmation that your sub-quote was opened by a prime.
    b. View Bid Tab Analysis data from past bids, including the high, average and low prices of items.
    c. View important notices and publications from DOT targeted to small and disadvantaged businesses.

6. Accessing Small Business Network for WisDOT contracting opportunities
    a. If you are a contractor not yet subscribing to the Bid Express service, go to **www.bidx.com** and select "Order Bid Express." The Small Business Network is a part of the Bid Express Basic Service.
    b. DBE firms can request a Bid Express Small Business Network Account at no cost by calling 414-438-4588.

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
209.1100	Backfill Granular Grade 1	CY	0.23
209.1500	Backfill Granular Grade 1	Ton	0.115
209.2100	Backfill Granular Grade 2	CY	0.23
209.2500	Backfill Granular Grade 2	Ton	0.115
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 $2.15 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:

104.10.1 General

Replace paragraph one with the following effective with the December 2017 letting:

(1) Subsection 104.10 specifies a 2-step process for contractors to follow in submitting a cost reduction incentive (CRI) for modifying the contract in order to reduce direct construction costs computed at contract bid prices. The initial submittal is referred to as a CRI concept and the second submittal is a CRI proposal. The contractor and the department will equally share all savings generated to the contract due to a CRI as specified in 104.10.4.2(1). The department encourages the contractor to submit CRI concepts.

104.10.4.2 Payment for the CRI Work

Replace paragraph one with the following effective with the December 2017 letting:

(1) The department will pay for completed CRI work as specified for progress payments under 109.6. The department will pay for CRI's under the Cost Reduction Incentive administrative item. When all CRI costs are determined, the department will execute a contract change order that does the following:

1. Adjusts the contract time, interim completion dates, or both.
2. Pays the contractor for the unpaid balance of the CRI work.
3. Pays the contractor 50 percent of the net savings resulting from the CRI, calculated as follows:

NS = CW - CRW - CC - DC

Where:

NS = Net Savings

CW = The cost of the work required by the original contract that is revised by the CRI. CW is computed at contract bid prices if applicable.[1]

CRW = The cost of the revised work, computed at contract bid prices if applicable.[1]

CC = The contractor's cost of developing the CRI proposal.

DC = The department's cost for investigating, evaluating, and implementing the CRI proposal.

[1] The department may adjust contract bid prices that, in the engineer's judgement, do not represent the fair value of the work deleted or proposed.

108.11 Liquidated Damages

Replace paragraphs two and three with the following effective with the December 2017 letting:

(2) This deducted sum is not a penalty but is a fixed, agreed, liquidated damage due the department from the contractor for the added cost of engineering and supervision resulting from the contractor's failure to complete the work within the contract time.

(3) Unless enhanced in the special provisions, the department will assess the following daily liquidated damages

LIQUIDATED DAMAGES

ORIGINAL CONTRACT AMOUNT		DAILY CHARGE	
FROM MORE THAN	TO AND INCLUDING	CALENDAR DAY	WORKING DAY
$0	$250,000	$850	$1700
$250,000	$500,000	$815	$1630
$500,000	$1,000,000	$1250	$2500
$1,000,000	$2,000,000	$1540	$3080
$2,000,000	___	$2070	$4140

203.3.2.2 Removal Operations

Replace the entire text with the following effective with the December 2017 letting:

203.3.2.2.1 General

(1) Except as specified below for closing culverts, remove the entire top slab of box culverts and the entire superstructure of other culverts and bridges designated for removal. Completely remove existing piles, cribs, or other timber construction within the limits of new embankments, or remove these structures to an elevation at least 2 feet below finished ground line. Remove sidewalls or substructure units in water to an elevation no higher than the elevation of the natural stream or lake bed, or, if grading the channel is required under the contract or the plans, to the proposed finished grade of the stream or lake bed. Remove sidewalls or substructure units not in water down to at least 2 feet below natural or finished ground line.

(2) If extending or incorporating existing culverts and bridges in the new work, remove only those parts of the existing structure as necessary to provide a proper connection to the new work. Saw, chip, or trim the connecting edges to the required lines and grades without weakening or damaging the remaining part of the structure. During concrete removal, do not damage reinforcing bars left in place as dowels or ties incorporated into the new work.

(3) Remove pipe culverts designated for salvage in a way that prevents damage to the culverts.

(4) Dismantle steel structures or parts of steel structures designated for salvage in a way that avoids damage to the members. If the contract specifies removing the structure in a way that leaves it in a condition suitable for re-erection, matchmark members with durable white paint before dismantling. Mark pins, bolts, nuts, loose plates, etc., similarly to indicate their proper location. Paint pins, bolts, pinholes, and machined surfaces with a department-approved rust preventative. Securely wire loose parts to adjacent members, or label and pack them in boxes.

(5) Remove timber structures or parts of timber structures designated for salvage in a way that prevents damage to the members.

(6) If the engineer approves, the contractor may temporarily use materials designated for salvage in falsework used to construct new work. Do not damage or reduce the value of those materials through temporary use.

203.3.2.2.2 Deck Removal

(1) Protect the work as specified in 107.14 during deck removal. Minimize debris falling onto water surfaces and wetlands as the contract specifies in 107.18 or in the special provisions. Also, minimize debris falling on the ground and roadway.

(2) Do not damage existing bar steel reinforcement, girders, or other components that will be incorporated in new work. Remove decks on prestressed concrete girders using a hydraulic shear or other engineer-approved equipment. Thoroughly clean, realign, and retie reinforcement as necessary.

(3) After deck removal is complete, notify the engineer to request a damage survey. Point out damage to the engineer. Allow one business day for the engineer to complete the damage survey. If damage is identified, the department will determine if repairs or girder restoration will be allowed.

(4) If the department allows girder restoration, have a professional engineer registered in the State of Wisconsin analyze the effect of the damage to the bridge, make recommendations, and prepare signed and sealed computations and structural details required to restore girders to their previous structural capacity. Submit the restoration proposal, including analysis and structural details, to the department and design engineer of record. The department will accept or reject the restoration proposal within 3 business days. Do not begin restoration work until the department allows in writing.

(5) The engineer will not extend contract time to assess or remediate contractor caused damage.

203.5.1 General

Replace paragraph two with the following effective with the December 2017 letting:

(2) Payment is full compensation for breaking down and removing; costs associated with contractor-caused damage; required salvaging, storing, and disposing of materials; and, unless the contract specifies granular backfill, for backfilling.

415.2.3 Expansion Joint Filler

Replace paragraph one with the following effective with the December 2017 letting:

(1) Furnish expansion joint filler conforming to AASHTO M153, AASHTO M213, or ASTM D8139 in lengths equal to the pavement lane width and of the thickness and height the plans show. Where dowel bars are required, use filler with factory-punched holes at the dowel bar locations and with a diameter not greater than 1/8 inch larger than the nominal dowel bar diameter.

415.3.20 Filling Joints

Replace paragraph two with the following effective with the December 2017 letting:

(2) Clean joints of laitance, curing compound, and other contaminants before filling. Saw construction joints at least 3/4 inches deep before filling. Sawing is not required for tooled joints in curb and gutter. Sandblast or waterblast exposed joint faces using multiple passes as required to clean joints surfaces of material that might prevent bonding. Blow clean and dry with oil-free compressed air immediately before filling.

415.5.1 General

Replace paragraph six with the following effective with the December 2017 letting:

(6) Payment for Concrete Pavement Joint Filling is full compensation for filling concrete pavement joints; filling adjacent curb and gutter joints; and for sawing.

440.3.4.2 Contractor Testing

Replace paragraph two with the following effective with the December 2017 letting:

(2) Coordinate with the engineer at least 24 hours before making profile runs for acceptance unless the engineer approves otherwise. The department may require testing to accommodate staged construction or if corrective action is required.

455.5.3 Tack Coat

Replace paragraph two with the following effective with the December 2017 letting:

(2) The department will adjust pay for Tack Coat, under the Nonconforming Tack Coat administrative item, for nonconforming material the engineer allows to remain in place at a maximum of 75 percent of the contract unit price.

460.2.7 HMA Mixture Design

Replace paragraph one with the following effective with the December 2017 letting:

(1) For each HMA mixture type used under the contract, develop and submit an asphaltic mixture design according to CMM 8-66 and conforming to the requirements of table 460-1 and table 460-2. The values listed are design limits; production values may exceed those limits. The department will review mixture designs and report the results of that review to the designer according to CMM 8-66.

TABLE 460-2 MIXTURE REQUIREMENTS

Mixture type	LT	MT	HT	SMA
ESALs x 10^6 (20 yr design life)	<2.0	2 - <8	>8	___
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 D5821) (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 N_{ini}	6	7	8	8
Gyrations for N_{des}	40	75	100	65
Gyrations for N_{max}	60	115	160	160
Air Voids, $\%V_a$ ($\%G_{mm}$ N_{des})	4.0 (96.0)	4.0 (96.0)	4.0 (96.0)	4.0 (96.0)
% G_{mm} N_{ini}	<= 91.5[1]	<= 89.0[1]	<= 89.0	___
% G_{mm} N_{max}	<= 98.0	<= 98.0	<= 98.0	___
Dust to Binder Ratio[2] (% passing 0.075/P_{be})	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] [5]	65 - 75[3] [5]	70 - 80
Tensile Strength Ratio (TSR) (AASHTO T283)[6] [7]				
no antistripping additive	0.75 min	0.75 min	0.75 min	0.75 min
with antistripping additive	0.80 min	0.80 min	0.80 min	0.80 min
Draindown (AASHTO T305) (%)	___	___	___	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 M323), the dust to binder ratio limits are 0.6 - 1.6.

[3] For No. 5 (9.5mm) and No. 4 (12.5 mm) nominal maximum size mixtures, the specified VFB range is 70 - 76 percent.

[4] For No. 2 (25.0mm) nominal maximum size mixes, the specified VFB lower limit is 67 percent.

[5] For No. 1 (37.5mm) nominal maximum size mixes, the specified VFB lower limit is 67 percent.

[6] WisDOT eliminates freeze-thaw conditioning cycles from the TSR test procedure.

[7] Run TSR at asphalt content corresponding to 3.0% air void regressed design using distilled water for testing.

460.2.8.2.1.3.1 Contracts with 5000 Tons of Mixture or Greater

Replace paragraph six with the following:

(6) Conduct TSR tests during mixture production according to CMM 8-36.6.14. Test each full 50,000 ton production increment, or fraction of an increment, after the first 5000 tons of production. Perform required increment testing in the first week of production of that increment. If production TSR values are below the limit specified in CMM 8-36.6.14, notify the engineer. The engineer and contractor will jointly determine a corrective action.

502.2.7 Preformed Joint Filler

Replace paragraph one with the following effective with the December 2017 letting:

(1) Use preformed joint filler conforming to AASHTO M153, AASHTO M213, or ASTM D8139.

502.3.7.8 Floors

Replace paragraph fourteen with the following effective with the December 2017 letting:

(14) Unless specified otherwise, transversely tine finish the floors of structures with approach pavements designed for speeds of 40 mph or greater as specified in 415.3.8.3, except make the tining 1/8 inch in depth and do not perform tining within 12 inches of gutters. The contractor may apply a broom finish, described below, instead of the artificial turf drag finish required before tining. The contractor may perform tining manually, if it obtains a finish satisfactory to the engineer. Perform tining within 20 degrees of the centerline of bearing of the substructure units on bridge decks having skew angles of 20 degrees or greater.

505.2.6 Dowel Bars and Tie Bars

Replace the entire text with the following effective with the March 2018 letting:

505.2.6.1 General

(1) Furnish bars coated in a plant certified by the Concrete Reinforcing Steel Institute. For dowel bars and straight tie bars, there is no requirement for bend tests. Ensure that the bars are the specified diameter and length the plans show.

(2) The contractor need not coat or patch sawed ends, sheared ends, cut ends, ends left bare during the coating process, or ends with damaged coating.

(3) The contractor need not repair circumferential coating damage from shipping, handling, or installation, if the following conditions are met:

1. The damaged area is 1/4 inch square or smaller.
2. The total damaged area in any one-foot length does not exceed 2 percent of the circumferential area in that length.

(4) Repair areas of damaged circumferential coating larger than 1/4 inch square. Reject bars with total damage greater than 2 percent of the bar's circumferential area.

505.2.6.2 Dowel Bars

505.2.6.2.1 General

(1) Ensure that the bars are straight, round, smooth, and free from burrs or other deformations detrimental to the free movement of the bar in the concrete.

(2) Saw bars to the required length. For solid bars, the department will allow shearing if no damage occurs to the coating and shearing distortions do not exceed the following:

1. No distorted diameter is more than 0.04 inches greater than the true diameter.
2. No distortion extends more than 0.40 inches from the sheared end.

(3) Apply a surface treatment to loose dowels, or furnish manufacturer-treated bars in dowel bar baskets, capable of preventing bond between the epoxy-coated bars and the concrete. Apply field surface treatments when loading bars in the dowel bar magazine.

505.2.6.2.2 Solid Dowel Bars

(1) Furnish coated bars conforming to AASHTO M31 grade 40 or 60. Alternatively the contractor may furnish dowel bars conforming to AASHTO M227 grade 70-80. Coat with a thermosetting epoxy conforming to AASHTO M254, type B.

505.2.6.2.3 Tubular Dowel Bars

(1) Furnish welded steel tubular bars conforming to ASTM A513 fabricated from plain carbon steel with a minimum tensile yield strength of 60 ksi and sized as follows:

SOLID BAR SPECIFIED DIAMETER	MINIMUM REQUIRED OUTSIDE DIAMETER	MINIMUM BASE METAL WALL THICKNESS
1 1/4-inch	1 5/16 inches	0.120 inch
1 1/2-inch	1 5/8 inches	0.120 inch

(2) Cap bar ends to prevent intrusion of concrete or other materials. Ensure that tubing is galvanized on the exterior and interior according to ASTM A653 with a G40 zinc coating and apply 7-13 mils of epoxy to the galvanized exterior according to AASHTO M254, Type B.

505.2.6.2.4 High Performance Dowel Bars

(1) As an alternate the contractor may furnish high performance dowel bars from the department's APL.

505.2.6.3 Tie Bars

(1) Furnish coated bars conforming to AASHTO M31 grade 40 or 60. Coat tie bars as specified in 505.2.4 for coated high-strength steel reinforcement. Ensure that the tie bars are the shape the plans show.

(2) Repair, with compatible coating material, the bend location of field-straightened coated tie bars.

614.2.1 General

Add the following as paragraph ten effective with the December 2017 letting:

(10) Furnish guardrail reflectors from the department's APL.

614.3.2.1 Installing Posts

Add the following as paragraph five effective with the December 2017 letting:

(5) Provide post-mounted reflectors every 100 feet with one at the beginning and end of each run and a minimum of three reflectors per run.

614.5 Payment

Replace paragraph four with the following effective with the December 2017 letting:

(4) Payment for the Steel Thrie Beam, Steel Plate Beam Guard, Guardrail Stiffened, MGS Guardrail, Short Radius, and various transition bid items is full compensation for providing guardrail and transitions including post-mounted reflectors; for repairing damaged zinc coatings; and for excavating, backfilling, and disposing of surplus material.

641.2.9 Overhead Sign Supports

Replace paragraph three with the following effective with the December 2017 letting:

(3) Provide steel pole shafts, mast arms or trusses, and luminaire arms zinc coated according to ASTM A123. The contractor may provide either straight or tapered pole and arm shafts unless the plans specify otherwise. Provide bolts and other hardware conforming to 641.2.2.

642.2.2.1 General

Replace the entire text with the following effective with the December 2017 letting:

(1) Provide each field office with two rooms, separated by an interior door with a padlock. Ensure that each room has a separate exterior door and its own air conditioner. Locate the office where a quality internet connection can be achieved.

