HIGHWAY WORK PROPOSAL

Proposal Number: 1 Ø

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

COUNTY	STATE PROJECT ID	FEDERAL PROJECT ID	PROJECT DESCRIPTION	HIGHWAY
Milwaukee	1060-34-84		Zoo IC Center Street Bridge Over USH 45	USH 45
Milwaukee	1060-35-85		Zoo IC Center Street Sidewalk 114th Street to 117th Street	Off System

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

Proposal Guaranty Required, $ 100,000.00 Payable to: Wisconsin Department of Transportation	Attach Proposal Guaranty on back of this PAGE.
Bid Submittal Due Date: December 8, 2015 Time (Local Time): 9:00 AM	Firm Name, Address, City, State, Zip Code **SAMPLE** **NOT FOR BIDDING PURPOSES**
Contract Completion Time August 27, 2016	
Assigned Disadvantaged Business Enterprise Goal 0%	This contract is exempt from federal oversight.

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

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

Subscribed and sworn to before me this date _____

(Signature, Notary Public, State of Wisconsin)

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

(Date Commission Expires)

Notary Seal

(Bidder Signature)

(Print or Type Bidder Name)

(Bidder Title)

For Department Use Only

Type of Work Removals; excavation common; grading; base aggregate dense; bridge Structure B-40-880; retaining wall Structure R-40-577/578; HMA and concrete pavement; pavement marking; traffic control, lighting; FTMS and storm sewer.	
Notice of Award Dated	Date Guaranty Returned

PLEASE ATTACH
PROPOSAL GUARANTY HERE

Effective with November 2007 Letting

PROPOSAL REQUIREMENTS AND CONDITIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

Effective with August 2015 Letting

BID PREPARATION

Preparing the Proposal Schedule of Items

A General

(1) Obtain bidding proposals as specified in section 102 of the standard specifications prior to 11:45 AM of the last business day preceding the letting. Submit bidding proposals using one of the following methods:

1. Electronic bid on the internet.
2. Electronic bid on a printout with accompanying diskette or CD ROM.
3. Paper bid under a waiver of the electronic submittal requirements.

(2) Bids submitted on a printout with accompanying diskette or CD ROM or paper bids submitted under a waiver of the electronic submittal requirements govern over bids submitted on the internet.

(3) The department will provide bidding information through the department's web site at:
http://wisconsindot.gov/Pages/doing-bus/contractors/hcci/bid-let.aspx

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

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

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

(5) The department will address equipment and process failures, if the bidder can demonstrate that those failures were beyond their control.

(6) Contractors are responsible for checking on the issuance of addenda and for obtaining the addenda. Notice of issuance of addenda is posted on the department's web site at:
http://wisconsindot.gov/Pages/doing-bus/contractors/hcci/bid-let.aspx

or by calling the department at (608) 266-1631. Addenda can ONLY be obtained from the departments web site listed above or by picking up the addenda at the Bureau of Highway Construction, Room 601, 4802 Sheboygan Avenue, Madison, WI, during regular business hours.

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

B Submitting Electronic Bids

B.1 On the Internet

(1) Do the following before submitting the bid:

1. Have a properly executed annual bid bond on file with the department.
2. Have a digital ID on file with and enabled by Info Tech Inc. Using this digital ID will constitute the bidder's signature for proper execution of the bidding proposal.

(2) In lieu of preparing, delivering, and submitting the proposal as specified in 102.6 and 102.9 of the standard specifications, submit the proposal on the internet as follows:

1. Download the latest schedule of items reflecting all addenda from the Bid Express web site.
2. Use Expedite™ software to enter a unit price for every item in the schedule of items.
3. Submit the bid according to the requirements of Expedite™ software and the Bid Express™ web site. Do not submit a bid on a printout with accompanying diskette or CD ROM or a paper bid. If the bidder does submit a bid on a printout with accompanying diskette or a paper bid in addition to the internet submittal, the department will disregard the internet bid.
4. Submit the bid before the hour and date the Notice to Contractors designates.
5. Do not sign, notarize, and return the bidding proposal described in 102.2 of the standard specifications.

(3) The department will not consider the bid accepted until the hour and date the Notice to Contractors designates.

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

(1) Download the latest schedule of items from the Wisconsin pages of the Bid Express™ web site reflecting the latest addenda posted on the department's web site at:

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

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

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

Bidder

Name

BN00

Proposals: 1, 12, 14, & 22

(3) If bidding on more than one proposal in the letting, the bidder may include all proposals for that letting on one diskette or CD ROM. Include only submitted proposals with no incomplete or other files on the diskette or CD ROM.

(4) The bidder-submitted printout of the Expedite™ generated schedule of items is the governing contract document and must conform to the requirements of section 102 of the standard specifications. If a printout needs to be altered, cross out the printed information with ink or typewriter and enter the new information and initial it in ink. If there is a discrepancy between the printout and the diskette or CD ROM, the department will analyze the bid using the printout information.

(5) In addition to the reasons specified in section 102 of the standard specifications, proposals are irregular and the department may reject them for one or more of the following:

1. The check code printed on the bottom of the printout of the Expedite™ generated schedule of items is not the same on each page.
2. The check code printed on the printout of the Expedite™ generated schedule of items is not the same as the check code for that proposal provided on the diskette or CD ROM.
3. The diskette or CD ROM is not submitted at the time and place the department designates.

C Waiver of Electronic Submittal

(1) The bidder may request a waiver of the electronic submittal requirements. Submit a written request for a waiver in lieu of bids submitted on the internet or on a printout with accompanying diskette or CD ROM. Use the waiver that was included with the paper bid document sent to the bidder or type up a waiver on the bidder's letterhead. The department will waive the electronic submittal requirements for a bidding entity (individual, partnership, joint venture, corporation, or limited liability company) for up to 4 individual proposals in a calendar year. The department may allow additional waivers for equipment malfunctions.

(2) Submit a schedule of items on paper conforming to section 102 of the standard specifications. The department charges the bidder a $75 administrative fee per proposal, payable at the time and place the department designates for receiving bids, to cover the costs of data entry. The department will accept a check or money order payable to: "Wisconsin, Dept. of Transportation."

(3) In addition to the reasons specified in section 102 of the standard specifications, proposals are irregular and the department may reject them for one or more of the following:

1. The bidder fails to provide the written request for waiver of the electronic submittal requirements.
2. The bidder fails to pay the $75 administrative fee before the time the department designates for the opening of bids unless the bidder requests on the waiver that they be billed for the $75.
3. The bidder exceeds 4 waivers of electronic submittal requirements within a calendar year.

(4) In addition to the reasons specified in section 102 of the standard specifications, the department may refuse to issue bidding proposals for future contracts to a bidding entity that owes the department administrative fees for a waiver of electronic submittal requirements.

PROPOSAL BID BOND

Wisconsin Department of Transportation

DT1303 1/2006

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

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

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

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

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

PRINCIPAL

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

(Signature and Title)

(Company Name)

(Signature and Title)

(Company Name)

(Signature and Title)

(Company Name)

(Signature and Title)

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

(Signature of Attorney-in-Fact)

NOTARY FOR PRINCIPAL

(Date)

State of Wisconsin)
) ss.
_____ County)

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

(Signature, Notary Public, State of Wisconsin)

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

(Date Commission Expires)

Notary Seal

NOTARY FOR SURETY

(Date)

State of Wisconsin)
) ss.
_____ County)

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

(Signature, Notary Public, State of Wisconsin)

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

(Date Commission Expires)

Notary Seal

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

CERTIFICATE OF ANNUAL BID BOND

Wisconsin Department of Transportation

DT1305 8/2003

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

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

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

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

(Signature of Authorized Contractor Representative) (Date)

March 2010

LIST OF SUBCONTRACTORS

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

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

Name of Subcontractor	Class of Work	Estimated Value

DECEMBER 2000

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

Instructions for Certification

1. By signing and submitting this proposal, the prospective contractor is providing the certification set out below.

2. The inability of a person to provide the certification required below will not necessarily result in denial of participation in this covered transaction. The prospective contractor shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective contractor to furnish a certification or an explanation shall disqualify such person from participation in this transaction.

3. The certification in this clause is a material representation of fact upon which reliance was placed when the department determined to enter into this transaction. If it is later determined that the contractor knowingly rendered an erroneous certification in addition to other remedies available to the Federal Government the department may terminate this transaction for cause or default.

4. The prospective contractor shall provide immediate written notice to the department to whom this proposal is submitted if at any time the prospective contractor learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

5. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. You may contact the department to which this proposal is being submitted for assistance in obtaining a copy of those regulations.

6. The prospective contractor agrees by submitting this proposal that, should this contract be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department entering into this transaction.

7. The prospective contractor further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," which is included as an addendum to PR-1273 - "Required Contract Provisions Federal Aid Construction Contracts," without

modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

8. The contractor may rely upon a certification of a prospective subcontractor/materials supplier that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A contractor may decide the method and frequency by which it determines the eligibility of its principals. Each contractor may, but is not required to, check the Disapproval List (telephone # 608/266/1631).

9. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

10. Except for transactions authorized under paragraph 6 of these instructions, if a contractor in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department may terminate this transaction for cause or default.

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

(1) The prospective contractor certifies to the best of its knowledge and belief, that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offense enumerated in paragraph (1)(b) of this certification; and

(d) Have not within a three-year period preceding this proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

(2) Where the prospective contractor is unable to certify to any of the statements in this certification, such prospective contractor shall attach an explanation to this proposal.