(2) Provide long distance telephone service via a land line for exclusive department use that has the following:

- Two programmable touch-tone phones, one of which is cordless. Ensure that phone operations will not interfere with other telecommunications equipment.
- Voice mail service or an answering machine.

(3) Provide high-speed internet service for exclusive department use via cable or DSL connection with a modem/router and capable of supporting cloud enabled file sharing, voice over internet protocol (VoIP), video conferencing, and web based applications. Ensure that system meets the following:

- Includes a wireless network for the field office.
- Can accommodate IPSec based VPN products.
- Has a bandwidth range as follows:

Field office with 1-5 staff:	A minimum connection speed of 5 Mbps download and 1 Mbps upload. If a cable or DSL option is not available the contractor may provide a personal hotspot using cell phone tethering or other device able to achieve the specified minimum speeds inside the field office.
Field office with 6 or more staff:	A minimum connection speed of 10 Mbps + 1/2 Mbps per user download and 5 Mbps upload.
Projects over 500 million dollars:	A minimum connection speed of 20 Mbps + 1/2 Mbps per user download and 10 Mbps upload. Coordinate network setup at the leased office with the WisDOT network team.

(4) Provide and maintain a Windows 7 and Windows 10 compliant multi-function device with copy, print, and scan capabilities that can accommodate both 8 1/2" x 11" and 11" x 17" paper. Replenish paper, toner cartridges, and other supplies before fully expended. Ensure that department staff can connect to the device either directly or through the field office wireless network.

(5) Equip with a drafting table with a drafter's stool. Except as specified in 642.2.2.4, provide 2 ergonomically correct office chairs in working condition with, at a minimum, the following:

1. Five-legged base with casters.
2. Seat adjustable from 15 to 22 inches from the floor with a seamless waterfall, rounded, front edge.
3. High backrest with no arms or adjustable arms.

643.3.1 General

Replace paragraph one with the following effective with the December 2017 letting:

(1) Provide and maintain traffic control devices located where the plans show or engineer directs to maintain a safe work zone throughout the contract duration. Relocate as required to accommodate changing work operations. When not in use, place devices away from traffic outside of paved and gravel shoulder surfaces. Where there is barrier on the shoulder, the contractor may place devices not in use on the shoulder as close as possible to the barrier and delineated with drums. Lay signs and supports flat on the grade with uprights oriented parallel to and downstream from traffic. Do not stack devices or equipment. Promptly remove temporary devices from within the project limits as follows:

- That will not be used within 14 consecutive calendar days.
- Within 5 business days of substantial completion unless the engineer allows otherwise.

645.2.2.2 Geotextile, Type SAS (Subgrade Aggregate Separation)

Replace paragraph one with the following effective with the December 2017 letting:

(1) Furnish fabric conforming to the following physical properties:

TEST	METHOD	VALUE[1]
Minimum grab tensile strength	ASTM D4632	170 lb
Minimum puncture strength	ASTM D6241	350 lb
Maximum apparent opening size	ASTM D4751	No. 70
Minimum permittivity	ASTM D4491	0.35 s^{-1}

[1] All numerical values represent minimum/maximum average roll values. Average test results from all rolls in a lot must conform to the tabulated values.

645.2.2.4 Geotextile, Type DF (Drainage Filtration)

Replace paragraph one with the following effective with the December 2017 letting:

(1) Furnish fabric conforming with the physical requirements of either schedule A, schedule B, or schedule C as the contract specifies.

SCHEDULE A TEST	METHOD	VALUE[1]
Minimum grab tensile strength	ASTM D4632	110 lb
Minimum puncture strength	ASTM D6241	200 lb
Minimum apparent breaking elongation	ASTM D4632	30%
Maximum apparent opening size	ASTM D4751	300 µm
Minimum permittivity	ASTM D4491	0.70 s^{-1}

SCHEDULE B TEST	METHOD	VALUE[1]
Minimum grab tensile strength	ASTM D4632	180 lb
Minimum puncture strength	ASTM D6241	350 lb
Minimum apparent breaking elongation	ASTM D4632	30%
Maximum apparent opening size	ASTM D4751	300 µm
Minimum permittivity	ASTM D4491	1.35 s^{-1}

SCHEDULE C TEST	METHOD	VALUE[1]
Minimum grab tensile strength	ASTM D4632	180 lb
Minimum puncture strength	ASTM D6241	350 lb
Minimum apparent breaking elongation	ASTM D4632	15%
Maximum apparent opening size	ASTM D4751	600 µm
Minimum permittivity	ASTM D4491	1.00 s^{-1}

[1] All numerical values represent minimum/maximum average roll values. Average test results from all rolls in a lot must conform to the tabulated values.

645.2.2.6 Geotextile, Type R (Riprap)

Replace paragraph one with the following effective with the December 2017 letting:

(1) Use fabric conforming to the following physical properties:

TEST	METHOD	VALUE[1]
Minimum grab tensile strength	ASTM D4632	205 lb
Minimum puncture strength	ASTM D6241	400 lb
Minimum apparent breaking elongation	ASTM D4632	15%
Maximum apparent opening size	ASTM D4751	No. 30
Minimum permittivity	ASTM D4491	0.12 s^{-1}

[1] All numerical values represent minimum/maximum average roll values. Average test results from all rolls in a lot must conform to the tabulated values.

645.2.2.7 Geotextile, Type HR (Heavy Riprap)

Replace paragraph one with the following effective with the December 2017 letting:

(1) Use fabric conforming to the following physical properties:

TEST	METHOD	VALUE[1]
Minimum grab tensile strength, lb	ASTM D4632	305 lb
Minimum puncture strength, lb	ASTM D6241	500 lb
Minimum apparent breaking elongation, %	ASTM D4632	15%
Maximum apparent opening size	ASTM D4751	No. 30
Minimum permittivity	ASTM D4491	0.40, s^{-1}

[1] All numerical values represent minimum/maximum average roll values. Average test results from all rolls in a lot must conform to the tabulated values.

645.2.2.8 Geotextile, Type C (Modified SAS)

Replace paragraph one with the following effective with the December 2017 letting:

(1) Use fabric conforming to the following physical properties:

TEST	METHOD	VALUE[1]
Grab tensile strength, lb	ASTM D4632	205 lb
Puncture strength, lb	ASTM D6241	350 lb
Maximum apparent opening size	ASTM D4751	No. 50
Minimum permittivity	ASTM D4491	0.12 s^{-1}

[1] All numerical values represent minimum/maximum average roll values. Average test results from all rolls in a lot must conform to the tabulated values.

646.3.1.1 General Marking

Replace paragraph one with the following effective with the December 2017 letting:

(1) Prepare the surface and apply marking as the manufacturer specifies. Provide manufacturer specifications as the engineer requests. Do not mark over a marking product with less adherence or over chipped or peeled marking. Do not remove polymer overlay materials in areas receiving pavement marking. Use only epoxy pavement marking where the contract requires marking placed on polymer overlays.

Replace paragraph five with the following effective with the December 2017 letting:

(5) After the marking can sustain exposure to traffic, re-apply clear protective surface treatment conforming to 502.2.11 where removed from structures during marking surface preparation. Seal exposed concrete including grooves for tape. Cover marking during resealing with a system that will not degrade the marking's retroreflectivity when removed. Uncover marking before opening to traffic.

701.3 Contractor Testing

Replace paragraph one with the following effective with the December 2017 letting:

(1) Perform contract required QC tests for samples randomly located according to CMM 8-30. Also perform other tests as necessary to control production and construction processes, and additional testing enumerated in the contractor's quality control plan or that the engineer directs. Use test methods as follows:

TABLE 701-2 TESTING STANDARDS

TEST	TEST STANDARD
Washed P 200 analysis	AASHTO T11[1]
Sieve analysis of fine and coarse aggregate	AASHTO T27[1]
Aggregate moisture	AASHTO T255[1]
Sampling freshly mixed concrete	AASHTO R60
Air content of fresh concrete	AASHTO T152[2]
Air void system of fresh concrete	AASHTO Provisional Standard TP118
Concrete slump	AASHTO T119[2]
Concrete temperature	ASTM C1064
Concrete compressive strength	AASHTO T22
Making and curing concrete cylinders	AASHTO T23
Standard moist curing for concrete cylinders	AASHTO M201

[1] As modified in CMM 8-60.

[2] As modified in CMM 8-70.

715.2.3.1 Pavements

Add the following as paragraph six effective with the December 2017 letting:

(6) For new lab-qualified mixes, test the air void system of the proposed concrete mix conforming to AASHTO provisional standard TP 118. Include the SAM number as a part of the mix design submittal.

715.3.1.1 General

Replace paragraph one with the following effective with the December 2017 letting:

(1) Provide slump, air content, concrete temperature and compressive strength test results as specified in 710.5. Provide a battery of QC tests, consisting of results for each specified property, using a single sample randomly located within each sublot. Cast three cylinders for strength evaluation. For pavement concrete, also test the air void system conforming to AASHTO provisional standard TP118 at least once per lot and enter the SAM number in the MRS for information only.

715.3.1.3 Department Verification Testing

Replace paragraph one with the following effective with the December 2017 letting:

(1) The department will perform verification testing as specified in 701.4.2 with additional testing as required to obtain at least 1 verification test per lot for air content, slump, temperature, and compressive strength.

Errata

Make the following corrections to the standard specifications:

106.3.3.1 General

Correct errata by changing "acceptance" to "approval".

(1) For manufactured products or assemblies, the department may base approval on a product certification or require both a product certification and production plant certification.

205.3.1 General

Correct errata by replacing paragraphs three and four with the following to reflect current practice to incorporate suitable materials.

(3) Replace unsuitable material with satisfactory material. Trim and finish the roadway. Maintain the work done under 205 in a finished condition until acceptance.

305.1 Description

Correct errata to clarify that the contractor may use more than one material under a single contract.

(1) This section describes constructing a dense graded base using one or more of the following aggregates at the contractor's option:

Crushed stone	Reclaimed asphalt
Crushed gravel	Reprocessed material
Crushed concrete	Blended material

521.2 Materials

Correct errata by deleting bullet three and including aluminum coated pipe in bullet one.

(1) Furnish corrugated steel pipe and steel apron end walls as follows:

- Corrugated steel culvert pipe, steel apron endwalls, aluminum coated corrugated steel culvert pipe, and other components conforming to AASHTO M36.
- Polymer coated corrugated steel culvert pipe and pipe arch fabricated from zinc coated sheet steel conforming to AASHTO M218. Before fabrication, coat the sheets on both sides with polymer protective coating grade 250/250 according to AASHTO M246. Fabricate the pipe according to AASHTO M245.

614.3.2.2 Installing Rail

Correct errata for splice location and allow punching or drilling holes and slots.

(1) Install rail with lap splices in the direction of traffic. Ensure that the number and dimensions of holes and bolts conforms to the plan details for new splices. Place the round head of bolts on the traffic side.

(2) Cut rails to length by shearing or sawing; do not use cutting torches. Drill or punch bolt holes and slots; ensure that they are burr free. After installation, cut anchor bolts that project more than one inch from the nut to 1/2 inch from the nut; deburr the threaded end of cut bolts.

618.1 Description

Correct errata by deleting designated detours from the scope of Maintenance and Repair of Haul Roads.

(1) This section describes maintaining, repairing, and restoring all public roads, streets, drainage facilities, and other components used for hauling by contractor, subcontractor, or supplier to support work for a department contract to its pre-haul condition. Public roads and streets shall be limited to those not a part of the State Trunk Highway System and from now on called haul roads.

643.3.5.2 Cellular Communication

Correct errata by changing State Traffic Operations Center to Traffic Management Center.

(2) A minimum of 14 days before deployment, demonstrate to the department that the cellular modem is capable of communications with the Traffic Management Center. If remote communications are interrupted or temporarily unavailable, the department will notify the contractor to change messages manually. Update messages within 2 hours of receiving notification.

646.3.1.2 Liquid Marking

Correct errata by changing "epoxy overlays" to "polymer overlays".

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

LIQUID MARKING	PAVEMENT TYPE	THICKNESS (mils)	BEAD APPLICATION (pounds per gallon)
Paint	all	16	8-10
Epoxy	SMA, seal coats, and polymer overlays	25	25
Epoxy	all other	20	22.5

654.5 Payment

Correct errata to clarify that contractor-provided anchor rods and associated hardware are incidental.

(2) Payment for the Bases bid items is full compensation for providing concrete bases; for embedded conduit and electrical components; for anchor rods, nuts, and washers; for bar steel reinforcement; and for excavating, backfilling, and disposing of surplus materials.

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.

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

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

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

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, including 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 Paul Ndon at (414) 438-4584 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 contact Paul Ndon at paul.ndon@dot.wi.gov. Not every contractor's payroll system is capable of producing export files. For details, see Section 4.8 CPR Auto Submit (Data Mapping) on pages 49-50; 66-71 of the CRCS Payroll Manual at:

http://wisconsindot.gov/Documents/doing-bus/civil-rights/labornwage/crcs-payroll-manual.pdf

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. General
II. Nondiscrimination
III. Nonsegregated Facilities
IV. Davis-Bacon and Related Act Provisions
V. Contract Work Hours and Safety Standards Act Provisions
VI. Subletting or Assigning the Contract
VII. Safety: Accident Prevention
VIII. False Statements Concerning Highway Projects
IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
X. Compliance with Governmentwide Suspension and Debarment Requirements
XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: 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, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are

applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor

will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 “Contract provisions and related matters” with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH–1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or

will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b.(1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/esa/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
(2) the prime contractor remains responsible for the quality of the work of the leased employees;
(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1**. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant 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 first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction 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 or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant 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 or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) 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;

(3) 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 offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction 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 or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

h. 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 participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant 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 or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

Non-discrimination Provisions

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

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

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

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

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

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

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

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

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

Pertinent Non-Discrimination Authorities:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);

- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures Non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of Limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

SEPTEMBER 2002

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)

1. The Offeror's or Bidder's attention is called to the "Employment Practices" and "Equal Opportunity Clause" set forth in the Required Contract Provisions, FHWA 1273.

2. The goals and timetables for minority and female participation expressed in percentage terms for the contractor's aggregate work force in each trade, on all construction work in the covered area, are as follows:

Goals for Minority Participation for Each Trade:

County	%	County	%	County	%
Adams	1.7	Iowa	1.7	Polk	2.2
Ashland	1.2	Iron	1.2	Portage	0.6
Barron	0.6	Jackson	0.6	Price	0.6
Bayfield	1.2	Jefferson	7.0	Racine	8.4
Brown	1.3	Juneau	0.6	Richland	1.7
Buffalo	0.6	Kenosha	3.0	Rock	3.1
Burnett	2.2	Kewaunee	1.0	Rusk	0.6
Calumet	0.9	La Crosse	0.9	St. Croix	2.9
Chippewa	0.5	Lafayette	0.5	Sauk	1.7
Clark	0.6	Langlade	0.6	Sawyer	0.6
Columbia	1.7	Lincoln	0.6	Shawano	1.0
Crawford	0.5	Manitowoc	1.0	Sheboygan	7.0
Dane	2.2	Marathon	0.6	Taylor	0.6
Dodge	7.0	Marinette	1.0	Trempealeau	0.6
Door	1.0	Marquette	1.7	Vernon	0.6
Douglas	1.0	Menominee	1.0	Vilas	0.6
Dunn	0.6	Milwaukee	8.0	Walworth	7.0
Eau Claire	0.5	Monroe	0.6	Washburn	0.6
Florence	1.0	Oconto	1.0	Washington	8.0
Fond du Lac	1.0	Oneida	0.6	Waukesha	8.0
Forest	1.0	Outagamie	0.9	Waupaca	1.0
Grant	0.5	Ozaukee	8.0	Waushara	1.0
Green	1.7	Pepin	0.6	Winnebago	0.9
Green Lake	1.0	Pierce	2.2	Wood	0.6

Goals for female participation for each trade: 6.9%

These goals are applicable to all the contractor's construction work, (whether or not it is federal or federally assisted), performed in the covered area. If the contractor performs construction work in the geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

The contractor's compliance with the Executive Order and the Regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from contractor to contractor or from project to project for the sole purpose of meeting the contractor's goals shall be a violation of the contract, the Executive Order and the Regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten (10) working days of award of any construction subcontract in excess of $10,000.00 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor, employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

   As referred to in this section, the Director means:

   Director
   Office of Federal Contract Compliance Programs
   Ruess Federal Plaza
   310 W. Wisconsin Ave., Suite 1115
   Milwaukee, WI 53202

   The "Employer Identification Number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.

4. As used in this notice, and in the contract resulting from solicitation, the "covered area" is the county(ies) in Wisconsin to which this proposal applies.

APRIL 2013

ADDITIONAL FEDERAL-AID PROVISIONS

NOTICE TO ALL BIDDERS

To report bid rigging activities call:

1-800-424-9071

The U.S. Department of Transportation (DOT) operates the above toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m., Eastern Time. Anyone with knowledge of possible bid rigging, bidding collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

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 February 2016 letting

Cargo Preference Act Requirement

All Federal-aid projects shall comply with 46 CFR 381.7 (a) – (b) as follows:

(a) *Agreement Clauses.* "Use of United States-flag vessels:"

(1) Pursuant to Pub. L. 664 (43 U.S.C. 1241(b)) at least 50 percent of any equipment, materials or commodities procured, contracted for or otherwise obtained with funds granted, guaranteed, loaned, or advanced by the U.S. Government under this agreement, and which may be transported by ocean vessel, shall be transported on privately owned United States-flag commercial vessels, if available.

(2) Within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (a)(1) of this section shall be furnished to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590."

(b) *Contractor and Subcontractor Clauses.* "Use of United States-flag vessels: The contractor agrees—"

(1) To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.

(2) To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b) (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

(3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.

Effective with December 2017 Letting

WISCONSIN DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION AND SYSTEM DEVELOPMENT

SUPPLEMENTAL REQUIRED CONTRACT PROVISIONS FOR PROJECTS WITH FEDERAL AID

I. PREVAILING WAGE RATES

The attached U.S. Department of Labor (Davis-Bacon Minimum Wage Rates) furnishes the minimum prevailing wage rates pursuant to the Davis-Bacon and Related Acts. The wage rates shown are the minimum rates required by the contract to be paid during its life, however this is 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 will be allowed or authorized on account of the payment of wage rates in excess of those listed herein.

II. COVERAGE OF TRUCK DRIVERS

Truck drivers are covered by Davis-Bacon Minimum Wage Rates in the following circumstances:

- Drivers of a contractor or subcontractor for time spent working on the site of the work.
- Drivers of a contractor or subcontractor for time spent loading and/or unloading materials and supplies on the site of the work, if such time is not de minimis. https://www.dol.gov/whd/FOH/FOH_Ch15.pdf
- Truck drivers transporting materials or supplies between a facility that is deemed part of the site of the work and the actual construction site.
- Truck drivers transporting portions of the building or work between a site established specifically for the performance of the contract where a significant portion of such building or work is constructed and the physical place where the building or work called for in the contract will remain.

Truck drivers are not covered by Davis-Bacon Minimum Wage Rates in the following circumstances:

- Material delivery truck drivers while off the site of the work.
- Drivers of a contractor or subcontractor traveling between a Davis-Bacon job and a commercial supply facility while they are off the site of the work."
- Truck drivers whose time spent on the site of the work is de minimis, such as only a few minutes at a time merely to pick up or drop off materials or supplies.

Details are available online at:
https://www.dol.gov/whd/recovery/pwrb/Tab9.pdf
http://wisconsindot.gov/Pages/doing-bus/civil-rights/labornwage/trckng.aspx

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 and accessible place at the site of work:

a. A copy of the contractor's Equal Employment Opportunity Policy.

All required documents shall be posted by the first day of work and be accurate and complete. Postings must be readable, in an area where they will be noticed, and maintained until the last day of work.

IV. RESOURCES

Required information regarding compliance with federal provisions is found in the following resources:

- FHWA-1273 included in this contract
- U.S. Department of Labor Prevailing Wage Resource Book
- U.S. Department of Labor Field Operations Handbook
- U.S. Code of Federal Regulations
- Any applicable law, Act, or Executive Order enacted by the federal government at the time of the letting of this contract

General Decision Number: WI180010 05/25/2018 WI10

Superseded General Decision Number: WI20170010

State: Wisconsin

Construction Type: Highway

Counties: Wisconsin Statewide.

HIGHWAY, AIRPORT RUNWAY & TAXIWAY CONSTRUCTION PROJECTS (does not include bridges over navigable waters; tunnels; buildings in highway rest areas; and railroad construction)

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.35 for calendar year 2018 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.35 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2018. The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/05/2018
1	05/18/2018
2	05/25/2018

BRWI0001-002 06/01/2016

CRAWFORD, JACKSON, JUNEAU, LA CROSSE, MONROE, TREMPEALEAU, AND VERNON COUNTIES

	Rates	Fringes
BRICKLAYER	$ 31.84	20.95

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* BRWI0002-002 06/01/2017

ASHLAND, BAYFIELD, DOUGLAS, AND IRON COUNTIES

	Rates	Fringes
BRICKLAYER	$ 38.07	20.67

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* BRWI0002-005 06/01/2017

ADAMS, ASHLAND, BARRON, BROWN, BURNETT, CALUMET, CHIPPEWA, CLARK, COLUMBIA, DODGE, DOOR, DUNN, FLORENCE, FOND DU LAC, FOREST, GREEN LAKE, IRON, JEFFERSON, KEWAUNEE, LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE, MARQUETTE, MENOMINEE, OCONTO, ONEIDA, OUTAGAMIE, POLK, PORTAGE, RUSK, ST CROIX, SAUK, SHAWANO, SHEBOYGAN, TAYLOR, VILAS, WALWORTH, WAUPACA, WAUSHARA, WINNEBAGO, AND WOOD COUNTIES

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 34.87	21.46

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* BRWI0003-002 06/01/2017

BROWN, DOOR, FLORENCE, KEWAUNEE, MARINETTE, AND OCONTO COUNTIES

	Rates	Fringes
BRICKLAYER	$ 32.41	22.02

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* BRWI0004-002 06/01/2017

KENOSHA, RACINE, AND WALWORTH COUNTIES

	Rates	Fringes
BRICKLAYER	$ 36.79	22.99

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* BRWI0006-002 06/01/2017

ADAMS, CLARK, FOREST, LANGLADE, LINCOLN, MARATHON, MENOMINEE, ONEIDA, PORTAGE, PRICE, TAYLOR, VILAS AND WOOD COUNTIES

	Rates	Fringes
BRICKLAYER	$ 33.25	21.18

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* BRWI0007-002 06/01/2017

GREEN, LAFAYETTE, AND ROCK COUNTIES

	Rates	Fringes
BRICKLAYER	$ 33.77	22.37

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* BRWI0008-002 06/01/2017

MILWAUKEE, OZAUKEE, WASHINGTON, AND WAUKESHA COUNTIES

	Rates	Fringes
BRICKLAYER	$ 37.25	22.10

BRWI0011-002 06/01/2016

CALUMET, FOND DU LAC, MANITOWOC, AND SHEBOYGAN COUNTIES

	Rates	Fringes
BRICKLAYER	$ 32.22	20.57

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* BRWI0019-002 06/01/2017

BARRON, BUFFALO, BURNETT, CHIPPEWA, DUNN, EAU CLAIRE, PEPIN, PIERCE, POLK, RUSK, ST. CROIX, SAWYER AND WASHBURN COUNTIES

	Rates	Fringes
BRICKLAYER	$ 32.17	22.26

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* BRWI0034-002 06/01/2017

COLUMBIA AND SAUK COUNTIES

	Rates	Fringes
BRICKLAYER	$ 33.74	22.40

CARP0087-001 05/01/2016

BURNETT (W. of Hwy 48), PIERCE (W. of Hwy 29), POLK (W. of Hwys 35, 48 & 65), AND ST. CROIX (W. of Hwy 65) COUNTIES

	Rates	Fringes
Carpenter & Piledrivermen	$ 36.85	18.39

CARP0252-002 06/01/2016

ADAMS, BARRON, BAYFIELD (Eastern 2/3), BROWN, BUFFALO, BURNETT (E. of Hwy 48), CALUMET, CHIPPEWA, CLARK, COLUMBIA, CRAWFORD, DANE, DODGE, DOOR, DUNN, EAU CLAIRE, FLORENCE (except area bordering Michigan State Line), FOND DU LAC, FOREST, GRANT, GREEN, GREEN LAKE, IOWA, IRON, JACKSON, JEFFERSON, JUNEAU, KEWAUNEE, LA CROSSE, LAFAYETTE, LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE (except N.E. corner), MARQUETTE, MENOMINEE, MONROE, OCONTO, ONEIDA, OUTAGAMIE, PEPIN, PIERCE (E. of Hwys 29 & 65), POLK (E. of Hwys 35, 48 & 65), PORTAGE, PRICE, RICHLAND, ROCK, RUSK, SAUK, SAWYER, SHAWANO, SHEBOYGAN,

ST CROIX (E. of Hwy 65), TAYLOR, TREMPEALEAU, VERNON, VILAS, WALWORTH, WASHBURN, WAUPACA, WAUSHARA, WINNEBAGO, AND WOOD COUNTIES

	Rates	Fringes
CARPENTER		
CARPENTER	$ 33.56	18.00
MILLWRIGHT	$ 35.08	18.35
PILEDRIVER	$ 34.12	18.00

CARP0252-010 06/01/2016

ASHLAND COUNTY

	Rates	Fringes
Carpenters		
Carpenter	$ 33.56	18.00
Millwright	$ 35.08	18.35
Pile Driver	$ 34.12	18.00

CARP0264-003 06/01/2016

KENOSHA, MILWAUKEE, OZAUKEE, RACINE, WAUKESHA, AND WASHINGTON COUNTIES

	Rates	Fringes
CARPENTER	$ 35.78	22.11

CARP0361-004 05/01/2016

BAYFIELD (West of Hwy 63) AND DOUGLAS COUNTIES

	Rates	Fringes
CARPENTER	$ 34.57	18.16

CARP2337-001 06/01/2016

ZONE A: MILWAUKEE, OZAUKEE, WAUKESHA AND WASHINGTON

ZONE B: KENOSHA & RACINE

	Rates	Fringes
PILEDRIVERMAN		
Zone A	$ 31.03	22.69
Zone B	$ 31.03	22.69

ELEC0014-002 12/01/2017

ASHLAND, BARRON, BAYFIELD, BUFFALO, BURNETT, CHIPPEWA, CLARK (except Maryville, Colby, Unity, Sherman, Fremont, Lynn & Sherwood), CRAWFORD, DUNN, EAU CLAIRE, GRANT, IRON, JACKSON, LA CROSSE, MONROE, PEPIN, PIERCE, POLK, PRICE, RICHLAND, RUSK, ST CROIX, SAWYER, TAYLOR, TREMPEALEAU, VERNON, AND WASHBURN COUNTIES

	Rates	Fringes
Electricians:	$ 33.21	19.75

ELEC0014-007 06/05/2017

REMAINING COUNTIES

	Rates	Fringes
Teledata System Installer		
Installer/Technician	$ 25.81	14.01

Low voltage construction, installation, maintenance and removal of teledata facilities (voice, data, and video) including outside plant, telephone and data inside wire, interconnect, terminal equipment, central offices, PABX,

fiber optic cable and equipment, micro waves, V-SAT, bypass, CATV, WAN (wide area networks), LAN (local area networks), and ISDN (integrated systems digital network).

ELEC0127-002 06/01/2017

KENOSHA COUNTY

	Rates	Fringes
Electricians:	$ 38.50	30%+10.57

ELEC0158-002 06/05/2017

BROWN, DOOR, KEWAUNEE, MANITOWOC (except Schleswig), MARINETTE(Wausuakee and area South thereof), OCONTO, MENOMINEE (East of a ine 6 miles West of the West boundary of Oconto County), SHAWANO (Except Area North of Townships of Aniwa and Hutchins) COUNTIES

	Rates	Fringes
Electricians:	$ 31.48	19.18

ELEC0159-003 06/05/2017

COLUMBIA, DANE, DODGE (Area West of Hwy 26, except Chester and Emmet Townships), GREEN, LAKE (except Townships of Berlin, Seneca, and St. Marie), IOWA, MARQUETTE (except Townships of Neshkoka, Crystal Lake, Newton, and Springfield), and SAUK COUNTIES

	Rates	Fringes
Electricians:	$ 37.75	20.96

ELEC0219-004 06/01/2016

FLORENCE COUNTY (Townships of Aurora, Commonwealth, Fern, Florence and Homestead) AND MARINETTE COUNTY (Township of Niagara)

	Rates	Fringes
Electricians:		
Electrical contracts over $180,000	$ 32.38	18.63
Electrical contracts under $180,000	$ 30.18	18.42

ELEC0242-005 06/04/2017

DOUGLAS COUNTY

	Rates	Fringes
Electricians:	$ 35.90	25.64

ELEC0388-002 05/30/2016

ADAMS, CLARK (Colby, Freemont, Lynn, Mayville, Sherman, Sherwood, Unity), FOREST, JUNEAU, LANGLADE, LINCOLN, MARATHON, MARINETTE (Beecher, Dunbar, Goodman & Pembine), MENOMINEE (Area West of a line 6 miles West of the West boundary of Oconto County), ONEIDA, PORTAGE, SHAWANO (Aniwa and Hutchins), VILAS AND WOOD COUNTIES

	Rates	Fringes
Electricians:	$ 30.69	26.00% +10.05

ELEC0430-002 06/01/2017

RACINE COUNTY (Except Burlington Township)

	Rates	Fringes

Electricians:.....$ 37.32 21.07

ELEC0494-005 06/01/2017

MILWAUKEE, OZAUKEE, WASHINGTON, AND WAUKESHA COUNTIES

	Rates	Fringes
Electricians:.....	$ 37.51	24.42

ELEC0494-006 06/01/2017

CALUMET (Township of New Holstein), DODGE (East of Hwy 26 including Chester Township), FOND DU LAC, MANITOWOC (Schleswig), and SHEBOYGAN COUNTIES

	Rates	Fringes
Electricians:.....	$ 32.06	21.88

ELEC0494-013 06/01/2017

DODGE (East of Hwy 26 including Chester Twp, excluding Emmet Twp), FOND DU LAC (Except Waupuin), MILWAUKEE, OZAUKEE, MANITOWOC (Schleswig), WASHINGTON, AND WAUKESHA COUNTIES

	Rates	Fringes
Sound & Communications		
Installer.....	$ 16.47	14.84
Technician.....	$ 27.88	18.73

Installation, testing, maintenance, operation and servicing of all sound, intercom, telephone interconnect, closed circuit TV systems, radio systems, background music systems, language laboratories, electronic carillion, antenna distribution systems, clock and program systems and low-voltage systems such as visual nurse call, audio/visual nurse call systems, doctors entrance register systems. Includes all wire and cable carrying audio, visual, data, light and radio frequency signals. Includes the installation of conduit, wiremold, or raceways in existing structures that have been occupied for six months or more where required for the protection of the wire or cable, but does not mean a complete conduit or raceway system. work covered does not include the installation of conduit, wiremold or any raceways in any new construction, or the installation of power supply outlets by means of which external electric power is supplied to any of the foregoing equipment or products

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ELEC0577-003 06/01/2017

CALUMET (except Township of New Holstein), GREEN LAKE (N. part including Townships of Berlin, St Marie, and Seneca), MARQUETTE (N. part including Townships of Crystal Lake, Neshkoro, Newton, and Springfield), OUTAGAMIE, WAUPACA, WAUSHARA, AND WINNEBAGO COUNTIES

	Rates	Fringes
Electricians:.....	$ 31.15	18.22

ELEC0890-003 06/01/2017

DODGE (Emmet Township only), GREEN, JEFFERSON, LAFAYETTE, RACINE (Burlington Township), ROCK AND WALWORTH COUNTIES

	Rates	Fringes
Electricians:.....	$ 33.25	19.34

ELEC0953-001 07/01/2015

	Rates	Fringes

Line Construction:

(1) Lineman	$ 42.14	32% + 5.00
(2) Heavy Equipment Operator	$ 40.03	32% + 5.00
(3) Equipment Operator	$ 33.71	32% + 5.00
(4) Heavy Groundman Driver	$ 26.78	14.11
(5) Light Groundman Driver	$ 24.86	13.45
(6) Groundsman	$ 23.18	32% + 5.00

ENGI0139-005 06/05/2017

	Rates	Fringes
Power Equipment Operator		
Group 1	$ 39.27	22.05
Group 2	$ 38.77	22.05
Group 3	$ 38.27	22.05
Group 4	$ 38.01	22.05
Group 5	$ 37.72	22.05
Group 6	$ 31.82	22.05

HAZARDOUS WASTE PREMIUMS:
EPA Level "A" protection - $3.00 per hour
EPA Level "B" protection - $2.00 per hour
EPA Level "C" protection - $1.00 per hour

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Cranes, tower cranes, and derricks with or without attachments with a lifting capacity of over 100 tons; or cranes, tower cranes, and derricks with boom, leads and/or jib lengths measuring 176 feet or longer.