Special Provisions

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SPECIAL PROVISIONS

1. General.

Perform the work under this construction contract for Project 1060-34-84, Zoo IC, Center Street Bridge, Over USH 45, USH 45, Milwaukee County, Wisconsin and Project 1060-35-85, Zoo IC, Center Street Sidewalk, 114th Street to 117th Street, Off System, Milwaukee County, Wisconsin as the plans show and execute the work as specified in the State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction, 2016 Edition, as published by the department, and these special provisions.

Perform the sanitary sewer and water main work according to the Standard Specifications for Sewer and Water Construction in Wisconsin, latest Edition (SSSW) and addendums. If there is a discrepancy or conflict between the referenced specification and the standard specifications regarding contract administration, part 1 of the standard specifications governs.

If all or a portion of the plans and special provisions are developed in the SI metric system and the schedule of prices is developed in the US standard measure system, the department will pay for the work as bid in the US standard system.
100-005 (20150630)

2. Scope of Work.

The work under this contract shall consist of removals, grading, dense graded base, subgrade, asphaltic surface, HMA pavement, storm sewer, concrete pavement, concrete sidewalk, erosion control, permanent signing, traffic control, lighting, FTMS, pavement marking, bridge, retaining walls, restorations, tree plantings and all incidental items necessary to complete the work as shown on the plans and included in the proposal and contract.

Structures:

- B-40-0880

Retaining Walls:

- R-40-0577
- R-40-0578

3. Prosecution and Progress.

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

Provide the start date to the engineer in writing within a month after executing the contract but at least 14 calendar days before the preconstruction conference. Upon approval, the engineer will issue the notice to proceed within ten calendar days before the approved start date.

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

The completion date is based on an expedited work schedule and may require extraordinary forces and equipment; work on Saturdays, Sundays, and nationally recognized legal holidays; and work at night.

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

Be advised that there may be multiple mobilizations and/or remobilizations to complete construction operations, for example such items as: concrete pavement repair/replacement, paving, traffic control, signing, pavement marking, finishing items and other incidental items. No additional payment will be made, by the department, for additional mobilizations.

Winter weather work, grading, 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 paid for under the bid item Control of Water 1060-34-84.

Anticipate cold weather paving, concrete, and structure work. 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.

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

Milwaukee County will perform snow removal operations for freeway and ramp lanes that are open to traffic. The City of Wauwatosa will perform snow removal operations for local streets that are open to traffic. Provide for snow removal in those areas closed to traffic as required to facilitate safe construction operations and as required to eliminate snow melt run-off from crossing active roadways. Provide Milwaukee County Highway Maintenance and Milwaukee County Sheriff's Department with a 24-hour emergency contact number for when maintenance is required

Interim Liquidated Damages

Mayfair Road (STH 100) Utility

For 21 consecutive calendar days between 12:01 AM June 13, 2016 and 12:01 AM August 6, 2016, the southbound lanes of Mayfair Road (STH 100) can be reduced to two 11' lanes. Complete all work on Mayfair Road (STH 100) necessary to open all three Mayfair Road (STH 100) southbound lanes, including sanitary sewer construction, water main construction, placement of concrete pavement and curb and gutter, placement of asphalt pavement, placement of permanent crash cushions, sidewalks, pavement markings, and all incidentals necessary for opening the three southbound lanes for vehicular traffic under this contract prior to 12:01 AM August 6, 2016.

If the contractor fails to complete the work necessary to reopen Mayfair Road (STH 100) to traffic in three 11' lanes within 21 calendars days between 12:01 AM June 13, 2016 and 12:01 AM August 6, 2016, the department will assess the contractor $8,000 in interim liquidated damages for each calendar day that the contract work remains incomplete beyond 21 calendar days. An entire calendar day will be charged for any period of time within a calendar day that the outside southbound lane of Mayfair Road (STH 100) remains closed beyond 12:01 AM.

Final Completion of Work

Replace standard spec 108.11 paragraph (3) with the following:

The department will assess $15,000 in daily liquidated damages. These liquidated damages reflect the cost of engineering, supervision, and a portion of road user costs.
108-055 (20130615)

Supplement standard spec 108.10 with the following:

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

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

Schedule of Operations

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. The department anticipates that the schedule for each stage shall be as follows:

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

Stage 1 - Traffic:

USH 45

- Long-term lane shift to the outside shoulder.
- All lanes and ramps open to traffic during peak hours.
- Short-term lane and ramp closures permitted during off-peak and night time hours.
- Full freeway closures permitted during restricted nighttime hours for bridge removal.

Center Street

- Closed between 112th Street and 114th Street.

112th Street

- Open to Center Street to local traffic using temporary widening and intersection.

113th Street

- Closed at Center Street.

Stage 1 - Construction:

USH 45

- Remove existing structure B-40-284
- Construct center pier for proposed structure B-40-0880.
- Begin construction of retaining walls R-40-577/578. Construction of storm sewer trunk lines on USH 45 adjacent to retaining walls shall be completed prior to pouring wall footings and prior to setting wall panels.
- Construct USH 45 median work

All Local Streets

- Construct temporary widening on 112th Street.
- No other local street work permitted during Stage 1.

Stage 2 - Traffic:

USH 45

- Permanent lane narrowing for USH 45 northbound lanes.
- All lanes and ramps open to traffic during peak hours.
- Short-term lane and ramp closures permitted during off-peak and night time hours.
- Full freeway closures permitted during restricted nighttime hours for girder erection and bridge deck pours.

Local Streets

- All Local Streets (Do not begin work prior to 12:01 AM June 13, 2016):

Center Street

- Closed between Mayfair Road and 115th Street.
- Intersections at Center Street with 112th, 113th and 114th Streets are closed.

Mayfair Road (at USH 45 Bridge Overpass)

- Long term lane reduction to two 11 foot lanes for southbound traffic. Maintain two lanes northbound and southbound at all times, except, as approved by the engineer, traffic may be reduced to one lane northbound and one lane southbound between the hours of 9:00 PM and 5:30 AM.

Stage 2 - Construction:

USH 45

- Continue and complete construction of proposed Structure B-40-0880.
- Continue and complete construction of retaining walls R-40-577/578. Construction of storm sewer trunk lines on USH 45 adjacent to retaining walls shall be completed prior to pouring wall footings and prior to setting wall panels.
- Construct widening and barrier for southbound outside shoulder.

All Local Streets (Center, 112th, 113th, 114th, 115th, 116th, 117th, and Mayfair)

- Construct all roadway work, including concrete, sidewalk, driveways, storm sewer, lighting and landscaping.
- Construct Whitman School parking lot.
- Construct utility work on Mayfair Road.

Traffic Control Deficiency Response Time Penalty

Supplement standard spec 643.3.2(8) with the following:

Upon receiving written notification from the engineer, clean, repair or replace traffic control devices not performing as intended to the satisfaction of the engineer within 12 hours. Failure to clean, repair or replace required traffic control within the time limits

specified above will result in daily monetary deductions of $500 for each 24-hour period (or portion thereof starting 12 hours after time of notification) in which the traffic control deficiency exists.

Contractor Coordination
Attend weekly scheduling meetings to discuss the near term schedule activities, address any long-term schedule issues, and discuss any relevant technical issues. Develop a rolling three-week schedule identifying the previous week worked and a two week "look ahead". Provide sufficient detail to include actual and planned activities and all the subcontractors for offsite and construction activities, addressing all activities including ramp and lane closure schedules to be performed and identifying issues requiring engineering action or input. Submit plans for all traffic control for review by the engineer and approval a minimum of one week prior to implementation.

Advance Notification
Notify the engineer if there are any changes in the schedule, early completions, or cancellations of scheduled work. Coordinate the locations of messages of portable changeable message signs with the engineer and WisDOT STOC. Notify the engineer of proposed changes for alternate routes and detours and provide a revised signing plan for the review by and approval of the engineer.

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

Service Ramp Closures	3 Business Days
Lane Closures	3 Business Days
Full Freeway Closures	14 Business Days
Construction Stage Changes	14 Calendar Days
Detours	14 Calendar Days

Obtain prior acceptance from the engineer and the WisDOT Statewide Traffic Operations Center for Full Freeway Closures. Notify local emergency and police agencies seven calendar days prior to freeway closure.

Definitions - Freeway Work Restrictions
The following definitions apply to the contract for freeway work restrictions:

Weekday Peak Hours
- 5:30 AM – 7:00 PM Monday, Tuesday, Wednesday, Thursday, Friday

Weekend Peak Hours
- 8:00 AM – 7:00 PM Saturday, Sunday

Weekend Off-Peak Hours

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

Weekday Off-Peak Hours

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

Night Time Hours

- 9:30 PM – 5:30 AM (Sunday PM to Monday AM, Monday PM to Tuesday AM, Tuesday PM to Wednesday AM, Wednesday PM to Thursday AM, Thursday PM to Friday AM)
- 11:00 PM – 8:00 AM (Friday PM to Saturday AM, Saturday PM to Sunday AM)

Extended Full Freeway Closure Hours (Bridge Demolition)

- 10:00 PM – 10:00 AM Friday and Saturday nights

Full Freeway Closure Hours (Girder Erection and Deck Pours)

- 11:00 PM – 4:30 AM Sunday through Thursday nights
- 11:00 PM – 6:00 AM Friday and Saturday nights

Freeway Work Restrictions - General

No Weekday Peak or Weekend Peak Hour lane closures are allowed. No Weekday Off-Peak or Weekend Off-Peak Hour two-lane closures are allowed.

Provide a minimum of three lanes in each direction of the freeways and ensure that the freeways are entirely clear for traffic during Weekday Peak Hours and Weekend Peak Hours, except as shown in the traffic control plans. Provide a minimum of two lanes in each direction of the freeways and ensure that the freeways are entirely clear for traffic during Weekday Off-Peak and Weekend Off-Peak Hours. Provide a minimum of one lane in each direction of the freeway and ensure that the freeways are entirely clear for traffic during Night Time Hours except as allowed during full closure.

Freeway Work Restrictions – Full Closure

Full closure and detouring of freeway roads will be restricted to Extended Full Freeway Closure Hours and Full Freeway Closure Hours. Extended Full Freeway Closure Hours will only be permitted for bridge demolition. Full Freeway Closure Hours will be permitted as approved by the engineer for other work operations. This may include full freeway closures to facilitate erection of girders, deck pours, and to perform work related to major traffic shifts. Provide signed detour routes, as shown in the plans that are fully open and free of construction during all full freeway and system ramp closures.

Submit requests for freeway closures 14 calendar days prior to the planned closure events. Obtain prior approval from the engineer and the WisDOT SE Region Work Zone Traffic Engineer, (262) 548-6730, for said closures. Notify local emergency and police agencies 7 calendar days prior to closures.

Ramp Closures
All entrance and exit ramps shall be posted three business days in advance of their closure with dates and time of closure.

No ramp closures are permitted during peak hours and off-peak hours.

No two consecutive entrance ramps or consecutive exit ramps may be closed unless it is shown in the traffic control plans or approved by the engineer.

Rolling Closure
Short term freeway mainline rolling closures may be allowed for a maximum of 15 minutes for equipment moves across the road, or other required work as determined by the engineer. The department will allow short term rolling closures only between 2:00AM and 4:00 AM, and they may only be performed by freeway law enforcement.

Obtain approval from the engineer before coordinating these closures with freeway law enforcement. Coordinate 14 calendar days in advance of closure. Present the scheduled time for the short term rolling closure at the weekly traffic meeting a minimum of one week prior to the closure.

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

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

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

Portable Changeable Message Signs
Obtain acceptance from the engineer regarding the wording of all messages on portable changeable message signs.

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

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

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

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

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

Local Street Work Restriction
(Mayfair, Center, 112th, 113th, 114th, 115th, 116th, and 117th)

Restrictions Prior to June 13, 2016
Prior to 12:01 AM on June 13, 2016, no work is permitted at the Whitman School parking lot or on any local street (including Mayfair Road), except in the direct vicinity of the Center Street bridge for bridge and retaining wall construction.

Maintain through traffic at the 112th Street intersection and all other intersections along Center Street, except the 113th Street intersection may be closed.

General Local Street Restrictions
Maintain vehicle access to and from residences adjacent to the work at all times, except during paving operations and curing periods for concrete items: curb and gutter, sidewalk, and driveways. Do not close residential approaches or remove from service without giving sufficient notice to the occupants of the premises to remove their vehicles prior to driveway removal or closing of the driveway approach access. Schedule sidewalk and driveway approach removal and replacement so that the time lapse between removal and replacement is minimal.

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

Follow the sidewalk construction sequencing defined in the Stage 2 Traffic Control Plans, unless otherwise approved by the engineer. Provide adequate temporary sidewalk and bridging between the curb and right-of-way line over freshly paved concrete or other obstructions in the sidewalk area, as directed by the engineer. Construct temporary sidewalk surfaces with a minimum of 2 inches of temporary asphaltic surface, any grade of concrete, skid resistant steel plating, or alternative material as approved by the engineer and a minimum of 4-feet wide. Compact the surface of temporary asphaltic surface until smooth and capable of supporting a wheelchair.

Existing trees, street light poles, hydrants and other utility poles are to remain in place during construction unless otherwise noted in the plan. Conduct an on-site visit prior to bidding to determine any special measures required for proper clearance between the trees, hydrants and poles and the paving equipment. No additional compensation will be made.

School Driveways and Parking Lots
Wauwatosa West High School
Parking equipment or storing materials on the Wauwatosa West High School parking lots is not permitted. Maintain access to all parking lots during construction, except the eastern most driveway may be closed for short periods during excavation and paving operations after 12:01 AM on June 13, 2016, provided the time period is approved prior to construction by the engineer and the school.

Whitman Middle School
No work or storage of equipment is permitted on the school parking lot area prior to 12:01 AM June 13, 2016, except, the western most driveway may be closed during Stage 1.

The parking lot will be reconstructed to Station 14+00WMS, under this contract during Stage 2. Parking equipment or storing materials outside the reconstruction limits is not permitted, which includes the asphalt parking lot area to the north and the concrete parking lot area to the east adjacent to the building.

During Stage 2, coordinate construction activities of the school driveways and parking lot with the engineer and school district. Provide access when needed to the school building parking areas for staff/deliveries, and to the north parking lot area for sporting event parking.

General Restrictions
Comply with the noise level restrictions as defined in the article Public Convenience and Safety.

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.

Excavation material and cleared and grubbed material shall be stockpiled on upland areas an adequate distance away from wetlands, storm sewer inlets, floodplains, and the waterways as determined by engineer.

Northern Long-Eared Bat
Northern Long-eared Bats (NLEB) have potential to inhabit the project limits.

There shall be no Clearing for this contract, from April 1 to September 30 both dates inclusive, in order to avoid adverse impacts upon the NLEBs.

Notify Project Leader 14 days in advance of any work on box culverts or bridges to allow time for department to complete the Bats Presence Structure Inspection Form.

Submit a schedule and description of Clearing and Grubing operations to the department 14 days prior to any Clearing operations. The department will determine, based on schedule and scope of work, what erosion control shall be implemented prior to the start of Clearing operations.

4. Lane Rental Fee Assessment.

A General
The contract designates some lane closures to perform the work. If a lane is closed outside of the allowable hours, the contractor will be subject to Lane Rental Fee Assessments. If a lane is obstructed at any time due to contractor operations, it is considered a closure. The purpose of lane rental is to enforce compliance of lane restrictions and discourage unnecessary closures.

The contractor will incur a Lane Rental Fee Assessment for each lane closure outside of the allowable hours. The contractor will not incur a Lane Rental Fee Assessment for closure of lanes during the allowable hours. The allowable hours for closing lanes are stated in the Prosecution and Progress article.

Submit the dates of the proposed lane, ramp, and roadway restrictions to the engineer as part of the progress schedule. The contractor will coordinate lane, ramp, and roadway closures with any concurrent operations on adjacent roadways within 3 miles of the project.

If other projects are in the vicinity of this project, coordinate lane closures to run concurrent with lane closures on adjacent projects when possible. When lane closures on adjacent projects extend into the limits of this project, Lane Rental Fee Assessments will only occur if the closure facilitates work under this contract.

A.1 Lane Rental Fee Assessment
The Lane Rental Fee Assessment incurred for each lane closure, each ramp closure, and each full closure of a roadway, per direction of travel, is as follows:

$2,000 per USH 45 traffic lane or USH 45 ramp per 15 minutes
$2,000 per Mayfair Road (STH 100) traffic lane per 15 minutes

The Lane Rental Fee Assessment represents the average cost of the interference and inconvenience to the road users for each closure. The Lane Rental Fee Assessment will be measured in 15-minute increments. All lane, roadway, or ramp closure event increments less than 15 minutes will be assessed as a 15-minute increment.

Lane Rental Fee Assessments will be made based on the applicable rate for any and all closures whether work is being performed or not. The engineer, or designated representative, will be the sole authority in determining time period length for the Lane Rental Fee Assessment.

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

B (Vacant)

C (Vacant)

D Measurement
The department will assess Lane Rental Fee Assessment by the dollar under the administrative item Failing to Open Road to Traffic. The total dollar amount of Lane Rental Fee Assessment will be computed by multiplying the Lane Rental Assessment Rate by the number of 15-minute increments of each lane closure event as described above.

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

E (Vacant)

5. Traffic.

Perform the work under this contract in a manner that will interfere as little as possible with active traffic on local streets. Do not park or store vehicles, equipment, or materials on City of Wauwatosa streets adjacent to active traffic or within the clear zone except at the time of performance of the work. Materials or equipment may be stored within the right-of-way only at locations meeting the approval of the engineer.

At all times maintain access to businesses and residents on the existing local streets within the project work area. Do not close or remove driveway approaches or parking stalls 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.

Coordinate traffic requirements under this contract with other ongoing department construction projects. This contractor shall be responsible for implementing and coordinating with other contractors all traffic control as shown on the plans.

Stage 1 - Traffic:

USH 45

- Long-term lane shift to the outside shoulder.
- All lanes and ramps open to traffic during peak hours.
- Short-term lane and ramp closures permitted during off-peak and night time hours.
- Full freeway closures permitted during restricted nighttime hours for bridge removal.

Center Street

- Closed between 112th Street and 114th Street.

112th Street

- Open to Center Street to local traffic using temporary widening and intersection.

113th Street

- Closed at Center Street.

Stage 2 - Traffic:

IH 41

- Permanent lane narrowing for IH 41 northbound lanes.
- All lanes and ramps open to traffic during peak hours.
- Short-term lane and ramp closures permitted during off-peak and night time hours.
- Full freeway closures permitted during restricted nighttime hours for girder erection and bridge deck pours.