GROUP 2: Cranes, tower cranes and derricks with or without attachments with a lifting capacity of 100 tons or less; or cranes, tower cranes, and derricks with boom, leads, and/or jibs lengths measuring 175 feet or under and Backhoes (excavators) weighing 130,000 lbs and over; caisson rigs; pile driver; dredge operator; dredge engineer; Boat Pilot.

GROUP 3: Mechanic or welder - Heavy duty equipment; cranes with a lifting capacity of 25 tons or under; concrete breaker (manual or remote); vibratory/sonic concrete breaker; concrete laser screed; concrete slipform paver; concrete batch plant operator; concrete pvt. spreader - heavy duty (rubber tired); concrete spreader & distributor; automatic subgrader (concrete); concrete grinder & planing machine; concrete slipform curb & gutter machine; slipform concrete placer; tube finisher; hydro blaster (10,000 psi & over); bridge paver; concrete conveyor system; concrete pump; Rotec type Conveyor; stabilizing mixer (self-propelled); shoulder widener; asphalt plant engineer; bituminious paver; bump cutter & grooving machine; milling machine; screed (bituminous paver); asphalt heater, planer & scarifier; Backhoes (excavators) weighing under 130,000 lbs; grader or motor patrol; tractor (scraper, dozer, pusher, loader); scraper - rubber tired (single or twin engine); endloader; hydraulic backhoe (tractor type); trenching machine; skid rigs; tractor, side boom (heavy); drilling or boring machine (mechanical heavy); roller over 5 tons; percussion or rotary drilling machine; air track; blaster; loading machine (conveyor); tugger; boatmen; winches & A-frames; post driver; material hoist.

GROUP 4: Greaser, roller steel (5 tons or less); roller (pneumatic tired) - self propelled; tractor (mounted or towed compactors & light equipment); shouldering machine; self- propelled chip spreader; concrete spreader; finishing machine; mechanical float; curing machine; power subgrader; joint sawer (multiple blade) belting machine; burlap machine; texturing machine; tractor endloader (rubber tired) - light; jeep digger; forklift; mulcher; launch operator; fireman, environmental burner

GROUP 5: Air compressor; power pack; vibrator hammer and extractor; heavy equipment, leadman; tank car heaters; stump chipper; curb machine operator; Concrete proportioning plants; generators; mudjack operator; rock breaker; crusher or screening plant; screed (milling machine); automatic belt conveyor and surge bin; pug mill

operator; Oiler, pump (over 3 inches); Drilling Machine Tender.

GROUP 6: Off-road material hauler with or without ejector.

IRON0008-002 06/01/2017

BROWN, CALUMET, DOOR, FOND DU LAC, KEWAUNEE, MANITOWOC, MARINETTE, OCONTO, OUTAGAMI, SHAWANO, SHEBOYGAN, AND WINNEBAGO COUNTIES:

	Rates	Fringes
IRONWORKER	$ 31.24	26.97

Paid Holidays: New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day & Christmas Day.

IRON0008-003 06/01/2017

KENOSHA, MILWAUKEE, OZAUKEE, RACINE, WALWORTH (N.E. 2/3), WASHINGTON, AND WAUKESHA COUNTIES

	Rates	Fringes
IRONWORKER	$ 33.19	26.97

Paid Holidays: New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day & Christmas Day.

IRON0383-001 06/01/2017

ADAMS, COLUMBIA, CRAWFORD, DANE, DODGE, FLORENCE, FOREST, GRANT, GREENE, (Excluding S.E. tip), GREEN LAKE, IOWA, JEFFERSON, JUNEAU, LA CROSSE, LAFAYETTE, LANGLADE, MARATHON, MARQUETTE, MENOMINEE, MONROE, PORTAGE, RICHLAND, ROCK (Northern area, vicinity of Edgerton and Milton), SAUK, VERNON, WAUPACA, WAUSHARA, AND WOOD COUNTIES

	Rates	Fringes
IRONWORKER	$ 34.50	23.82

IRON0498-005 06/01/2016

GREEN (S.E. 1/3), ROCK (South of Edgerton and Milton), and WALWORTH (S.W. 1/3) COUNTIES:

	Rates	Fringes
IRONWORKER	$ 36.29	30.77

IRON0512-008 05/01/2017

BARRON, BUFFALO, CHIPPEWA, CLARK, DUNN, EAU CLAIRE, JACKSON, PEPIN, PIERCE, POLK, RUSK, ST CROIX, TAYLOR, AND TREMPEALEAU COUNTIES

	Rates	Fringes
IRONWORKER	$ 36.50	26.45

IRON0512-021 05/01/2017

ASHLAND, BAYFIELD, BURNETT, DOUGLAS, IRON, LINCOLN, ONEIDA, PRICE, SAWYER, VILAS AND WASHBURN COUNTIES

	Rates	Fringes
IRONWORKER	$ 32.04	26.45

LABO0113-002 06/05/2017

MILWAUKEE AND WAUKESHA COUNTIES

	Rates	Fringes
LABORER		
Group 1	$ 26.80	21.34
Group 2	$ 26.95	21.34
Group 3	$ 27.15	21.34
Group 4	$ 27.30	21.34
Group 5	$ 27.45	21.34
Group 6	$ 23.29	21.34

LABORERS CLASSIFICATIONS

GROUP 1: General Laborer; Tree Trimmer; Conduit Layer; Demolition and Wrecking Laborer; Guard Rail, Fence, and Bridge Builder; Landscaper; Multiplate Culvert Assembler; Stone Handler; Bituminous Worker (Shoveler, Loader, and Utility Man); Batch Truck Dumper or Cement Handler; Bituminous Worker (Dumper, Ironer, Smoother, and Tamper); Concrete Handler

GROUP 2: Air Tool Operator; Joint Sawer and Filler (Pavement); Vibrator or Tamper Operator (Mechanical Hand Operated); Chain Saw Operator; Demolition Burning Torch Laborer

GROUP 3: Bituminous Worker (Raker and Luteman); Formsetter (Curb, Sidewalk, and Pavement); Strike Off Man

GROUP 4: Line and Grade Specialist

GROUP 5: Blaster and Powderman

GROUP 6: Flagperson; traffic control person

LABO0113-003 06/05/2017

OZAUKEE AND WASHINGTON COUNTIES

	Rates	Fringes
LABORER		
Group 1	$ 26.05	21.34
Group 2	$ 26.15	21.34
Group 3	$ 26.20	21.34
Group 4	$ 26.40	21.34
Group 5	$ 26.25	21.34
Group 6	$ 23.14	21.34

LABORERS CLASSIFICATIONS

GROUP 1: General Laborer; Tree Trimmer; Conduit Layer; Demolition and Wrecking Laborer; Guard Rail, Fence, and Bridge Builder; Landscaper; Multiplate Culvert Assembler; Stone Handler; Bituminous Worker (Shoveler, Loader, and Utility Man); Batch Truck Dumper or Cement Handler; Bituminous Worker (Dumper, Ironer, Smoother, and Tamper); Concrete Handler

GROUP 2: Air Tool Operator; Joint Sawer and Filler (Pavement); Vibrator or Tamper Operator (Mechanical Hand Operated);

GROUP 3: Bituminous Worker (Raker and Luteman); Formsetter (Curb, Sidewalk, and Pavement); Strike Off Man

GROUP 4: Line and Grade Specialist

GROUP 5: Blaster; powderman

GROUP 6: Flagperson and Traffic Control Person

LABO0113-011 06/05/2017

KENOSHA AND RACINE COUNTIES

	Rates	Fringes

LABORER

Group 1	$ 25.86	21.34
Group 2	$ 26.01	21.34
Group 3	$ 26.21	21.34
Group 4	$ 26.18	21.34
Group 5	$ 26.51	21.34
Group 6	$ 23.00	21.34

LABORERS CLASSIFICATIONS:

GROUP 1: General laborer; Tree Trimmer; Conduit Layer; Demolition and Wrecking Laborer; Guard Rail, Fence, and Bridge Builder; Landscaper; Multiplate Culvert Assembler; Stone Handler; Bituminous Worker (Shoveler, Loader, and Utility Man); Batch Truck Dumper or Cement Handler; Bituminous worker (Dumper, Ironer, Smoother, and Tamper); Concrete Handler

GROUP 2: Air Tool Operator; Joint Sawer and Filler (Pavement); Vibrator or Tamper Operator (Mechanical Hand Operated); Chain Saw Operator; Demolition Burning Torch Laborer

GROUP 3: Bituminous Worker (Raker and Luteman); Formsetter (Curb, Sidewalk, and Pavement); Strike Off Man

GROUP 4: Line and Grade Specialist

GROUP 5: Blaster and Powderman

GROUP 6: Flagman; traffic control person

LABO0140-002 06/05/2017

ADAMS, ASHLAND, BARRON, BAYFIELD, BROWN, BUFFALO, BURNETT, CALUMET, CHIPPEWA, CLARK, COLUMBIA, CRAWFORD, DODGE, DOOR, DOUGLAS, DUNN, EAU CLAIRE, FLORENCE, FOND DU LAC, FOREST, GRANT, GREEN, GREEN LAKE, IRON, JACKSON, JUNEAU, IOWA, JEFFERSON, KEWAUNEE, LA CROSSE, LAFAYETTE, LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE, MARQUETTE, MENOMINEE, MONROE, OCONTO, ONEIDA, OUTAGAMIE, PEPIN, PIERCE, POLK, PORTAGE, PRICE, RICHLAND, ROCK, RUSK, SAUK, SAWYER, SHAWANO, SHEBOYGAN, ST. CROIX, TAYLOR, TREMPEALEAU, VERNON, VILLAS, WALWORTH, WASHBURN, WAUPACA, WAUSHARA, WINNEBAGO, AND WOOD COUNTIES

	Rates	Fringes
LABORER		
Group 1	$ 30.71	16.79
Group 2	$ 30.81	16.79
Group 3	$ 30.86	16.79
Group 4	$ 31.06	16.79
Group 5	$ 30.91	16.79
Group 6	$ 27.34	16.79

LABORER CLASSIFICATIONS

GROUP 1: General Laborer; Tree Trimmer; Conduit Layer; Demolition and Wrecking Laborer; Guard Rail, Fence, and Bridge Builder; Landscaper; Multiplate Culvert Assembler; Stone Handler; Bitminous Worker (Shoveler, Loader, and Utility Man); Batch Truck Dumper or Cement Handler; Bituminous Worker (Dumper, Ironer, Smoother and Tamper); Concrete Handler

GROUP 2: Air Tool Operator; Joint Sawer and Filler (Pavement); Vibrator or Tamper Operator (Mechanical Hand Operated); Chain Saw Operator, Demolition Burning Torch Laborer

GROUP 3: Bituminous Worker (Raker and Luteman); Formsetter (Curb, Sidewalk and Pavement); Strike Off Man

GROUP 4: Line and Grade Secialist

GROUP 5: Blaster; powderman

GROUP 6: Flagperson; Traffic Control

LABO0464-003 06/05/2017

DANE COUNTY

	Rates	Fringes
LABORER		
Group 1	$ 30.99	16.79
Group 2	$ 31.09	16.79
Group 3	$ 31.14	16.79
Group 4	$ 31.34	16.79
Group 5	$ 31.19	16.79
Group 6	$ 27.34	16.79

LABORERS CLASSIFICATIONS:

GROUP 1: General Laborer; Tree Trimmer; Conduit Layer; Demolition and Wrecking Laborer; Guard Rail, Fence, and Bridge Builder; Landscaper; Multiplate Culvert Assembler; Stone Handler; Bituminous Worker (Shoveler, Loader, and Utility Man); Batch Truck Dumper or Cement Handler; Bituminious Worker (Dumper, Ironer, Smoother, and Tamper); Concrete Handler

GROUP 2: Air Tool Operator; Joint Sawer and Filler (Pavement); Vibrator or Tamper Operator (Mechanical Hand Operated); Chain Saw Operator; Demolition Burning Torch Laborer

GROUP 3: Bituminous Worker (Raker and Luteman); Formsetter (Curb, Sidewalk, and Pavement); Strike Off Man

GROUP 4: Line and Grade Specialist

GROUP 5: Blaster; Powderman

GROUP 6: Flagperson and Traffic Control Person

PAIN0106-008 05/01/2017

ASHLAND, BAYFIELD, BURNETT, AND DOUGLAS COUNTIES

	Rates	Fringes
Painters:		
New:		
Brush, Roller	$ 30.33	17.27
Spray, Sandblast, Steel	$ 30.93	17.27
Repaint:		
Brush, Roller	$ 28.83	17.27
Spray, Sandblast, Steel	$ 29.43	17.27

PAIN0108-002 06/01/2017

RACINE COUNTY

	Rates	Fringes
Painters:		
Brush, Roller	$ 33.74	18.95
Spray & Sandblast	$ 34.74	18.95

PAIN0259-002 05/01/2008

BARRON, CHIPPEWA, DUNN, EAU CLAIRE, PEPIN, PIERCE, POLK, RUSK, SAWYER, ST. CROIX, AND WASHBURN COUNTIES

	Rates	Fringes
PAINTER	$ 24.11	12.15

PAIN0259-004 05/01/2015

BUFFALO, CRAWFORD, JACKSON, LA CROSSE, MONROE, TREMPEALEAU, AND VERNON COUNTIES

	Rates	Fringes
PAINTER	$ 22.03	12.45

PAIN0781-002 06/01/2017

JEFFERSON, MILWAUKEE, OZAUKEE, WASHINGTON, AND WAUKESHA COUNTIES

	Rates	Fringes
Painters:		
Bridge	$ 30.60	22.80
Brush	$ 30.25	22.80
Spray & Sandblast	$ 31.00	22.80

PAIN0802-002 06/01/2017

COLUMBIA, DANE, DODGE, GRANT, GREEN, IOWA, LAFAYETTE, RICHLAND, ROCK, AND SAUK COUNTIES

	Rates	Fringes
PAINTER		
Brush	$ 28.25	17.72

PREMIUM PAY:
Structural Steel, Spray, Bridges = $1.00 additional per hour.