Local Streets

- All Local Streets (Do not begin work prior to June 12, 2016):

Center Street

- Closed between Mayfair Road and 115th Street.
- Intersections at Center Street with 112th, 113th and 114th Streets are closed.

Mayfair Road (at IH 41 Bridge Overpass)

- Long term lane reduction to two 11 foot lanes for southbound traffic. Maintain two lanes northbound and southbound at all times, except, as approved by the engineer, traffic may be reduced to one lane northbound and one lane southbound between the hours of 9:00 PM and 5:30 AM.

Detours:
Full freeway night time closures will require a detour for USH 45.

Install the Center Street detour in Stage 1 prior to removing the existing bridge.

6. Holiday and Special Event Restrictions.

Do not perform work on, nor haul materials of any kind along or across any portion of the highway carrying USH 45 traffic, and entirely clear the traveled way and shoulders of such portions of the highway of equipment, barricades, signs, lights, and any other material that might impede the free flow of traffic during the following special event and holiday periods:

- From noon Friday, May 27, 2016 to 6:00 AM Tuesday, May 31, 2016 for Memorial Day;
- From noon Friday, July 1, 2016 to 6:00 AM Tuesday, July 5, 2016 for Independence Day;
- From noon Friday, September 2, 2016 to 6:00 AM Tuesday, September 6, 2016 for Labor Day;

Additional Freeway Restrictions

During Summerfest and State Fair:

- Maintain two open lanes on northbound USH 45 until one hour after the event closes each night.

During Milwaukee Brewer home games at Miller Park:

- Maintain two open lanes on northbound USH 45 until two hours after the game ends.

During other special events at Miller Park:

- Restrictions will be defined during construction on an as needed basis as determined by the engineer.

During Green Bay Packers home games:

- Maintain three open lanes on northbound USH 45 from three hours prior to the game to three hours after the game.

7. Utilities.

This contract comes under the provisions of Administrative Rule TRANS 220.

Additional information regarding recently relocated utility facilities may be available on permits issued to the utility companies. These permits can be viewed at the Region Office during normal working hours. Contact WisDOT SE Freeways Utility Coordinator Douglas Gendron at (414) 750-4362 for further information.

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 state statute. Use caution to ensure the integrity of underground facilities and maintain code clearances from overhead facilities at all times.

Some utility work, as described below, is dependent on prior work being performed by the contractor at a specific site. Provide the engineer and the affected utility a good faith notice of when the utility is to start work at the site. Notice shall be given 14 to 16 calendar days in advance of when 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.

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

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

There may be abandoned utility facilities within the project limits. If a conflict with an abandoned utility facility is encountered, contact the appropriate utility owner/representative to coordinate construction activities and proper removal and disposal of said facility as necessary.

Utility working days shown herein are as defined in Wisconsin Administrative Code Chapter Trans 220.

Project 1060-34-84

Known utilities in the projects are as follows:

AT&T Wisconsin has existing underground and overhead communications facilities within the project limits in the following locations:

- An underground communications line beginning beyond the westerly project limits and running easterly along the northerly right of way of Center Street and ending at a pole at Station 18CE+75, 52' LT. This line will remain in place without adjustment.
- An overhead communications line beginning at a pole at Station 18CE+75, 52' LT and running easterly along the northerly right of way of Center Street, crossing USH 45, and continuing easterly and ending at a pole at Station 21CE+35, 40' LT. AT&T Wisconsin will remove this line prior to construction.
- An underground communications line beginning at a pole at Station 21CE+35, 40' LT and running easterly along the northerly right of way of Center Street to beyond the project limits. This line will remain in place without adjustment.
- An underground communications line beginning at a manhole at Station 16CE+87, 45' LT and running southerly, crossing Center Street at Station 16CE+90, and continuing southerly to beyond the project limits. AT&T Wisconsin will abandon this line in place prior to construction.
- An underground communications line beginning beyond the southerly project limits and running northerly, crossing Center Street at Station 24CE+00, and continuing northerly to beyond the project limits. This line will remain in place without adjustment.
- An underground communications duct package beginning beyond the southerly project limits at Mayfair Road and running northerly along the median of Mayfair Road, crossing USH 45 at Station 411NS+44, and continuing northerly to beyond the project limits. This line will remain in place without adjustment.

Prior to construction AT&T Wisconsin will construct a new communications line beginning at a pole at 16CE+75, 168' RT and running westerly to the east side of 114th Street where it will turn and run northerly along the east right of way of 114th Street to Station 15CE+44, 44' RT. From there it will turn and run easterly along the south right of way of Center Street to Station 15CE+60, 44' RT where it will turn and run northerly, crossing Center Street at Station 15CE+60, and continue northerly to Station 15CE+60, 45' LT. From there it will turn and run easterly along the north right of way of Center Street to a manhole at Station 16CE+87, 45' LT prior to construction. AT&T Wisconsin will also reconstruct the manhole at Station 16CE+87, 45' LT during construction. Contact Jay Bulanek, (262) 896-7669 office / (414) 491-2855 cell, of AT&T Wisconsin 14 calendar days prior to the grading in the area of the manhole to coordinate installation of the new manhole. Allow AT&T Wisconsin one working day to complete this work after the rough grading in this area has been completed.

Contact Jay Bulanek, (262) 896-7669 office / (414) 491-2855 cell, of AT&T Wisconsin seven days in advance to coordinate locations and any excavation near their facilities.

MMSD has existing underground sanitary sewer facilities within the project limits in the following locations:

- An underground sanitary sewer beginning beyond the westerly project limits at Mayfair Road and running easterly to a manhole at Station 593M+40, 25' LT. From there the line continues easterly to beyond the project limits. This line will remain in place without adjustment.
- An underground sanitary sewer beginning at a manhole at Station 593M+40, 25' LT and running southerly along the southbound lanes of Mayfair Road to beyond the project limits. This line will remain in place without adjustment.

Contact Debra Jensen, (414) 225-2143, of MMSD seven days in advance to coordinate locations and any excavation near their facilities.

Time Warner Cable has existing communications facilities within the project limits in the following locations:

- An underground communications line beginning beyond the easterly project limits and running westerly along the north right of way of Center Street to a vault at Station 21CE+54, 46' LT where it turns and runs northerly along the east right of way of USH 45 to beyond the northerly project limits. Time Warner Cable will remove the vault at Station 21CE+54, 46' LT and bury the line. The remaining portions of this line will remain in place without adjustment.
- An underground communications line beginning beyond the westerly project limits and running easterly along the north right of way of Center Street to a manhole at Station 15CE+92, 52' LT where it turns and runs northerly to beyond the project limits. This line will remain in place without adjustment.
- An overhead communications line on We Energies poles beginning beyond the southerly project limits and running northerly, crossing Center Street at Station 13CE+45, and continuing northerly to a pole at Station 13CE+45, 47' LT where it turns and runs easterly along the north right of way of Center Street to beyond the easterly project limits. This line will remain in place without adjustment.
- An underground communications line beginning beyond the southerly project limits at Mayfair Road and running northerly along the east sidewalk to beyond the northerly project limits. This line will remain in place without adjustment.

Contact Steve Cramer, (414) 277-4045, of Time Warner Cable seven days in advance to coordinate locations and any excavation near their facilities.

Wauwatosa, City of - Lighting has existing lighting facilities within the project limits along the south and north sides of Center Street, on the Center Street Bridge, along 112th, 113th and 114th Street, and along the east and west sides of Mayfair Road. Abandon, remove, leave in place, and reconstruct these facilities as shown in the plans.

Contact Randy Michelz, (414) 471-8429, of City of Wauwatosa - Lighting seven days in advance to coordinate locations and any excavation near their facilities.

Wauwatosa, City of – Sewer has existing underground sewer facilities within the project limits in the following locations:

- An underground sanitary sewer beginning beyond the northerly project limits and running southerly along the westerly right of way of USH 45 to a manhole at Station 18CE+44, 1’ LT where it turns and runs westerly along the center of Center Street to beyond the westerly project limits. The City of Wauwatosa will reconstruct this line prior to construction. Adjust and reconstruct the manholes as shown in the plans.
- An underground sanitary sewer beginning at a manhole at Station 15CE+14, 1’ LT and running southerly along the center of 114th Street to beyond the southerly project limits. This line will remain in place without adjustment. Adjust the manholes as shown in the plans.
- An underground sanitary sewer beginning at a manhole at Station 18CE+44, 1’ LT and running southerly along the center of 113th Street to beyond the southerly project limits. This line will remain in place without adjustment. Adjust the manholes as shown in the plans.
- An underground sanitary sewer beginning beyond the easterly project limits and running westerly along the center of Center Street to a manhole at Station 21CE+72, 1’ LT where it turns and runs southerly along the center of 112th Street to beyond the southerly project limits. This line will remain in place without adjustment. Adjust the manholes as shown in the plans.
- An underground sanitary sewer beginning beyond the northerly project limits and running southerly in the western-most southbound lane of Mayfair Road to a MMSD manhole at Station 593M+40, 50’ LT. Abandon, remove, leave in place, and reconstruct portions of this sewer as shown in the plans.

Contact Bill Wehrley, (414) 479-8929, of City of Wauwatosa - Sewer seven days in advance to coordinate locations and any excavation near their facilities.