PAIN0802-003 06/01/2017

ADAMS, BROWN, CALUMET, CLARK, DOOR, FOND DU LAC, FOREST, GREEN LAKE, IRON, JUNEAU, KEWAUNEE, LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE, MARQUETTE, MENOMINEE, OCONTO, ONEIDA, OUTAGAMIE, PORTAGE, PRICE, SHAWANO, SHEBOYGAN, TAYLOR, VILAS, WAUSHARA, WAUPACA, WINNEBAGO, AND WOOD COUNTIES

	Rates	Fringes
PAINTER	$ 24.89	12.05

PAIN0934-001 06/01/2017

KENOSHA AND WALWORTH COUNTIES

	Rates	Fringes
Painters:		
Brush	$ 33.74	18.95
Spray	$ 34.74	18.95
Structural Steel	$ 33.89	18.95

PAIN1011-002 06/01/2017

FLORENCE COUNTY

	Rates	Fringes
Painters:	$ 24.86	12.23

PLAS0599-010 06/01/2017

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER		
Area 1	$ 39.46	17.17
Area 2 (BAC)	$ 35.07	19.75
Area 3	$ 35.61	19.40
Area 4	$ 34.70	20.51
Area 5	$ 36.27	18.73
Area 6	$ 32.02	22.99

AREA DESCRIPTIONS

AREA 1: BAYFIELD, DOUGLAS, PRICE, SAWYER, AND WASHBURN COUNTIES

AREA 2: ADAMS, ASHLAND, BARRON, BROWN, BURNETT, CALUMET,

CHIPPEWA, CLARK, COLUMBIA, DODGE, DOOR, DUNN, FLORENCE, FOND DU LAC, FOREST, GREEN LAKE, IRON, JEFFERSON, KEWAUNEE, LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE, MARQUETTE, MENOMINEE, OCONTO, ONEIDA, OUTAGAMIE, POLK, PORTAGE, RUSK, ST CROIX, SAUK, SHAWANO, SHEBOYGAN, TAYLOR, VILAS, WALWORTH, WAUPACA, WAUSHARA, WINNEBAGO, AND WOOD COUNTIES

AREA 3: BUFFALO, CRAWFORD, EAU CLAIRE, JACKSON, JUNEAU, LA CROSSE MONROE, PEPIN, PIERCE, RICHLAND, TREMPEALEAU, AND VERNON COUNTIES

AREA 4: MILWAUKEE, OZAUKEE, WASHINGTON, AND WAUKESHA COUNTIES

AREA 5: DANE, GRANT, GREEN, IOWA, LAFAYETTE, AND ROCK COUNTIES

AREA 6: KENOSHA AND RACINE COUNTIES

TEAM0039-001 06/01/2017

	Rates	Fringes
TRUCK DRIVER		
1 & 2 Axles	$ 27.40	20.48
3 or more Axles; Euclids Dumptor & Articulated, Truck Mechanic	$ 27.55	20.48
WELL DRILLER	$ 16.52	3.70

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example:

PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor

200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

March 2017

NOTICE TO BIDDERS
WAGE RATE DECISION

The wage rate decision of the Department of Labor which has been incorporated in these advertised specifications is incomplete in that the classifications may be omitted from the Department of Labor's decision.

Since the bidder is responsible, independently, for ascertaining area practice with respect to the necessity, or lack of necessity, for the use of these classifications in the prosecution of the work contemplated by this project, no inference may be drawn from the omission of these classifications concerning prevailing area practices relative to their use. Further, this omission will not, per se, be construed as establishing any governmental liability for increased labor cost if it is subsequently determined that such classifications are required.

There may be omissions and/or errors in the federal wage rates. The bidder is responsible for evaluating and determining the correct applicable rate.

If a project includes multiple types of construction (highway, bridge over navigable water, sanitary sewer and water main, building) and there is not a separate wage determination for this type of work included in the proposal, use the wage determination that is in the proposal.

Proposal ID: 20180710010 Project(s): 2788-00-71

Federal ID(s): WISC 2017512

SECTION: 0001 Contract Items

Alt Set ID: Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0002	201.0105 Clearing	242.000 STA	_____.____	_____.____
0004	201.0205 Grubbing	242.000 STA	_____.____	_____.____
0006	203.0100 Removing Small Pipe Culverts	17.000 EACH	_____.____	_____.____
0008	203.0200 Removing Old Structure (station) 01. 245+25	LS	LUMP SUM	_____.____
0010	203.0600.S Removing Old Structure Over Waterway With Minimal Debris (station) 01. 55+50	LS	LUMP SUM	_____.____
0012	204.0100 Removing Pavement	18,250.000 SY	_____.____	_____.____
0014	204.0110 Removing Asphaltic Surface	5,940.000 SY	_____.____	_____.____
0016	204.0130 Removing Curb	385.000 LF	_____.____	_____.____
0018	204.0150 Removing Curb & Gutter	7,210.000 LF	_____.____	_____.____
0020	204.0155 Removing Concrete Sidewalk	1,410.000 SY	_____.____	_____.____
0022	204.0165 Removing Guardrail	1,529.000 LF	_____.____	_____.____
0024	204.0170 Removing Fence	390.000 LF	_____.____	_____.____
0026	204.0190 Removing Surface Drains	1.000 EACH	_____.____	_____.____
0028	204.0195 Removing Concrete Bases	16.000 EACH	_____.____	_____.____
0030	204.0210 Removing Manholes	2.000 EACH	_____.____	_____.____
0032	204.0220 Removing Inlets	34.000 EACH	_____.____	_____.____

Proposal ID: 20180710010 Project(s): 2788-00-71

Federal ID(s): WISC 2017512

SECTION: 0001 Contract Items

Alt Set ID: Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0034	204.0245 Removing Storm Sewer (size) 01. 12-INCH	1,546.000 LF	_____._____	_____._____
0036	204.0280 Sealing Pipes	2.000 EACH	_____._____	_____._____
0038	204.0291.S Abandoning Sewer	165.000 CY	_____._____	_____._____
0040	204.9090.S Removing (item description) 01. MODULAR BLOCK RETAINING WALL	63.000 LF	_____._____	_____._____
0042	204.9105.S Removing (item description) 01. TRAFFIC SIGNALS AND LIGHTING INTERSECTION OF STH 59 AND CTH X/Saylesville Rd	LS	LUMP SUM	_____._____
0044	205.0100 Excavation Common	440,477.000 CY	_____._____	_____._____
0046	205.0400 Excavation Marsh	59,668.000 CY	_____._____	_____._____
0048	205.0501.S Excavation, Hauling, and Disposal of Petroleum Contaminated Soil	5,600.000 TON	_____._____	_____._____
0050	206.1000 Excavation for Structures Bridges (structure) 01. B-67-314	LS	LUMP SUM	_____._____
0052	206.1000 Excavation for Structures Bridges (structure) 02. B-67-315	LS	LUMP SUM	_____._____
0054	206.1000 Excavation for Structures Bridges (structure) 03. B-67-352	LS	LUMP SUM	_____._____
0056	206.1000 Excavation for Structures Bridges (structure) 04. B-67-353	LS	LUMP SUM	_____._____
0058	206.1000 Excavation for Structures Bridges (structure) 05. B-67-360	LS	LUMP SUM	_____._____

Proposal ID: 20180710010 Project(s): 2788-00-71

Federal ID(s): WISC 2017512

SECTION: 0001 Contract Items

Alt Set ID: Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0060	206.1000 Excavation for Structures Bridges (structure) 06. B-67-361	LS	LUMP SUM	_____.____
0062	206.1000 Excavation for Structures Bridges (structure) 07. B-67-354	LS	LUMP SUM	_____.____
0064	206.1000 Excavation for Structures Bridges (structure) 08. B-67-355	LS	LUMP SUM	_____.____
0066	206.2000 Excavation for Structures Culverts (structure) 01. C-67-88	LS	LUMP SUM	_____.____
0068	206.2000 Excavation for Structures Culverts (structure) 02. C-67-91	LS	LUMP SUM	_____.____
0070	206.3000 Excavation for Structures Retaining Walls (structure) 01. R-67-129	LS	LUMP SUM	_____.____
0072	206.5000 Cofferdams (structure) 01. C-67-91	LS	LUMP SUM	_____.____
0074	208.1100 Select Borrow	112,870.000 CY	_____.____	_____.____
0076	210.1500 Backfill Structure Type A	3,993.000 TON	_____.____	_____.____
0078	210.2500 Backfill Structure Type B	2,053.000 TON	_____.____	_____.____
0080	213.0100 Finishing Roadway (project) 01. 2788-00-71	1.000 EACH	_____.____	_____.____
0082	214.0100 Obliterating Old Road	18.300 STA	_____.____	_____.____
0084	305.0110 Base Aggregate Dense 3/4-Inch	5,520.000 TON	_____.____	_____.____
0086	305.0120 Base Aggregate Dense 1 1/4-Inch	125,663.000 TON	_____.____	_____.____
0088	305.0500 Shaping Shoulders	16.000 STA	_____.____	_____.____

Proposal ID: 20180710010 Project(s): 2788-00-71

Federal ID(s): WISC 2017512

SECTION: 0001 Contract Items

Alt Set ID: Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0090	305.0502.S Shaping Roadway	114.000 STA	_____.____	_____.____
0092	310.0110 Base Aggregate Open-Graded	1,055.000 TON	_____.____	_____.____
0094	311.0110 Breaker Run	86,200.000 TON	_____.____	_____.____
0096	311.0115 Breaker Run	374.000 CY	_____.____	_____.____
0098	312.0110 Select Crushed Material	288,200.000 TON	_____.____	_____.____
0100	415.0080 Concrete Pavement 8-Inch	151,190.000 SY	_____.____	_____.____
0102	415.0210 Concrete Pavement Gaps	26.000 EACH	_____.____	_____.____
0104	415.0410 Concrete Pavement Approach Slab	1,000.000 SY	_____.____	_____.____
0106	415.1080 Concrete Pavement HES 8-Inch	800.000 SY	_____.____	_____.____
0108	415.5110.S Concrete Pavement Joint Layout	1.000 LS	_____.____	_____.____
0110	416.0170 Concrete Driveway 7-Inch	180.000 SY	_____.____	_____.____
0112	416.0270 Concrete Driveway HES 7-Inch	180.000 SY	_____.____	_____.____
0114	416.1010 Concrete Surface Drains	23.500 CY	_____.____	_____.____
0116	440.4410 Incentive IRI Ride	22,200.000 DOL	1.00000	22,200.00
0118	450.4000 HMA Cold Weather Paving	600.000 TON	_____.____	_____.____
0120	455.0605 Tack Coat	2,500.000 GAL	_____.____	_____.____
0122	460.2000 Incentive Density HMA Pavement	11,680.000 DOL	1.00000	11,680.00

Proposal ID: 20180710010 Project(s): 2788-00-71

Federal ID(s): WISC 2017512

SECTION: 0001 Contract Items

Alt Set ID: Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0124	460.6223 HMA Pavement 3 MT 58-28 S	9,150.000 TON	_____.____	_____.____
0126	460.6224 HMA Pavement 4 MT 58-28 S	8,900.000 TON	_____.____	_____.____
0128	465.0105 Asphaltic Surface	2,400.000 TON	_____.____	_____.____
0130	465.0120 Asphaltic Surface Driveways and Field Entrances	630.000 TON	_____.____	_____.____
0132	465.0125 Asphaltic Surface Temporary	1,900.000 TON	_____.____	_____.____
0134	465.0315 Asphaltic Flumes	123.200 SY	_____.____	_____.____
0136	495.1000.S Cold patch	20.000 TON	_____.____	_____.____
0138	501.1000.S Ice Hot Weather Concreting	38,780.000 LB	_____.____	_____.____
0140	502.0100 Concrete Masonry Bridges	4,272.000 CY	_____.____	_____.____
0142	502.3200 Protective Surface Treatment	7,029.000 SY	_____.____	_____.____
0144	502.3210 Pigmented Surface Sealer	1,545.000 SY	_____.____	_____.____
0146	503.0137 Prestressed Girder Type I 36W-Inch	5,633.000 LF	_____.____	_____.____
0148	503.0146 Prestressed Girder Type I 45W-Inch	1,554.000 LF	_____.____	_____.____
0150	504.0100 Concrete Masonry Culverts	739.000 CY	_____.____	_____.____
0152	504.0500 Concrete Masonry Retaining Walls	161.000 CY	_____.____	_____.____
0154	505.0400 Bar Steel Reinforcement HS Structures	96,750.000 LB	_____.____	_____.____

Proposal ID: 20180710010 Project(s): 2788-00-71

Federal ID(s): WISC 2017512

SECTION: 0001 Contract Items

Alt Set ID: Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0156	505.0600 Bar Steel Reinforcement HS Coated Structures	733,650.000 LB	_____.____	_____.____
0158	505.0800.S Bar Steel Reinforcement HS Stainless Structures	12,260.000 LB	_____.____	_____.____
0160	506.0605 Structural Steel HS	72,094.000 LB	_____.____	_____.____
0162	506.2605 Bearing Pads Elastomeric Non-Laminated	152.000 EACH	_____.____	_____.____
0164	506.4000 Steel Diaphragms (structure) 01. B-67-314	3.000 EACH	_____.____	_____.____
0166	506.4000 Steel Diaphragms (structure) 02. B-67-315	5.000 EACH	_____.____	_____.____
0168	506.4000 Steel Diaphragms (structure) 03. B-67-352	12.000 EACH	_____.____	_____.____
0170	506.4000 Steel Diaphragms (structure) 04. B-67-353	12.000 EACH	_____.____	_____.____
0172	506.4000 Steel Diaphragms (structure) 05. B-67-360	20.000 EACH	_____.____	_____.____
0174	506.4000 Steel Diaphragms (structure) 06. B-67-361	20.000 EACH	_____.____	_____.____
0176	506.4000 Steel Diaphragms (structure) 07. B-67-354	28.000 EACH	_____.____	_____.____
0178	506.4000 Steel Diaphragms (structure) 08. B-67-355	20.000 EACH	_____.____	_____.____
0180	511.1200 Temporary Shoring (structure) 01. C-67-88	425.000 SF	_____.____	_____.____

Proposal ID: 20180710010 Project(s): 2788-00-71

Federal ID(s): WISC 2017512

SECTION: 0001 Contract Items

Alt Set ID: Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0182	511.1200 Temporary Shoring (structure) 02. C-67-91	1,130.000 SF	_____.____	_____.____
0184	511.1200 Temporary Shoring (structure) 03. R-67-145	2,080.000 SF	_____.____	_____.____
0186	511.1200 Temporary Shoring (structure) 05. B-67-360	125.000 SF	_____.____	_____.____
0188	511.1200 Temporary Shoring (structure) 06. B-67-361	125.000 SF	_____.____	_____.____
0190	516.0500 Rubberized Membrane Waterproofing	273.000 SY	_____.____	_____.____
0192	516.0610.S Sheet Membrane Waterproofing for Top Slab (structure) 01. C-67-88	426.000 SY	_____.____	_____.____
0194	517.0600 Painting Epoxy System (structure) 01. R-67-129	 LS	LUMP SUM	_____.____
0196	520.5124 Culvert Pipe Class V 24-Inch	106.000 LF	_____.____	_____.____
0198	520.8000 Concrete Collars for Pipe	42.000 EACH	_____.____	_____.____
0200	521.1012 Apron Endwalls for Culvert Pipe Steel 12-Inch	3.000 EACH	_____.____	_____.____
0202	521.3142 Culvert Pipe Corrugated Steel 42-Inch	115.000 LF	_____.____	_____.____
0204	522.0115 Culvert Pipe Reinforced Concrete Class III 15-Inch	100.000 LF	_____.____	_____.____
0206	522.0118 Culvert Pipe Reinforced Concrete Class III 18-Inch	133.000 LF	_____.____	_____.____
0208	522.0124 Culvert Pipe Reinforced Concrete Class III 24-Inch	250.000 LF	_____.____	_____.____

Proposal ID: 20180710010 Project(s): 2788-00-71

Federal ID(s): WISC 2017512

SECTION: 0001 Contract Items

Alt Set ID: Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0210	522.0130 Culvert Pipe Reinforced Concrete Class III 30-Inch	318.000 LF	_____.____	_____.____
0212	522.0136 Culvert Pipe Reinforced Concrete Class III 36-Inch	128.000 LF	_____.____	_____.____
0214	522.0142 Culvert Pipe Reinforced Concrete Class III 42-Inch	755.000 LF	_____.____	_____.____
0216	522.0412 Culvert Pipe Reinforced Concrete Class IV 12-Inch	182.000 LF	_____.____	_____.____
0218	522.1012 Apron Endwalls for Culvert Pipe Reinforced Concrete 12-Inch	43.000 EACH	_____.____	_____.____
0220	522.1015 Apron Endwalls for Culvert Pipe Reinforced Concrete 15-Inch	38.000 EACH	_____.____	_____.____
0222	522.1018 Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	22.000 EACH	_____.____	_____.____
0224	522.1024 Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	13.000 EACH	_____.____	_____.____
0226	522.1030 Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch	5.000 EACH	_____.____	_____.____
0228	522.1036 Apron Endwalls for Culvert Pipe Reinforced Concrete 36-Inch	4.000 EACH	_____.____	_____.____
0230	522.1042 Apron Endwalls for Culvert Pipe Reinforced Concrete 42-Inch	10.000 EACH	_____.____	_____.____
0232	522.2324 Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-III 24x38-Inch	550.000 LF	_____.____	_____.____
0234	522.2414 Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 14x23-Inch	146.000 LF	_____.____	_____.____

Proposal ID: 20180710010 Project(s): 2788-00-71

Federal ID(s): WISC 2017512

SECTION: 0001 Contract Items

Alt Set ID: Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0236	522.2419 Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 19x30-Inch	20.000 LF	_____.____	_____.____
0238	522.2424 Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 24x38-Inch	95.000 LF	_____.____	_____.____
0240	522.2429 Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 29x45-Inch	234.000 LF	_____.____	_____.____
0242	522.2614 Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 14x23-Inch	9.000 EACH	_____.____	_____.____
0244	522.2619 Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 19x30-Inch	8.000 EACH	_____.____	_____.____
0246	522.2624 Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 24x38-Inch	9.000 EACH	_____.____	_____.____
0248	522.2629 Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 29x45-Inch	9.000 EACH	_____.____	_____.____
0250	550.0500 Pile Points	223.000 EACH	_____.____	_____.____
0252	550.1120 Piling Steel HP 12-Inch X 53 Lb	8,970.000 LF	_____.____	_____.____
0254	550.2108 Piling CIP Concrete 10 3/4 X 0.50-Inch	2,935.000 LF	_____.____	_____.____
0256	550.2148 Piling CIP Concrete 14 X 0.50-Inch	1,170.000 LF	_____.____	_____.____
0258	601.0105 Concrete Curb Type A	60.000 LF	_____.____	_____.____
0260	601.0110 Concrete Curb Type D	380.000 LF	_____.____	_____.____

Proposal ID: 20180710010 Project(s): 2788-00-71

Federal ID(s): WISC 2017512

SECTION: 0001 Contract Items

Alt Set ID: Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0262	601.0409 Concrete Curb & Gutter 30-Inch Type A	1,965.000 LF	_____.____	_____.____
0264	601.0411 Concrete Curb & Gutter 30-Inch Type D	3,905.000 LF	_____.____	_____.____
0266	601.0413 Concrete Curb & Gutter 6-Inch Sloped 30-Inch Type G	38,680.000 LF	_____.____	_____.____
0268	601.0415 Concrete Curb & Gutter 6-Inch Sloped 30-Inch Type J	5,270.000 LF	_____.____	_____.____
0270	601.0557 Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	250.000 LF	_____.____	_____.____
0272	601.0574 Concrete Curb & Gutter 4-Inch Sloped 30-Inch Type G	2,050.000 LF	_____.____	_____.____
0274	601.0576 Concrete Curb & Gutter 4-Inch Sloped 30-Inch Type J	480.000 LF	_____.____	_____.____
0276	601.0600 Concrete Curb Pedestrian	155.000 LF	_____.____	_____.____
0278	602.0410 Concrete Sidewalk 5-Inch	105,800.000 SF	_____.____	_____.____
0280	602.0420 Concrete Sidewalk 7-Inch	105.000 SF	_____.____	_____.____
0282	602.0505 Curb Ramp Detectable Warning Field Yellow	1,175.000 SF	_____.____	_____.____
0284	602.0605 Curb Ramp Detectable Warning Field Radial Yellow	190.200 SF	_____.____	_____.____
0286	603.1132 Concrete Barrier Type S32	10.000 LF	_____.____	_____.____
0288	603.1136 Concrete Barrier Type S36	42.000 LF	_____.____	_____.____
0290	603.1236 Concrete Barrier Type S36A	2,583.000 LF	_____.____	_____.____

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0292	603.1442 Concrete Barrier Type S42C	190.000 LF	_____.____	_____.____
0294	603.3513 Concrete Barrier Transition Type S32 to S36	1.000 EACH	_____.____	_____.____
0296	603.8000 Concrete Barrier Temporary Precast Delivered	300.000 LF	_____.____	_____.____
0298	603.8125 Concrete Barrier Temporary Precast Installed	300.000 LF	_____.____	_____.____
0300	606.0100 Riprap Light	192.000 CY	_____.____	_____.____
0302	606.0200 Riprap Medium	365.000 CY	_____.____	_____.____
0304	606.0300 Riprap Heavy	2,515.000 CY	_____.____	_____.____
0306	608.0312 Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	285.000 LF	_____.____	_____.____
0308	608.0315 Storm Sewer Pipe Reinforced Concrete Class III 15-Inch	832.000 LF	_____.____	_____.____
0310	608.0318 Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	870.000 LF	_____.____	_____.____
0312	608.0324 Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	576.000 LF	_____.____	_____.____
0314	608.0336 Storm Sewer Pipe Reinforced Concrete Class III 36-Inch	1,489.000 LF	_____.____	_____.____
0316	608.0342 Storm Sewer Pipe Reinforced Concrete Class III 42-Inch	354.000 LF	_____.____	_____.____
0318	608.0412 Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch	5,341.000 LF	_____.____	_____.____

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0320	608.0415 Storm Sewer Pipe Reinforced Concrete Class IV 15-Inch	4,817.000 LF	_____.____	_____.____
0322	608.0418 Storm Sewer Pipe Reinforced Concrete Class IV 18-Inch	2,429.000 LF	_____.____	_____.____
0324	608.0424 Storm Sewer Pipe Reinforced Concrete Class IV 24-Inch	1,917.000 LF	_____.____	_____.____
0326	608.0430 Storm Sewer Pipe Reinforced Concrete Class IV 30-Inch	111.000 LF	_____.____	_____.____
0328	608.2314 Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical Class HE-III 14x23-Inch	27.000 LF	_____.____	_____.____
0330	608.2324 Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical Class HE-III 24x38-Inch	127.000 LF	_____.____	_____.____
0332	608.2329 Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical Class HE-III 29x45-Inch	36.000 LF	_____.____	_____.____
0334	608.2419 Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 19x30-Inch	623.000 LF	_____.____	_____.____
0336	611.0430 Reconstructing Inlets	3.000 EACH	_____.____	_____.____
0338	611.0530 Manhole Covers Type J	17.000 EACH	_____.____	_____.____
0340	611.0535 Manhole Covers Type J-Special	15.000 EACH	_____.____	_____.____
0342	611.0610 Inlet Covers Type BW	5.000 EACH	_____.____	_____.____
0344	611.0624 Inlet Covers Type H	26.000 EACH	_____.____	_____.____

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0346	611.0630 Inlet Covers Type HM-GJ	204.000 EACH	_____.____	_____.____
0348	611.0633 Inlet Covers Type HM-GJ-S	17.000 EACH	_____.____	_____.____
0350	611.0639 Inlet Covers Type H-S	4.000 EACH	_____.____	_____.____
0352	611.0642 Inlet Covers Type MS	52.000 EACH	_____.____	_____.____
0354	611.0654 Inlet Covers Type V	25.000 EACH	_____.____	_____.____
0356	611.1004 Catch Basins 4-FT Diameter	6.000 EACH	_____.____	_____.____
0358	611.1005 Catch Basins 5-FT Diameter	1.000 EACH	_____.____	_____.____
0360	611.1006 Catch Basins 6-FT Diameter	3.000 EACH	_____.____	_____.____
0362	611.1230 Catch Basins 2x3-FT	3.000 EACH	_____.____	_____.____
0364	611.2004 Manholes 4-FT Diameter	23.000 EACH	_____.____	_____.____
0366	611.2005 Manholes 5-FT Diameter	21.000 EACH	_____.____	_____.____
0368	611.2006 Manholes 6-FT Diameter	8.000 EACH	_____.____	_____.____
0370	611.2007 Manholes 7-FT Diameter	2.000 EACH	_____.____	_____.____
0372	611.3004 Inlets 4-FT Diameter	31.000 EACH	_____.____	_____.____
0374	611.3220 Inlets 2x2-FT	15.000 EACH	_____.____	_____.____
0376	611.3225 Inlets 2x2.5-FT	2.000 EACH	_____.____	_____.____
0378	611.3230 Inlets 2x3-FT	183.000 EACH	_____.____	_____.____

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0380	611.3901 Inlets Median 1 Grate	14.000 EACH	_____.____	_____.____
0382	611.3902 Inlets Median 2 Grate	18.000 EACH	_____.____	_____.____
0384	611.8120.S Cover Plates Temporary	15.000 EACH	_____.____	_____.____
0386	611.9710 Salvaged Inlet Covers	10.000 EACH	_____.____	_____.____
0388	611.9800.S Pipe Grates	12.000 EACH	_____.____	_____.____
0390	612.0106 Pipe Underdrain 6-Inch	3,825.000 LF	_____.____	_____.____
0392	612.0108 Pipe Underdrain 8-Inch	200.000 LF	_____.____	_____.____
0394	612.0206 Pipe Underdrain Unperforated 6-Inch	440.000 LF	_____.____	_____.____
0396	612.0208 Pipe Underdrain Unperforated 8-Inch	40.000 LF	_____.____	_____.____
0398	612.0212 Pipe Underdrain Unperforated 12-Inch	124.000 LF	_____.____	_____.____
0400	612.0406 Pipe Underdrain Wrapped 6-Inch	4,276.000 LF	_____.____	_____.____
0402	612.0700 Drain Tile Exploration	400.000 LF	_____.____	_____.____
0404	612.0806 Apron Endwalls for Underdrain Reinforced Concrete 6-Inch	10.000 EACH	_____.____	_____.____
0406	614.0115 Anchorages for Steel Plate Beam Guard Type 2	1.000 EACH	_____.____	_____.____
0408	614.0150 Anchor Assemblies for Steel Plate Beam Guard	23.000 EACH	_____.____	_____.____
0410	614.0200 Steel Thrie Beam Structure Approach	41.000 LF	_____.____	_____.____

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0412	614.0220 Steel Thrie Beam Bullnose Terminal	3.000 EACH	_____.____	_____.____
0414	614.0305 Steel Plate Beam Guard Class A	2,214.000 LF	_____.____	_____.____
0416	614.0370 Steel Plate Beam Guard Energy Absorbing Terminal	1.000 EACH	_____.____	_____.____
0418	614.0396 Guardrail Mow Strip Asphalt	2,015.000 SY	_____.____	_____.____
0420	614.0905 Crash Cushions Temporary	1.000 EACH	_____.____	_____.____
0422	614.2300 MGS Guardrail 3	1,837.000 LF	_____.____	_____.____
0424	614.2500 MGS Thrie Beam Transition	585.000 LF	_____.____	_____.____
0426	614.2610 MGS Guardrail Terminal EAT	11.000 EACH	_____.____	_____.____
0428	614.2620 MGS Guardrail Terminal Type 2	3.000 EACH	_____.____	_____.____
0430	616.0700.S Fence Safety	2,255.000 LF	_____.____	_____.____
0432	619.1000 Mobilization	1.000 EACH	_____.____	_____.____
0434	620.0300 Concrete Median Sloped Nose	2,420.000 SF	_____.____	_____.____
0436	623.0200 Dust Control Surface Treatment	335,300.000 SY	_____.____	_____.____
0438	624.0100 Water	4,360.000 MGAL	_____.____	_____.____
0440	625.0500 Salvaged Topsoil	217,000.000 SY	_____.____	_____.____
0442	627.0200 Mulching	21,150.000 SY	_____.____	_____.____

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0444	628.1104 Erosion Bales	4,600.000 EACH	_____.____	_____.____
0446	628.1504 Silt Fence	18,500.000 LF	_____.____	_____.____
0448	628.1520 Silt Fence Maintenance	32,300.000 LF	_____.____	_____.____
0450	628.1905 Mobilizations Erosion Control	23.000 EACH	_____.____	_____.____
0452	628.1910 Mobilizations Emergency Erosion Control	37.000 EACH	_____.____	_____.____
0454	628.2006 Erosion Mat Urban Class I Type A	112,500.000 SY	_____.____	_____.____
0456	628.2008 Erosion Mat Urban Class I Type B	3,215.000 SY	_____.____	_____.____
0458	628.2023 Erosion Mat Class II Type B	137,000.000 SY	_____.____	_____.____
0460	628.2037 Erosion Mat Class III Type C	2,100.000 SY	_____.____	_____.____
0462	628.5505 Polyethylene Sheeting	300.000 SY	_____.____	_____.____
0464	628.6005 Turbidity Barriers	280.000 SY	_____.____	_____.____
0466	628.6505 Soil Stabilizer Type A	12.000 ACRE	_____.____	_____.____
0468	628.6510 Soil Stabilizer Type B	8.000 ACRE	_____.____	_____.____
0470	628.7005 Inlet Protection Type A	315.000 EACH	_____.____	_____.____
0472	628.7010 Inlet Protection Type B	50.000 EACH	_____.____	_____.____
0474	628.7015 Inlet Protection Type C	215.000 EACH	_____.____	_____.____
0476	628.7020 Inlet Protection Type D	65.000 EACH	_____.____	_____.____

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0478	628.7504 Temporary Ditch Checks	1,350.000 LF	_____.____	_____.____
0480	628.7515.S Stone or Rock Ditch Checks	400.000 CY	_____.____	_____.____
0482	628.7555 Culvert Pipe Checks	70.000 EACH	_____.____	_____.____
0484	628.7560 Tracking Pads	16.000 EACH	_____.____	_____.____
0486	628.7570 Rock Bags	1,700.000 EACH	_____.____	_____.____
0488	629.0210 Fertilizer Type B	150.000 CWT	_____.____	_____.____
0490	630.0120 Seeding Mixture No. 20	5,800.000 LB	_____.____	_____.____
0492	630.0180 Seeding Mixture No. 80	325.000 LB	_____.____	_____.____
0494	630.0200 Seeding Temporary	2,820.000 LB	_____.____	_____.____
0496	630.0400 Seeding Nurse Crop	63.000 LB	_____.____	_____.____
0498	631.0300 Sod Water	150.000 MGAL	_____.____	_____.____
0500	631.1000 Sod Lawn	6,200.000 SY	_____.____	_____.____
0502	632.0101 Trees (species) (size) (root) 01. NORWAY SPRUCE, B&B, 10' HT	13.000 EACH	_____.____	_____.____
0504	632.9101 Landscape Planting Surveillance and Care Cycles	12.000 EACH	_____.____	_____.____
0506	633.0500 Delineator Reflectors	58.000 EACH	_____.____	_____.____
0508	633.1000 Delineator Brackets	58.000 EACH	_____.____	_____.____