Wauwatosa Water Utility has existing underground water facilities within the project limits in the following locations:

- An underground water main beginning beyond the westerly project limits and running easterly along the eastbound lane of Center Street to Station 18CE+33, 17’ RT where it turns and runs southerly to Station 18CE+33, 42’ RT. From there it turns and runs easterly, crossing USH 45 at Station 461NS+61, and continues easterly to Station 21CE+28, 42’ RT where it turns northeasterly to 21CE+56, 9’ LT. From there it turns and runs easterly along the westbound lane of Center Street to beyond the project limits. The Wauwatosa Water Utility will abandon portions of this water main in place between Station 18CE+07, 16’ RT and Station 22CE+20, 9’ LT prior to construction. The remaining portions of this line will remain in place without adjustment.

- An underground water main beginning in Center Street at Station 15CE+25, 16' RT and running southerly along the northbound lane of 114th Street to beyond the project limits. This line will remain in place without adjustment.
- An underground water main beginning in Center Street at Station 18CE+33, 42' RT and running southerly in the southbound lane of 113th Street to beyond the project limits. The Wauwatosa Water Utility will abandon portions of this water main in place between Station 18CE+33, 42' RT and Station 18CE+33, 65' RT prior to construction. The remaining portions of this line will remain in place without adjustment.
- An underground water main beginning in Center Street at Station 21CE+82, 9' LT and running southerly along the northbound lane of 112th Street to beyond the project limits. This line will remain in place without adjustment.
- An underground water main beginning beyond the southerly project limits and running northerly along the west curb line of Mayfair Road to beyond the northerly project limits. Abandon, remove, leave in place, and reconstruct these facilities as shown in the plans.

Wauwatosa Water Utility will relocate, construct and reconstruct water facilities in the project area in the following locations prior to construction:

- A new underground water main beginning in Center Street at Station 18CE+07, 16' RT and running easterly to Station 18CE+54, 16' RT where it will turn and run northerly to Station 18CE+55, 46' LT. From there it will turn and run northeasterly to Station 18CE+93, 83' LT where it will turn and run easterly, crossing USH 45 at Station 462NS+95, to Station 21CE+20, 98' LT. From there it will turn and run southeasterly to Station 21CE+66, 13' LT where it will turn and run easterly to Station 22CE+19, 9' LT.
- A new underground water main beginning in Center Street at Station 18CE+39, 16' RT and running southerly to Station 18CE+33, 65' RT.

Wauwatosa Water Utility also has an abandoned underground water main beginning beyond the southerly project limits of Mayfair Road and running northerly along the west curb to beyond the northerly project limits.

Contact Jim Wojcehowicz, (414) 479-8965, of the Wauwatosa Water Utility seven days in advance to coordinate locations and any excavation near their facilities.

We Energies – Electric has overhead and underground electric facilities within the project limits in the following locations:

- An overhead electric line beginning beyond the southerly project limits and running northerly, crossing Center Street at Station 13CE+45, and continuing northerly to a pole at Station 13CE+47, 47' LT where it turns and runs easterly along the north right of way of Center Street and ends at a pole at Station 15CE+13, 48' LT. This line will remain in place without adjustment.

- An underground electric line beginning at a pole at Station 15CE+13, 48’ LT and running easterly along the north right of way of Center Street to a cabinet at Station 18CE+83, 43’ LT. This line will remain in place without adjustment.
- An underground electric line beginning beyond the northerly project limits and running southerly along the west right of way of USH 45 at the east side of Wauwatosa West High School to Station 17CE+44, 99’ LT where it turns and runs westerly to a cabinet at Station 16CE+51, 97’ LT. This line will remain in place without adjustment.
- An underground electric line beginning beyond the southerly project limits and running northerly to Station 24CE+03, 15‘ RT where it turns and runs westerly in the eastbound lanes of Center Street to a manhole at Station 22CE+96, 15‘ RT. From there it turns and runs northerly, crossing Center Street at Station 22CE+96, and continues northerly to beyond the project limits at Whitman Middle School. This line will remain in place without adjustment. We Energies - Electric will adjust the manhole at Station 22CE+96, 15’ RT during construction. Contact Erich Wuestenhagen (414-651-3948 cell) of We Energies - Electric 3 days prior to any paving or grading operations to coordinate the manhole adjustment.
- An underground electric line beginning beyond the southerly project limits of Mayfair Road and running northerly in the northbound lanes of Mayfair Road to beyond the northerly project limits. This line will remain in place without adjustment.

We Energies - Electric also has an abandoned underground electric line beginning beyond the northerly project limits at Center Street and running southerly along the west right of way of USH 45 to Station 18CE+56, 104’ LT where it turns and runs westerly to Station 17CE+44, 99’ LT.

Contact Erich Wuestenhagen, (414) 651-3948 cell, of We Energies seven days in advance to coordinate locations and any excavation near their facilities.

We Energies – Gas has underground gas facilities within the project limits in the following locations:

- An underground gas line beginning beyond the westerly project limits and running easterly along the south right of way of Center Street to Station 18CE+82, 37’ RT where it turns and runs northeasterly to Station 18CE+95, 19’ RT. From there it turns and runs easterly, crossing USH 45 on the Center Street Bridge, and continues easterly to Station 21CE+17, 19’ RT where it turns and runs southeasterly to Station 21CE+39, 37’ RT. From there it turns and runs easterly along the south side of Center Street to beyond the project limits. We Energies - Gas will abandon portions of this main in place from Station 23CE+75, 39’ RT to beyond the westerly project limits prior to construction. The remaining portions of this line will remain in place without adjustment.

- An underground gas line beginning in Center Street at Station 14CE+92, 32’ RT and running southerly along the west side of 114th Street to beyond the project limits. We Energies - Gas will abandon portions of this main in place between Station 14CE+92, 32’ RT and Station 14CE+94, 79’ RT prior to construction. The remaining portions of this line will remain in place without adjustment.
- An underground gas line beginning in Center Street at Station 18CE+17, 37’ RT and running southerly along the west side of 113th Street to beyond the project limits. We Energies - Gas will abandon portions of this main in place between Station 18CE+17, 37’ RT and Station 18CE+17, 144’ RT prior to construction. The remaining portions of this line will remain in place without adjustment.
- An underground gas line beginning in Center Street at Station 21CE+55, 37’ RT and running southerly along the west side of 112th Street to beyond the project limits. We Energies - Gas will abandon this line in place within the project limits prior to construction.
- An underground gas line beginning beyond the southerly project limits and running northerly along the west right of way of Mayfair Road, crossing below USH 45, and continuing northerly to beyond the project limits. This line will remain in place without adjustment.
- An underground gas line beginning beyond the southerly project limits and running northerly in the northbound lanes of Mayfair Road, crossing below USH 45, and continuing northerly to beyond the project limits. This line will remain in place without adjustment.

We Energies - Gas also has abandoned underground gas facilities within the project limits in the following locations:

- An abandoned underground gas line beginning beyond the southerly project limits and running northerly along the west right of way of Mayfair Road, crossing below USH 45, and continuing northerly to beyond the project limits.
- An abandoned underground gas line beginning beyond the southerly project limits and running northerly in the northbound lanes of Mayfair Road, crossing below USH 45, and continuing northerly to beyond the project limits.

Contact Erich Wuestenhagen, (414) 651-3948 cell, of We Energies seven days in advance to coordinate locations and any excavation near their facilities.

WisDOT – Lighting has existing lighting facilities along USH 45 throughout the project area. Abandon, remove, leave in place, and reconstruct these facilities as shown in the plans.

Contact Eric Perea, (262) 574-5422 office / (414) 750-0935 cell, of WisDOT - Lighting seven days in advance to coordinate locations and any excavation near their facilities.

WisDOT STOC has existing communication facilities along USH 45 throughout the project area. Abandon, remove, leave in place, and reconstruct these facilities as shown in the plans.

Contact Jeff Madson, (414) 225-3723, of WisDOT - STOC seven days in advance to coordinate locations and any excavation near their facilities.

Project 1060-35-85

AT&T Wisconsin has an existing underground communications line beginning beyond the westerly project limits and running easterly along the north right-of-way of Center Street to beyond the easterly project limits. This line will remain in place without adjustment.

Contact Jay Bulanek, (262) 896-7669 office / (414) 491-2855 cell, of AT&T Wisconsin seven days in advance to coordinate locations and any excavation near their facilities.

Time Warner Cable has existing underground and overhead communications facilities within the project limits in the following locations:

- An underground communications line beginning beyond the easterly project limits and running westerly along the north right-of-way of Center Street to Station 6CE+00, 53' LT where it turns and runs northerly to beyond the northerly project limits. This line will remain in place without adjustment.
- An overhead communications line on We Energies poles beginning beyond the southerly project limits at Center Street and running northerly, crossing Center Street at Station 13CE+45, and continuing northerly to a pole at Station 13CE+45, 47' LT where it turns and runs easterly along the north right-of-way of Center Street to beyond the easterly project limits. This line will remain in place without adjustment.
- An overhead communications line on We Energies poles beginning beyond the southerly project limits at Center Street and running northerly to a pole at Station 6CE+78, 37' RT where it turns and runs northwesterly, crossing Center Street at Station 6CE+42, and continues northwesterly to a pole at Station 5CE+94, 52' LT. From there it turns and runs northerly to beyond the project limits. Prior to construction, We Energies will remove the pole at Station 6CE+78, 37' RT and install a new pole at Station 6CE+73, 32' RT and Time Warner Cable will re-attach to the poles. The remaining portions of this line will remain in place without adjustment.

Contact Steve Cramer, (414) 277-4045, of Time Warner Cable seven days in advance to coordinate locations and any excavation near their facilities.