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0510	633.5200 Markers Culvert End	174.000 EACH	_____.____	_____.____
0512	634.0618 Posts Wood 4x6-Inch X 18-FT	626.000 EACH	_____.____	_____.____
0514	634.0622 Posts Wood 4x6-Inch X 22-FT	13.000 EACH	_____.____	_____.____
0516	634.0814 Posts Tubular Steel 2x2-Inch X 14-FT	10.000 EACH	_____.____	_____.____
0518	635.0200 Sign Supports Structural Steel HS	5,200.000 LB	_____.____	_____.____
0520	636.0050.S Foundation Drilling (diameter) 01. 36-INCH	545.000 LF	_____.____	_____.____
0522	636.0100 Sign Supports Concrete Masonry	1.200 CY	_____.____	_____.____
0524	636.0500 Sign Supports Steel Reinforcement	68.000 LB	_____.____	_____.____
0526	637.1220 Signs Type I Reflective SH	1,601.000 SF	_____.____	_____.____
0528	637.2210 Signs Type II Reflective H	7,230.053 SF	_____.____	_____.____
0530	637.2215 Signs Type II Reflective H Folding	253.640 SF	_____.____	_____.____
0532	637.2220 Signs Type II Reflective SH	33.750 SF	_____.____	_____.____
0534	637.2230 Signs Type II Reflective F	1,140.840 SF	_____.____	_____.____
0536	638.2102 Moving Signs Type II	89.000 EACH	_____.____	_____.____
0538	638.2601 Removing Signs Type I	6.000 EACH	_____.____	_____.____
0540	638.2602 Removing Signs Type II	291.000 EACH	_____.____	_____.____

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0542	638.3000 Removing Small Sign Supports	309.000 EACH	_____.____	_____.____
0544	638.3100 Removing Structural Steel Sign Supports	8.000 EACH	_____.____	_____.____
0546	638.3210 Revising Signs Type I Demountable	1.000 EACH	_____.____	_____.____
0548	640.1303.S Pond Liner Clay	772.000 CY	_____.____	_____.____
0550	641.8100 Overhead Sign Support (structure) 01. S-67-975	LS	LUMP SUM	_____.____
0552	643.0300 Traffic Control Drums	197,000.000 DAY	_____.____	_____.____
0554	643.0410 Traffic Control Barricades Type II	1,900.000 DAY	_____.____	_____.____
0556	643.0420 Traffic Control Barricades Type III	34,500.000 DAY	_____.____	_____.____
0558	643.0500 Traffic Control Flexible Tubular Marker Posts	1,360.000 EACH	_____.____	_____.____
0560	643.0600 Traffic Control Flexible Tubular Marker Bases	1,360.000 EACH	_____.____	_____.____
0562	643.0705 Traffic Control Warning Lights Type A	56,400.000 DAY	_____.____	_____.____
0564	643.0715 Traffic Control Warning Lights Type C	30,800.000 DAY	_____.____	_____.____
0566	643.0800 Traffic Control Arrow Boards	1,300.000 DAY	_____.____	_____.____
0568	643.0900 Traffic Control Signs	163,810.000 DAY	_____.____	_____.____
0570	643.0920 Traffic Control Covering Signs Type II	30.000 EACH	_____.____	_____.____
0572	643.1000 Traffic Control Signs Fixed Message	1,450.000 SF	_____.____	_____.____

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0574	643.1050 Traffic Control Signs PCMS	200.000 DAY	_____.____	_____.____
0576	643.5000 Traffic Control	1.000 EACH	_____.____	_____.____
0578	645.0105 Geotextile Type C	44,415.000 SY	_____.____	_____.____
0580	645.0111 Geotextile Type DF Schedule A	2,163.000 SY	_____.____	_____.____
0582	645.0112 Geotextile Type DF Schedule B	1,569.000 SY	_____.____	_____.____
0584	645.0120 Geotextile Type HR	4,553.000 SY	_____.____	_____.____
0586	645.0140 Geotextile Type SAS	1,616.000 SY	_____.____	_____.____
0588	646.1020 Marking Line Epoxy 4-Inch	97,070.000 LF	_____.____	_____.____
0590	646.1050 Marking Line Grooved Permanent Tape 4-Inch	3,555.000 LF	_____.____	_____.____
0592	646.1555 Marking Line Grooved Contrast Permanent Tape 4-Inch	14,605.000 LF	_____.____	_____.____
0594	646.3050 Marking Line Grooved Permanent Tape 8-Inch	7,180.000 LF	_____.____	_____.____
0596	646.3555 Marking Line Grooved Contrast Permanent Tape 8-Inch	19,300.000 LF	_____.____	_____.____
0598	646.5020 Marking Arrow Epoxy	110.000 EACH	_____.____	_____.____
0600	646.5120 Marking Word Epoxy	51.000 EACH	_____.____	_____.____
0602	646.5320 Marking Railroad Crossings Epoxy	4.000 EACH	_____.____	_____.____
0604	646.5520 Marking Outfall Epoxy	10.000 EACH	_____.____	_____.____

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0606	646.6120 Marking Stop Line Epoxy 18-Inch	900.000 LF	_____.____	_____.____
0608	646.6220 Marking Yield Line Epoxy 18-Inch	3.000 EACH	_____.____	_____.____
0610	646.7120 Marking Diagonal Epoxy 12-Inch	1,185.000 LF	_____.____	_____.____
0612	646.7420 Marking Crosswalk Epoxy Transverse Line 6-Inch	4,400.000 LF	_____.____	_____.____
0614	646.8120 Marking Curb Epoxy	460.000 LF	_____.____	_____.____
0616	646.8220 Marking Island Nose Epoxy	38.000 EACH	_____.____	_____.____
0618	646.9000 Marking Removal Line 4-Inch	2,450.000 LF	_____.____	_____.____
0620	648.0100 Locating No-Passing Zones	0.500 MI	_____.____	_____.____
0622	649.0105 Temporary Marking Line Paint 4-Inch	42,700.000 LF	_____.____	_____.____
0624	649.0150 Temporary Marking Line Removable Tape 4-Inch	153,000.000 LF	_____.____	_____.____
0626	649.0205 Temporary Marking Line Paint 8-Inch	2,100.000 LF	_____.____	_____.____
0628	649.0250 Temporary Marking Line Removable Tape 8-Inch	10,000.000 LF	_____.____	_____.____
0630	649.0550 Temporary Marking Arrow Removable Tape	31.000 EACH	_____.____	_____.____
0632	649.0805 Temporary Marking Stop Line Paint 18-Inch	280.000 LF	_____.____	_____.____
0634	649.0850 Temporary Marking Stop Line Removable Tape 18-Inch	680.000 LF	_____.____	_____.____

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0636	649.0960 Temporary Marking Removable Mask Out Tape 6-Inch	210.000 LF	_____.____	_____.____
0638	649.0970 Temporary Marking Removable Mask Out Tape 10-Inch	765.000 LF	_____.____	_____.____
0640	650.4000 Construction Staking Storm Sewer	456.000 EACH	_____.____	_____.____
0642	650.4500 Construction Staking Subgrade	21,930.000 LF	_____.____	_____.____
0644	650.5000 Construction Staking Base	12,670.000 LF	_____.____	_____.____
0646	650.5500 Construction Staking Curb Gutter and Curb & Gutter	10,285.000 LF	_____.____	_____.____
0648	650.6000 Construction Staking Pipe Culverts	41.000 EACH	_____.____	_____.____
0650	650.6500 Construction Staking Structure Layout (structure) 01. B-67-314	LS	LUMP SUM	_____.____
0652	650.6500 Construction Staking Structure Layout (structure) 02. B-67-315	LS	LUMP SUM	_____.____
0654	650.6500 Construction Staking Structure Layout (structure) 03. B-67-352	LS	LUMP SUM	_____.____
0656	650.6500 Construction Staking Structure Layout (structure) 04. B-67-353	LS	LUMP SUM	_____.____
0658	650.6500 Construction Staking Structure Layout (structure) 05. B-67-360	LS	LUMP SUM	_____.____
0660	650.6500 Construction Staking Structure Layout (structure) 06. B-67-361	LS	LUMP SUM	_____.____
0662	650.6500 Construction Staking Structure Layout (structure) 07. B-67-354	LS	LUMP SUM	_____.____

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0664	650.6500 Construction Staking Structure Layout (structure) 08. B-67-355	LS	LUMP SUM	_____.____
0666	650.6500 Construction Staking Structure Layout (structure) 09. C-67-88	LS	LUMP SUM	_____.____
0668	650.6500 Construction Staking Structure Layout (structure) 10. C-67-91	LS	LUMP SUM	_____.____
0670	650.6500 Construction Staking Structure Layout (structure) 11. R-67-129	LS	LUMP SUM	_____.____
0672	650.6500 Construction Staking Structure Layout (structure) 12. R-67-145	LS	LUMP SUM	_____.____
0674	650.6500 Construction Staking Structure Layout (structure) 13. S-67-975	LS	LUMP SUM	_____.____
0676	650.7000 Construction Staking Concrete Pavement	17,960.000 LF	_____.____	_____.____
0678	650.8500 Construction Staking Electrical Installations (project) 01. 2788-00-71 Signals	LS	LUMP SUM	_____.____
0680	650.8500 Construction Staking Electrical Installations (project) 02. 2788-00-71 Lighting	LS	LUMP SUM	_____.____
0682	650.9000 Construction Staking Curb Ramps	112.000 EACH	_____.____	_____.____
0684	650.9910 Construction Staking Supplemental Control (project) 01. 2788-00-71	LS	LUMP SUM	_____.____
0686	650.9920 Construction Staking Slope Stakes	21,860.000 LF	_____.____	_____.____
0688	652.0225 Conduit Rigid Nonmetallic Schedule 40 2-Inch	8,041.000 LF	_____.____	_____.____

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0690	652.0235 Conduit Rigid Nonmetallic Schedule 40 3-Inch	7,372.000 LF	_____.____	_____.____
0692	652.0800 Conduit Loop Detector	7,576.000 LF	_____.____	_____.____
0694	653.0135 Pull Boxes Steel 24x36-Inch	49.000 EACH	_____.____	_____.____
0696	653.0140 Pull Boxes Steel 24x42-Inch	69.000 EACH	_____.____	_____.____
0698	653.0208 Junction Boxes 8x8x8-Inch	1.000 EACH	_____.____	_____.____
0700	653.0905 Removing Pull Boxes	40.000 EACH	_____.____	_____.____
0702	654.0101 Concrete Bases Type 1	22.000 EACH	_____.____	_____.____
0704	654.0102 Concrete Bases Type 2	9.000 EACH	_____.____	_____.____
0706	654.0105 Concrete Bases Type 5	29.000 EACH	_____.____	_____.____
0708	654.0107 Concrete Bases Type 7	11.000 EACH	_____.____	_____.____
0710	654.0110 Concrete Bases Type 10	4.000 EACH	_____.____	_____.____
0712	654.0113 Concrete Bases Type 13	14.000 EACH	_____.____	_____.____
0714	654.0217 Concrete Control Cabinet Bases Type 9 Special	4.000 EACH	_____.____	_____.____
0716	654.0220 Concrete Control Cabinet Bases Type 10	1.000 EACH	_____.____	_____.____
0718	655.0230 Cable Traffic Signal 5-14 AWG	2,483.000 LF	_____.____	_____.____
0720	655.0240 Cable Traffic Signal 7-14 AWG	5,733.000 LF	_____.____	_____.____

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Alt Set ID: Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0722	655.0260 Cable Traffic Signal 12-14 AWG	8,625.000 LF	_____.____	_____.____
0724	655.0320 Cable Type UF 2-10 AWG Grounded	10,040.000 LF	_____.____	_____.____
0726	655.0515 Electrical Wire Traffic Signals 10 AWG	11,442.000 LF	_____.____	_____.____
0728	655.0610 Electrical Wire Lighting 12 AWG	6,579.000 LF	_____.____	_____.____
0730	655.0615 Electrical Wire Lighting 10 AWG	603.000 LF	_____.____	_____.____
0732	655.0620 Electrical Wire Lighting 8 AWG	255.000 LF	_____.____	_____.____
0734	655.0625 Electrical Wire Lighting 6 AWG	1,745.000 LF	_____.____	_____.____
0736	655.0630 Electrical Wire Lighting 4 AWG	4,953.000 LF	_____.____	_____.____
0738	655.0640 Electrical Wire Lighting 1 AWG	18.000 LF	_____.____	_____.____
0740	655.0700 Loop Detector Lead In Cable	25,128.000 LF	_____.____	_____.____
0742	655.0800 Loop Detector Wire	26,126.000 LF	_____.____	_____.____
0744	655.0900 Traffic Signal EVP Detector Cable	6,098.000 LF	_____.____	_____.____
0746	656.0100 Electrical Service Meter Socket (location) 01. Sta 175+30, 60.00' RT	LS	LUMP SUM	_____.____
0748	656.0200 Electrical Service Meter Breaker Pedestal (location) 01. STH 59 AND CTH X/SAYLESVILLE RD	LS	LUMP SUM	_____.____
0750	656.0200 Electrical Service Meter Breaker Pedestal (location) 02. USH 18 AND STH 59	LS	LUMP SUM	_____.____

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Alt Set ID: Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0752	656.0200 Electrical Service Meter Breaker Pedestal (location) 03. USH 18 AND CTH D	LS	LUMP SUM	_____.____
0754	656.0200 Electrical Service Meter Breaker Pedestal (location) 04. USH 18 AND MADISON STREET	LS	LUMP SUM	_____.____
0756	656.0400 Electrical Service Main Lugs Only Meter Pedestal (location) 01. STA 264+14	LS	LUMP SUM	_____.____
0758	657.0100 Pedestal Bases	23.000 EACH	_____.____	_____.____
0760	657.0205 Transformer Bases Breakaway 13-15 Inch Bolt Circle	11.000 EACH	_____.____	_____.____
0762	657.0255 Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	9.000 EACH	_____.____	_____.____
0764	657.0305 Poles Type 2	3.000 EACH	_____.____	_____.____
0766	657.0310 Poles Type 3	6.000 EACH	_____.____	_____.____
0768	657.0322 Poles Type 5-Aluminum	29.000 EACH	_____.____	_____.____
0770	657.0330 Poles Type 7	6.000 EACH	_____.____	_____.____
0772	657.0405 Traffic Signal Standards Aluminum 3.5-FT	3.000 EACH	_____.____	_____.____
0774	657.0420 Traffic Signal Standards Aluminum 13-FT	5.000 EACH	_____.____	_____.____
0776	657.0425 Traffic Signal Standards Aluminum 15-FT	11.000 EACH	_____.____	_____.____
0778	657.0430 Traffic Signal Standards Aluminum 10-FT	3.000 EACH	_____.____	_____.____