Wauwatosa, City of - Lighting has existing lighting facilities within the project limits along the south and north sides of Center Street and along 114th, 115th, 116th and 117th Streets. Abandon, remove, leave in place, and reconstruct these facilities as shown in the plans.

Contact Bill Wehrley, (414) 479-8929, of City of Wauwatosa - Lighting seven days in advance to coordinate locations and any excavation near their facilities.

Wauwatosa, City of – Sewer has existing underground sewer facilities within the project limits in the following locations:

- An underground sanitary sewer beginning beyond the westerly project limits and running easterly along the center of Center Street to beyond the easterly project limits. This line will remain in place without adjustment.
- An underground sanitary sewer beginning at a manhole at Station 5CE+06, 1' LT and running southerly along the center of 117th Street to beyond the project limits. This line will remain in place without adjustment.
- An underground sanitary sewer beginning at a manhole at Station 8CE+51, 1' LT and running southerly along the center of 116th Street to beyond the project limits. This line will remain in place without adjustment.
- An underground sanitary sewer beginning at a manhole at Station 11CE+96, 1' LT and running southerly along the center of 115th Street to beyond the project limits. This line will remain in place without adjustment.
- An underground sanitary sewer beginning at a manhole at Station 15CE+14, 1' LT and running southerly along the center of 114th Street to beyond the project limits. This line will remain in place without adjustment.

Contact Bill Wehrley, (414) 479-8929, of City of Wauwatosa - Sewer seven days in advance to coordinate locations and any excavation near their facilities.

Wauwatosa Water Utility has existing underground water facilities within the project limits in the following locations:

- An underground water main beginning beyond the westerly project limits and running easterly in the westbound lanes of Center Street to Station 8CE+61, 8' LT where it turns and runs southerly to Station 8CE+61, 16' RT where it turns and runs easterly to beyond the project limits. This line will remain in place without adjustment.
- An underground water main beginning at Center Street at Station 5CE+13, 8' LT and running southerly in the northbound lanes of 117th Street to beyond the project limits. This line will remain in place without adjustment. Relocate the hydrant as shown in the plans.
- An underground water main beginning at Center Street at Station 8CE+61, 8' LT and running southerly in the southbound lanes of 116th Street to beyond the project limits. This line will remain in place without adjustment. Relocate the hydrant as shown in the plans.
- An underground water main beginning at Center Street at Station 12CE+06, 15' RT and running southerly in the northbound lanes of 115th Street to beyond the project limits. This line will remain in place without adjustment.
- An underground water main beginning at Center Street at Station 15CE+25, 15' RT and running southerly in the northbound lanes of 114th Street to beyond the project limits. This line will remain in place without adjustment.

Contact Jim Wojcehowicz, (414) 479-8965, of the Wauwatosa Water Utility seven days in advance to coordinate locations and any excavation near their facilities.

We Energies – Electric has overhead and underground electric facilities within the project limits in the following locations:

- An overhead electric line beginning beyond the southerly project limits and running northerly, crossing Center Street at Station 13CE+45, and continuing northerly to a pole at Station 13CE+45, 47' LT where it turns and runs easterly along the north right-of-way of Center Street to beyond the project limits. This line will remain in place without adjustment.
- An overhead electric line beginning beyond the southerly project limits at Center Street and running northerly to a pole at Station 6CE+78, 37' RT where it turns and runs northwesterly, crossing Center Street at Station 6CE+42, and continues northwesterly to a pole at Station 5CE+94, 52' LT. From there it turns and runs northerly to beyond the project limits. We Energies will remove the pole at Station 6CE+78, 37' RT and install a new pole at Station 6CE+73, 32' RT prior to construction. The remaining portions of this line will remain in place without adjustment.

Contact Erich Wuestenhagen, (414) 651-3948 cell, of We Energies seven days in advance to coordinate locations and any excavation near their facilities.

We Energies – Gas has underground gas facilities within the project limits in the following locations:

- An underground gas line beginning beyond the westerly project limits and running easterly along the north sidewalk of Center Street to Station 4CE+83, 35' LT where the line turns and runs southerly to Station 4CE+83, 17' LT. From there the line turns and runs easterly in the westbound lanes of Center Street to Station 7CE+16, 15' LT where the line turns and runs northerly to Station 7CE+16, 36' LT. From there the line turns and runs easterly to Station 8CE+93, 37' LT where the line turns and runs southerly to Station 8CE+93, 31' RT. From there the line turns and runs easterly along the south side of Center Street to beyond the easterly project limits. We Energies Gas will abandon this line in place from Station 8CE+93, 31' RT to beyond the easterly project limits prior to construction. The remaining portions of this line will remain in place without adjustment.
- An underground gas line beginning at Center Street at Station 4CE+83, 17' LT and running southerly behind the westerly curb line of 117th Street to beyond the project limits. This line will remain in place without adjustment.
- An underground gas line beginning at Center Street at Station 8CE+93, 31' RT and running southerly behind the easterly curb line of 116th Street to beyond the project limits. This line will remain in place without adjustment.
- An underground gas line beginning at Center Street at Station 11CE+61, 34' RT and running southerly behind the westerly curb line of 115th Street to beyond the project limits. This line will remain in place without adjustment.

- An underground gas line beginning at Center Street at Station 14CE+92, 32' RT and running southerly behind the westerly curb line of 114th Street to beyond the project limits. This line will remain in place without adjustment.

We Energies - Gas will construct a new gas line beginning at Station 8CE+93, 44' RT and running easterly along the south right-of-way of Center Street to beyond the easterly project limits.

Contact Erich Wuestenhagen, (414) 651-3948 cell, of We Energies seven days in advance to coordinate locations and any excavation near their facilities.

8. Other Contracts.

Coordinate your work according to standard spec 105.5.

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

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

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

Project 1060-33-80
Zoo IC, Zoo Interchange Phase 1
WisDOT contact: Mark Klipstein; (414) 750-1496

Project 1060-33-81
Zoo IC, Zoo Interchange Phase 2
WisDOT contact: Mark Klipstein; (414) 750-1496

9. 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 will be determined by the contractor's ECIP and by the engineer. Include each dewatering (mechanical pumping) operation in the ECIP submittal. The ECIP will supplement information shown on the plans and not reproduce it. The ECIP will identify how to implement the project's erosion control plan. ECIP will demonstrate timely and diligently staged operations, continuing all construction operations methodically from the initial removals and topsoil stripping operations through the subsequent grading, paving, and re-application of top soil to minimize the period of exposure to possible erosion.

Provide the ECIP 14 days prior to the pre-construction conference. Provide 1 copy of the ECIP to the department and 1 copy of the ECIP to the WDNR Liaison Kristina Betzold, (414) 263-8517, Kristina.betzold@wisconsin.gov. Do not implement the ECIP until department approval, and perform all work according to the approved ECIP.

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 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.

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 describing in words and pictorial format an appropriate BMP for sediment removal, according to WisDNR Storm Water Construction Technical Standard, Code 1061, Dewatering. 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.
SEF Rev. 15_0120

10. 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, unless prior written approval is obtained from the engineer.

Noise levels between the night-time hours of 9:00 PM to 7:00 AM shall be restricted as follows including the use of pneumatic hammers and pavement removal, unless compliance is waived by the engineer:

Residential areas	Do not exceed 5 dB(A) over preconstruction ambient noise levels
All other areas outside WisDOT right-of-way	Do not exceed 5 dB(A) over preconstruction ambient noise levels

Prior to waiving the noise compliance by the engineer, provide 48 hour advance notice to Mr. William Wehrley, City Engineer, at (414) 479-8929 regarding the evening noise generating construction operations.

11. Notice to Contractor - Milwaukee County Transit System.

The Milwaukee County Transit System (MCTS) maintains bus route 85 throughout the project corridor along the project. Notify MCTS at least 14 days prior to beginning work. The MCTS contact is Ms. Melanie Flynn, (414) 343-1764.

Invite MCTS to all coordination meetings between the contractor, the department, local officials and business people to discuss the project schedule of operations including vehicular and pedestrian access during construction operations.

MCTS will remove their existing bus stop signs and shelters. Notify MCTS at least ten days in advance. MCTS will install new bus stop signs and shelters prior to the opening of traffic on the new roadway pavement. Notify MCTS at least 14 days prior to opening new pavement to vehicular traffic.

The contractor shall provide a safe boarding zone that is clear of debris and ADA compliant at each temporary bus stop. MCTS will install temporary bus stop signs if notified at least 14 days in advance.

12. Notice to Contractor – Airport Operating Restrictions.

Fill out the FAA Notice Criteria tool for any permanent structure (bridge, light pole, etc.) or equipment (crane, etc.) used during construction.

http://oeaaa.faa.gov/oeaaa/external/portal.jsp

If required by the Notice Criteria tool, and for any crane or construction equipment higher than 200 feet above the ground, submit completed form 7460-1 (Notice of Proposed Construction or Alteration) to The Federal Aviation Administration (FAA) at least 45 days before starting construction.
SEF Rev. 14_0609

13. Public Involvement Meetings.

Participate in department-sponsored public involvement meetings as the engineer requests. Ensure that representatives of subcontractors also participate in those meetings if the engineer requests.
SEF Rev. 14_0312

14. Traffic Meetings and Traffic Control Scheduling.

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

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

Every Wednesday at 2:00 PM, attend a weekly traffic meeting. The meeting will bring local agencies, project stakeholders, owner managers, owner engineers, contractors, document control and construction engineering personnel together to discuss traffic staging, closures and general impacts. Upon obtaining feedback from the meeting attendees, edit, delete and add information to the detailed 2-week look-ahead closure schedule, as needed. Submit the revised 2-week look-ahead to the engineer by 12:00 PM on Thursdays.

Obtain approval from the engineer for any changes to the closure schedule that is proposed outside the Wednesday meetings, including additional closures or cancellations. No requests for additional closures for Friday, Saturday, Sunday or Monday will be accepted after 12:00 PM on Thursday. Revise the 2-week look-ahead as needed to reflect these changes and submit to the engineer.

15. Material and Equipment Staging.

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

16. Available Documents.

The department will make all its information available to bidding contractors. The list of documents that are available for contractors' information includes but is not limited to:

- Design Study Report
- Exceptions to Standards Report
- Interstate Access Justification Report
- Pavement Type Selection Report
- Environmental Document
- As-Built Drawings
- Preconstruction survey
- Traffic Management Plan

These documents are available from Chris Zacharias at 141 NW Barstow Street, Waukesha, WI 53187, (262)-548-6716.

Reproduction costs will be applied to any copies requested.
SEF Rev. 15_0619

17. Geotechnical Investigation Information.

Replace standard spec 102.5(3) 2 with the following:

Available information relative to subsurface exploration, borings, soundings, water levels, elevations or profiles are available for review at the department's Regions office. Contact Chris Zacharias, 141 NW Barstow Street, Waukesha, WI 53187, (262) 548-6716.

Geotechnical Exploration and Retaining Wall Evaluation Report:

- Retaining Wall R-40-0577 (West Abutment B-40-0880), April 10, 2015
- Retaining Wall R-40-0578 (East Abutment B-40-0880)

Geotechnical Exploration and Bridge Evaluation Report

- B-40-0880

Review the available information to determine if it is of use. The use or not of the geotechnical information does not relieve performing the work according to the plans and specifications.
SEF Rev. 14_1211

18. Contractor Notification.

Replace standard spec 104.2.2.2(2) with the following:

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

104.3.2 (Vacant)

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

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

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

Provide the additional information specified in standard spec 104.3.5 as early as possible to assist the engineer in the timely resolution of an identified issue. The engineer will not require, in subsequent submissions, duplication of information already provided.
SEF Rev. 14_1211

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

Both the department and City of Wauwatosa personnel with inspect construction of City of Wauwatosa sanitary sewer and water main under this contract.

Testing and final acceptance of the sanitary sewer and water main construction will be by the City of Wauwatosa.

20. Contractor Document Submittals.

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

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

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

Submit electronic copies in Portable Document Format (PDF) to the engineer-designated folder within the department's SharePoint site, and send alerts with a link to the document via email to (an) account(s) the engineer determines. If possible, translate original documents from their native format (e.g. Word, Excel, AutoCAD, etc.) using a

Portable Document Format translation routine. Scan other documents to PDF format with a minimum resolution of 600 dpi.

All costs for contractor document submittals are incidental to the contract.
SEF Rev. 15_0619

21. Information to Bidders, Use of Recovered Material.

Supplement standard spec 106.2.1 with the following:

(3) Submit a material reuse proposal to the department prior to the Project kickoff and Initial Work Plan mobilization workshop, identifying, at a minimum, conformance to all of Wisconsin Administrative Code NR 538, demonstrating specification gradation conformance, and following standard engineering practice for intended use.
https://docs.legis.wisconsin.gov/code/admin_code/nr/500/538

Obtain department acceptance of the material reuse proposal prior to incorporating any waste material, special waste, or industrial byproducts into the project. The department reserves the right to deny any proposed material reuse proposal.

(4) Provide the department with copies of all documentation and notifications required under Wisconsin Administrative Code NR 538.

(5) Within 60 days of placement, provide 3D model data recording as-built locations of industrial byproduct reuse in LandXML v1.2 files and AutoCAD Civil 3D 2014 (or later version) TIN surface DWG file formats; provide data using horizontal datum - NAD-83 (GRS-1980) (2007), vertical datum - NAVD-1988 (2007), and coordinate projection - Wisconsin County Coordinate System in U.S. survey feet, or in other format/datum as approved by the engineer.

22. Dust Control Implementation Plan.

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

B (Vacant)

C Construction
C.1 General
Take responsibility for dust control on the project as specified in standard spec 107.18. Minimize dust emissions resulting from land disturbing activities. Do not generate excessive air borne particulate matter (PM) or nuisance dust conditions. Take direct responsibility for controlling dust at all times throughout the duration of the contract,

24 hours per day, 7 days per week, including non-working hours, weekends, and holidays.

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

C.2 Dust Control Implementation Plan Contents

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

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

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

5. A description of how off-site impacts shall be monitored and dealt with.
6. Provide the department a copy of any DNR approved permits for relocation of mobile crushing operations.

C.3 Updating the Dust Control Implementation Plan

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

C.4 Dust Control Deficiencies

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

D Measurement

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

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

623.0200	Dust Control Surface Treatment
628.7560	Tracking Pads
SPV.0105.0003	Pavement Cleanup Project 1060-34-84
SPV.0105.0004	Pavement Cleanup Project 1060-35-85

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 Rev. 14_1211

23. Project Site Air Quality.

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

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

Portable Concrete Crusher Plants
Portable concrete crusher plants may need a NR 440 Concrete Crusher Plant Air Permit for air emissions. Please contact Mike Griffin, Wisconsin Department of Natural Resources, Air Compliance Engineer (414) 263-8554 to request additional information and permit application materials. Complete permit applications may take 3 months to process.
SEF Rev. 14_1212

24. Maintaining Drainage.

Maintain drainage at and through worksite during construction according to standard specs 107.22, 204, 205 and 520.

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 project.

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 (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. Refer to article Erosion Control in these special provisions for additional requirements.
SEF Rev. 15_0209

25. OCIP Information.

The Owner Controlled Insurance Program (OCIP)
The Zoo Interchange project will be constructed under the umbrella of an Owner Controlled Insurance Program (OCIP). Contractor/Consultant participation in this Corridor Project is mandatory and requires enrollment into the OCIP. Additional information regarding OCIP can be found at http://wisconsindot.gov/Pages/doing-bus/contractors/hcci/prelim-plan-se.aspx.

If you have any questions regarding the OCIP, including whether your company needs to be enrolled into the OCIP, please contact Chris Luttrell at (608) 381-2340, or chris.luttrell@dot.wi.gov.
SEF Rev. 15_0715

26. Notice to Contractor – OCIP Exclusions.

The Owner Controlled Insurance Program (OCIP) insurance coverage excludes environmental/abatement work, including but not limited to hazardous materials/chemicals, lead and other materials considered hazardous – see Article – Owner

Controlled Insurance Program for additional information. Environmental/abatement work must be performed by a qualified contractor and the work will not be covered under OCIP. The contractor performing Environmental/abatement work may potentially be enrolled in the OCIP if also performing other work not excluded from the OCIP umbrella. The qualified subcontractor must carry Construction Pollution Liability insurance with limits of at least $1,000,000 per Occurrence and $2,000,000 Aggregate.

Report only payroll from non-environmental work under the OCIP. Do not report payroll generated from environmental/abatement work.

Direct questions regarding this or any other aspects of OCIP to Chris Luttrell at (608) 381-2340, or chris.luttrell@dot.wi.gov.
SEF Rev. 15_0126

27. Owner Controlled Insurance Program.

Standard spec 107.26, "Standard Insurance Requirements" is deleted in its entirety and the following standard spec 107.26 is substituted thereof:

107.26 Standard Insurance Requirements

107.26(1)(a) Owner Controlled Insurance Program

1. **Overview**. The State of Wisconsin, Department of Transportation ("the WisDOT") has arranged with Aon Risk Solutions, (the "OCIP administrator") for this Project to be insured under its Owner Controlled Insurance Program ("OCIP"). The OCIP is more fully described in the Zoo Interchange manual for the Owner Controlled Insurance Program (the "Insurance Manual") and the Safety and Health Plan Manual that are incorporated in this Special Provision and the Contract by this reference. Parties performing labor or services at the Project Site (as defined by the OCIP Policies) are eligible to enroll in the OCIP unless the party is an excluded party (as defined below). The OCIP will provide to enrolled parties(as defined below) workers' compensation and employer's liability insurance, commercial general liability insurance, Builders Risk and Excess Liability insurance as summarily described below in connection with the performance of the Work ("OCIP coverage's").

2. **Enrolled Parties and Their Insurance Obligations.** OCIP coverage applies only to Enrolled Parties. Enrolled Parties include the WisDOT and its employees, non-excluded Contractors and Subcontractors of all tiers who enroll in the OCIP, all employees of Enrolled Contractors and Subcontractors who perform Work at the Project Site, and such other persons or entities that the WisDOT, in its sole discretion, may designate (each such party who is insured under the OCIP is collectively referred to as an "Enrolled Party").

   Enrolled Parties shall obtain and maintain, and shall require each of its Subcontractors to obtain and maintain, the insurance coverage specified in 107.26(1)(a) 8 below.

3. **Excluded Parties and Their Insurance Obligations.** OCIP coverage's do not apply to the following "Excluded Parties":

   a. Hazardous materials remediation, removal and/or transport companies;

   b. Vendors *, suppliers, fabricators, material dealers, truckers**, haulers, drivers and others who merely transport, pickup, deliver, or carry materials, personnel, parts or equipment or any other items or persons to or from the Project;

   * WisDOT is requiring all vendors who perform maintenance on an enrolled contractor's equipment to be enrolled in the OCIP. Please see "WisDOT OCIP Enrollment Guidance Relating to Service Vendors" to determine whether they will be enrolled per project id number or on a Miscellaneous blanket basis.