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Alt Set ID: Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0780	657.0609 Luminaire Arms Single Member 4-Inch Clamp 6-FT	10.000 EACH	_____.____	_____.____
0782	657.0610 Luminaire Arms Single Member 4 1/2-Inch Clamp 6-FT	29.000 EACH	_____.____	_____.____
0784	657.0630 Luminaire Arms Single Member 6-Inch Clamp 8-FT	10.000 EACH	_____.____	_____.____
0786	657.1350 Install Poles Type 10	4.000 EACH	_____.____	_____.____
0788	657.1355 Install Poles Type 12	6.000 EACH	_____.____	_____.____
0790	657.1360 Install Poles Type 13	6.000 EACH	_____.____	_____.____
0792	657.1455 Install Poles Over Height Type 12	2.000 EACH	_____.____	_____.____
0794	657.1515 Install Monotube Arms 15-FT	1.000 EACH	_____.____	_____.____
0796	657.1520 Install Monotube Arms 20-FT	1.000 EACH	_____.____	_____.____
0798	657.1525 Install Monotube Arms 25-FT	2.000 EACH	_____.____	_____.____
0800	657.1535 Install Monotube Arms 35-FT	11.000 EACH	_____.____	_____.____
0802	657.1545 Install Monotube Arms 45-FT	2.000 EACH	_____.____	_____.____
0804	657.1555 Install Monotube Arms 55-FT	1.000 EACH	_____.____	_____.____
0806	657.1815 Install Luminaire Arms Steel 15-FT	14.000 EACH	_____.____	_____.____
0808	658.0173 Traffic Signal Face 3S 12-Inch	55.000 EACH	_____.____	_____.____
0810	658.0174 Traffic Signal Face 4S 12-Inch	21.000 EACH	_____.____	_____.____

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Alt Set ID: Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0812	658.0416 Pedestrian Signal Face 16-Inch	30.000 EACH	_____.____	_____.____
0814	658.0500 Pedestrian Push Buttons	39.000 EACH	_____.____	_____.____
0816	658.5069 Signal Mounting Hardware (location) 01. STH 59 AND CTH X/Saylesville Rd	LS	LUMP SUM	_____.____
0818	658.5069 Signal Mounting Hardware (location) 02. USH 18 AND STH 59	LS	LUMP SUM	_____.____
0820	658.5069 Signal Mounting Hardware (location) 03. USH 18 AND CTH D	LS	LUMP SUM	_____.____
0822	658.5069 Signal Mounting Hardware (location) 04. USH 18 AND MADISON STREET	LS	LUMP SUM	_____.____
0824	659.0600 Underdeck Lighting (location) 01. C-67-88	LS	LUMP SUM	_____.____
0826	659.1115 Luminaires Utility LED A	18.000 EACH	_____.____	_____.____
0828	659.1125 Luminaires Utility LED C	34.000 EACH	_____.____	_____.____
0830	659.1210 Luminaires Underdeck LED B	3.000 EACH	_____.____	_____.____
0832	661.0200 Temporary Traffic Signals for Intersections (location) 01. STH 59 AND CTH X	LS	LUMP SUM	_____.____
0834	661.0200 Temporary Traffic Signals for Intersections (location) 02. WAUKESHA BYPASS AND STH 59/GENESEE RD	LS	LUMP SUM	_____.____
0836	671.0112 Conduit HDPE 1-Duct 2-Inch	1,795.000 LF	_____.____	_____.____
0838	690.0150 Sawing Asphalt	2,990.000 LF	_____.____	_____.____

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Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0840	690.0250 Sawing Concrete	105.000 LF	_____._____	_____._____
0842	715.0415 Incentive Strength Concrete Pavement	45,600.000 DOL	1.00000	45,600.00
0844	715.0502 Incentive Strength Concrete Structures	31,040.000 DOL	1.00000	31,040.00
0846	715.0710 Optimized Aggregate Gradation Incentive	102,871.000 DOL	1.00000	102,871.00
0848	801.0117 Railroad Flagging Reimbursment	7,100.000 DOL	1.00000	7,100.00
0850	ASP.1T0A On-the-Job Training Apprentice at $5.00/HR	9,600.000 HRS	5.00000	48,000.00
0852	ASP.1T0G On-the-Job Training Graduate at $5.00/HR	14,000.000 HRS	5.00000	70,000.00
0854	SPV.0005 Special 01. INVASIVE SPECIES MANAGEMENT - UPLANDS	4.985 ACRE	_____._____	_____._____
0856	SPV.0005 Special 02. INVASIVE SPECIES MANAGEMENT - WETLANDS	3.024 ACRE	_____._____	_____._____
0858	SPV.0035 Special 01. ROADWAY EMBANKMENT	465,207.000 CY	_____._____	_____._____
0860	SPV.0060 Special 01. POND OUTLET CONTROL MANHOLE	1.000 EACH	_____._____	_____._____
0862	SPV.0060 Special 02. DETENTION POND CORRUGATED METAL ANTI-SEEP COLLAR	1.000 EACH	_____._____	_____._____
0864	SPV.0060 Special 03. FLARED END SECTION WITH TRASH RACK	1.000 EACH	_____._____	_____._____
0866	SPV.0060 Special 04. STORM SEWER PLUG	31.000 EACH	_____._____	_____._____

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Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0868	SPV.0060 Special 05. ROOTSTOCK 2 1/2-INCH	3,850.000 EACH	_____.____	_____.____
0870	SPV.0060 Special 06. SHALLOW MARSH ROOTSTOCK	50.000 EACH	_____.____	_____.____
0872	SPV.0060 Special 07. CONCRETE BARRIER TRANSITION TYPE S36A	4.000 EACH	_____.____	_____.____
0874	SPV.0060 Special 08. UTILITY LINE OPENING	6.000 EACH	_____.____	_____.____
0876	SPV.0060 Special 09. TEMPORARY SEDIMENT TRAP	15.000 EACH	_____.____	_____.____
0878	SPV.0060 Special 10. TEMPORARY EARTH BERM	25.000 EACH	_____.____	_____.____
0880	SPV.0060 Special 11. FIELD FACILITIES OFFICE SPACE	1.000 EACH	_____.____	_____.____
0882	SPV.0060 Special 12. SECTION CORNER MONUMENTS	3.000 EACH	_____.____	_____.____
0884	SPV.0060 Special 13. BASELINE CPM PROGRESS SCHEDULE	1.000 EACH	_____.____	_____.____
0886	SPV.0060 Special 14. MONTHLY CPM PROGRESS SCHEDULE UPDATES	17.000 EACH	_____.____	_____.____
0888	SPV.0060 Special 20. TIEBACK ANCHORS	29.000 EACH	_____.____	_____.____
0890	SPV.0060 Special 21. TIEBACK ANCHOR PERFORMANCE TESTS	3.000 EACH	_____.____	_____.____
0892	SPV.0060 Special 71. ABANDONING SANITARY FORCE MAIN MANHOLES	2.000 EACH	_____.____	_____.____
0894	SPV.0060 Special 72. INTERNAL MANHOLE SEALING SYSTEM	4.000 EACH	_____.____	_____.____

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Alt Set ID: Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0896	SPV.0060 Special 73. PRE-PAVING TELEVISING SANITARY LATERAL	1.000 EACH	_____.____	_____.____
0898	SPV.0060 Special 74. HYDRANT RELOCATION	5.000 EACH	_____.____	_____.____
0900	SPV.0060 Special 75. WATER MAIN VALVE ADJUSTMENTS 6-INCH	5.000 EACH	_____.____	_____.____
0902	SPV.0060 Special 76. WATER MAIN VALVE ADJUSTMENTS 8-INCH	2.000 EACH	_____.____	_____.____
0904	SPV.0060 Special 77. WATER MAIN VALVE ADJUSTMENTS 12-INCH	1.000 EACH	_____.____	_____.____
0906	SPV.0060 Special 78. WATER MAIN VALVE ADJUSTMENTS 16-INCH	4.000 EACH	_____.____	_____.____
0908	SPV.0060 Special 79. WATER MAIN VALVE ADJUSTMENTS 20-INCH	4.000 EACH	_____.____	_____.____
0910	SPV.0060 Special 80. LIGHTING CONTROL CABINETS	1.000 EACH	_____.____	_____.____
0912	SPV.0060 Special 81. LUMINAIRES UTILITIY 21 COUNT LED 75 WATT TYPE III	10.000 EACH	_____.____	_____.____
0914	SPV.0060 Special 82. POST MOUNTED LIGHTING CONTROL CABINET 120/240 VAC	1.000 EACH	_____.____	_____.____
0916	SPV.0085 Special 01. POND EDGE SEED	79.000 LB	_____.____	_____.____
0918	SPV.0085 Special 02. SEED MIXTURE, SHORT GRASS PRARIE	9.000 LB	_____.____	_____.____
0920	SPV.0085 Special 03. SEEDING MIXTURE WETLAND	9.000 LB	_____.____	_____.____
0922	SPV.0090 Special 01. HEAVY DUTY SILT FENCE	13,800.000 LF	_____.____	_____.____

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Alt Set ID: Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0924	SPV.0090 Special 02. FENCE CHAIN LINK POLYMER COATED 4-FT	540.000 LF	_____.____	_____.____
0926	SPV.0090 Special 03. FENCE CHAIN LINK POLYMER COATED 6-FT	1,947.000 LF	_____.____	_____.____
0928	SPV.0090 Special 04. CONSTRUCTION STAKING SIDEWALK	21,200.000 LF	_____.____	_____.____
0930	SPV.0090 Special 05. CONSTRUCTION STAKING FENCE SAFETY	1,855.000 LF	_____.____	_____.____
0932	SPV.0090 Special 41. TYPE UF CABLE, 2 CONDUCTOR, NO. 14	6,098.000 LF	_____.____	_____.____
0934	SPV.0090 Special 71. PRE-PAVING TELEVISING SANITARY MAIN LINE	288.000 LF	_____.____	_____.____
0936	SPV.0090 Special 72. WATER MAIN RELOCATION 8-INCH	45.000 LF	_____.____	_____.____
0938	SPV.0090 Special 73. WATER MAIN RELOCATION 12-INCH	45.000 LF	_____.____	_____.____
0940	SPV.0090 Special 74. WATER MAIN RELOCATION 16-INCH	93.000 LF	_____.____	_____.____
0942	SPV.0090 Special 75. WATER MAIN RELOCATION 20-INCH	78.000 LF	_____.____	_____.____
0944	SPV.0090 Special 76. CONDUIT FLEXIBLE METALLIC 2-INCH	15.000 LF	_____.____	_____.____
0946	SPV.0090 Special 77. 3/4-INCH LIQUID TIGHT CONDUIT	10.000 LF	_____.____	_____.____
0948	SPV.0090 Special 78. CONDUIT REINFORCED THERMOSETTING RESIN 1-INCH	130.000 LF	_____.____	_____.____

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Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0950	SPV.0105 Special 02. REMOVING OVERHEAD SIGN SUPPORT S-67-220	LS	LUMP SUM	_____.____
0952	SPV.0105 Special 03. TEMPORARY BYPASS CHANNEL STRUCTURE C-67-91	LS	LUMP SUM	_____.____
0954	SPV.0105 Special 04. BIORETENTION POND ITEMS	LS	LUMP SUM	_____.____
0956	SPV.0105 Special 05. PEBBLE CREEK DEBRIS REMOVAL	LS	LUMP SUM	_____.____
0958	SPV.0105 Special 42. REMOVE LOOP DETECTOR WIRE AND LEAD-IN CABLE, STH 59 AND CTH X/Saylesville Rd	LS	LUMP SUM	_____.____
0960	SPV.0105 Special 43. INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET, STH 59 AND CTH X/Saylesville	LS	LUMP SUM	_____.____
0962	SPV.0105 Special 44. INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET, USH 18 AND STH 59	LS	LUMP SUM	_____.____
0964	SPV.0105 Special 45. INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET, USH 18 AND CTH D	LS	LUMP SUM	_____.____
0966	SPV.0105 Special 46. INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET, USH 18 AND MADISON STREET	LS	LUMP SUM	_____.____
0968	SPV.0105 Special 47. EVP DETECTOR HEAD INSTALLATIONS, STH 59 AND CTH X/Saylesville Rd	LS	LUMP SUM	_____.____
0970	SPV.0105 Special 48. EVP DETECTOR HEAD INSTALLATIONS, USH 18 AND STH 59	LS	LUMP SUM	_____.____

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Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0972	SPV.0105 Special 49. EVP DETECTOR HEAD INSTALLATIONS, USH 18 AND CTH D	LS	LUMP SUM	_____.____
0974	SPV.0105 Special 50. EVP DETECTOR HEAD INSTALLATIONS, USH 18 AND MADISON STREET	LS	LUMP SUM	_____.____
0976	SPV.0105 Special 55. TRANSPORT SIGNAL AND LIGHTING MATERIALS AT STH 59 AND CTH X/Saylesville Rd	LS	LUMP SUM	_____.____
0978	SPV.0105 Special 56. TRANSPORT SIGNAL AND LIGHTING MATERIALS AT USH 18 AND STH 59	LS	LUMP SUM	_____.____
0980	SPV.0105 Special 57. TRANSPORT SIGNAL AND LIGHTING MATERIALS AT USH 18 AND CTH D	LS	LUMP SUM	_____.____
0982	SPV.0105 Special 58. TRANSPORT SIGNAL AND LIGHTING MATERIALS AT USH 18 AND MADISON STREET	LS	LUMP SUM	_____.____
0984	SPV.0105 Special 59. TEMP VEH DETEC SYS FOR THE INTERSECT OF STH 59 AND CTH X	LS	LUMP SUM	_____.____
0986	SPV.0105 Special 60. TEMP VEH DETEC SYS FOR THE INTERSECT OF WAUKESHA BYPASS & STH 59/Genesee Rd	LS	LUMP SUM	_____.____
0988	SPV.0105 Special 61. TEMP INFRARED EVP SYS FOR THE INT OF STH 59 AND CTH X	LS	LUMP SUM	_____.____
0990	SPV.0105 Special 62. TEMP INFRARED EVP SYS FOR THE INT OF WAUKESHA BYPASS & STH 59/Genesee Rd	LS	LUMP SUM	_____.____
0992	SPV.0120 Special 01. WATERING ROOTSTOCK	26.000 MGAL	_____.____	_____.____
0994	SPV.0120 Special 02. Water For Seeded Areas	4,100.000 MGAL	_____.____	_____.____

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Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0996	SPV.0165 Special 01. Wall Modular Block Mechanically Stabilized Earth For C-67-88	2,370.000 SF	_____.____	_____.____
0998	SPV.0165 Special 02. PRECAST PANELS FOR POST AND PANEL WALLS	5,455.000 SF	_____.____	_____.____
1000	SPV.0165 Special 03. Wall Modular Block Mechanically Stabilized Earth R-67-145	1,544.000 SF	_____.____	_____.____
1002	SPV.0165 Special 04. WALL MODULAR BLOCK GRAVITY R-67-145	392.000 SF	_____.____	_____.____
1004	SPV.0180 Special 01. GEOTEXTILE FABRIC TYPE FF	75.000 SY	_____.____	_____.____
1006	SPV.0180 Special 02. SALVAGED SUNDROP TOPSOIL	900.000 SY	_____.____	_____.____
1008	SPV.0180 Special 03. ROOTSTOCK PROTECTION	2,320.000 SY	_____.____	_____.____
1010	SPV.0180 Special 04. ENHANCED TURBIDITY BARRIER	175.000 SY	_____.____	_____.____
1012	SPV.0180 Special 05. SALVAGED WETLAND TOPSOIL	1,540.000 SY	_____.____	_____.____
1014	SPV.0180 Special 81. PIPE INSULATION POLYSTYRENE, 2-INCH	235.000 SY	_____.____	_____.____
1016	SPV.0195 Special 01. SELECT CRUSHED MATERIAL FOR WILDLIFE TRAVEL CORRIDOR	118.000 TON	_____.____	_____.____
1018	SPV.0195 Special 02. COARSE AGGREGATE FOR SPRING	300.000 TON	_____.____	_____.____
1020	SPV.0200 Special 71. RECONSTRUCTING SANITARY MANHOLES	35.000 VF	_____.____	_____.____

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Section: 0001 Total: _____._____

Total Bid: _____._____

PLEASE ATTACH SCHEDULE OF ITEMS HERE