   ** Truckers that come on site must remain in the cab of the vehicle.

   Refer to the "Enrollment Matrix" which clearly outlines the requirements contingent upon the category that the entity falls under, such as: Contractor; Subcontractor; Consultant; Visitor; etc.

   c. Sanitary disposal facility providers, if the only function is to drop off the units and pick them up later, they are material suppliers and are excluded. If the company also services/cleans the units on site, that is no longer being a material supplier. (Refer to "Enrollment Matrix", Vendors Providing Maintenance On Site).

   d. Contractors and subcontractors of any tier that do not perform any actual labor on the Project site;

   e. Any party or entity not specifically identified in this special provision or excluded by the WisDOT as permitted by law, even if otherwise eligible.

   f. If you are not employed by an Enrolled Party, but performing services of an Excluded Party, you are not covered by the OCIP.

   Excluded Parties and parties not enrolled in the OCIP shall obtain and maintain, and shall require each of its excluded subcontractors to obtain and maintain, the insurance coverage specified in standard spec 107.26(1)(a) 8 below and in the Insurance Manual. Excluded Parties shall comply with all of the safety requirements pursuant to 107.26(1)(a) 16.

4. **OCIP Insurance Policies Establish OCIP coverage's**. The OCIP coverage's and exclusions summarized in this special provision and the other contract documents are set forth in full in their respective insurance policy forms. The summary descriptions of the OCIP coverage's in this special provision or the Insurance Manual are not intended to be complete or to alter or amend any provision of the actual OCIP coverage's. In the event any provision of this special provision, the

Insurance Manual, or the contract documents, conflicts with the OCIP insurance policies, the provisions of the actual OCIP insurance policies shall govern.

5. **Summary of OCIP Coverage's**. OCIP coverage's will apply only to those operations of each Enrolled Party performed at the project site (as defined in the OCIP insurance Policies) in connection with the work and only to Enrolled Parties that are eligible for the OCIP.

   The OCIP coverage's are primary insurance for all Enrolled Parties for occurrences during the policy period at the project site (as defined in the OCIP Policies). The OCIP will provide at least the following insurance to Enrolled Parties:

Summary of OCIP Coverages

This is a brief description of OCIP Insurance Coverage. Enrolled Parties should refer to the actual policies for details concerning coverage, exclusions and limitations.

a. Workers' Compensation Insurance -Statutory Limit including Jones Act and USL&H coverage, as applicable.

b. Employer's Liability Insurance $1,000,000 Bodily Injury by Accident, each accident $1,000,000 Bodily Injury by Disease, each employee $1,000,000 Bodily Injury by Disease, policy limits

c. Commercial General Liability (ISO Occurrence Form – Limits Shared By All Insureds) $2,000,000 Each Occurrence Limit (Annual Limit) $2,000,000 Personal/Advertising Injury Aggregate $4,000,000 General Aggregate Limit for all Enrolled Parties (Annual Limit)

   $4,000,000 Products and Completed Operations Aggregate for all Enrolled Parties (Single Limit Applies to Entire Products and Completed Operations Extension)

   10 yr. Products and Completed Operations Extension

d. The OCIP Commercial General Liability policy will not provide coverage for any claim that could be covered under a property policy or Builder's Risk policy.

e. Excess Liability insurance (over Employer's Liability and General Liability – Limits Shared by All Insureds)

   $100,000,000 Each Occurrence Limit

   $100,000,000 Aggregate (Annual Limit)

   $100,000,000 Products and Completed Operations Aggregate Limit (Single Limit Applies to Entire Products and Completed Operations Extension).

f. Builder's Risk Insurance Coverage:

This is a brief description of Builder's Risk Insurance Coverage. Contractor should refer to the actual policies for details concerning coverage, exclusions and limitations.

The Builder's Risk insurance covers insures property, including materials, supplies, machinery, fixtures and equipment which will become a permanent part of the work (excluding road work at grade level) in the course of construction.

The Builder's Risk coverage insures WisDOT and Enrolled Parties.

Builders Risk:

Limit	
Each Occurrence Limit	$100,000,000

Builder's Risk Obligation:

- Contractor or subcontractor shall pay to the WisDOT's designee within five (5) days
- Written notice a maximum of up to twenty-five thousand dollars ($25,000.00) for each loss payable under the Builder's Risk Policy attributable to contractor's work, acts or omissions, or the work, acts or omissions of any of contractor's subcontractors, or any other entity or party for whom Contractor may be responsible ("builder's risk obligation").

6. The WisDOT's Insurance Obligations.

a. The WisDOT will pay the costs of premiums for the OCIP coverage's and WisDOT will receive or pay, as the case may be, all adjustments to such costs, whether by way of dividends, retroactive adjustments, return premiums, other moneys due, audits or otherwise.

b. The WisDOT assumes no obligation to provide insurance other than that specified in this special provision and the OCIP insurance policies.

c. Except as provided by applicable law, the WisDOT's furnishing of OCIP coverage's will in no way relieve or limit, or be construed to relieve or limit, contractor or any of its subcontractors of any responsibility, liability, or obligation imposed by the contract documents, the OCIP insurance policies, or by law, including without limitation any indemnification obligations which Contractor or any of its Subcontractors has to the WisDOT there under. The WisDOT reserves the right at its option, to furnish other insurance coverage of various types and limits provided that such coverage is not less than that specified in the contract documents.

7. **Contractor's OCIP Obligations.** Contractor shall:

   a. Assign to WisDOT the right to receive all such adjustments, and shall require that each of its Subcontractors of every tier assigns to WisDOT the right to receive all such adjustments.

   b. Incorporate the terms of this special provision in all subcontract agreements.

   c. Enroll and maintain enrollment in the OCIP, and shall ensure that each non-Excluded subcontractor, enrolls and maintains enrollment in the OCIP. Enrollment shall take place within five days of a receipt of a Notice to Proceed, and prior to commencement of work. Comply with all of the administrative, safety, insurance, and other requirements outlined in this special provision, the Insurance Manual, the OCIP insurance policies, the Safety and Health Plan Manual, or elsewhere in the contract documents.

   d. Provide each of its subcontractors with a copy of the Insurance Manual and ensure Subcontractor compliance with the provisions of the OCIP insurance policies, the Insurance Manual, this special provision, and the contract documents. The failure of (a) the WisDOT to include the Insurance Manual in the bid documents or (b) contractor to provide each of its eligible subcontractors with a copy of same shall not relieve contractor or any of its subcontractors from any of the obligations contained therein.

   e. Acknowledge, and require all of its Subcontractors to acknowledge in writing, that the WisDOT and the OCIP administrator are not agents, partners or guarantors of the insurance companies providing coverage under the OCIP (each such insurer, an "OCIP insurer") and that the WisDOT is not responsible for any claims or disputes between or among contractor, its subcontractors, and any OCIP insurer(s). Any type of insurance coverage or limits of liability in addition to the OCIP coverage's that contractor or any subcontractor requires for its or their own protection, or that is required by applicable laws or regulations, shall be contractor's or its subcontractor's sole responsibility and expense and shall not be billed to the WisDOT.

   f. Cooperate fully with the OCIP administrator and the OCIP insurers, as applicable, in its or their administration of the OCIP.

   g. Provide, within five business days of the WisDOT's or the OCIP administrator's request, all documents or information as requested of Contractor or its Subcontractors. Such information may include but not be limited to, payroll records, certified copies of insurance coverage's, declaration pages of coverage's, certificates of insurance, underwriting data, prior loss history information, insurance audits, safety records or history, OSHA citations, or such other data or information as the WisDOT, the OCIP administrator, or OCIP insurers may request in the administration of the OCIP, or as required by the Insurance Manual.

h. Pay to the WisDOT's designee within five (5) days of written notification, a sum of up to **$10,000** of each claim, including court costs, attorneys' fees and costs of defense for property damage to the extent losses are insured under the OCIP Commercial General Liability policy for those losses that are attributable to contractor's work, acts or omissions, or the work, acts or omissions of any of its subcontractors, or any other entity or party for whom contractor may be responsible ("contractor General Liability obligation"). The contractor General Liability obligation will not be insured by the OCIP Coverage's.

8. Additional Insurance Required From Enrolled Parties and Excluded Parties. Contractor shall obtain and maintain, and shall require each of its subcontractors of every tier to obtain and maintain, the insurance coverage specified in this Section in a form and from insurance companies reasonably acceptable to the WisDOT. The insurance limits may be provided through a combination of primary and excess policies, including the umbrella form of policy. The insurance required by this Section shall conform to the WisDOT's requirements outlined in the Insurance Manual and be written by companies authorized to do business in the state of Wisconsin with an **AM Best rating of A-or better**. Contractor shall provide certificates of insurance coverage to the WisDOT as required below and by the Insurance Manual.

As to Enrolled Parties, the Workers' Compensation, Employer's Liability, and Commercial General Liability insurance required by this section shall only be for operations away from the project site (as defined by OCIP Policies). The cost of providing the required insurance coverage and limits is incidental to the contract. The department will make no additional or special payment for providing insurance.

TYPE OF INSURANCE MINIMUM LIMITS REQUIRED

1. Commercial General Liability insurance shall be endorsed to include Blanket Contractual Liability coverage.

   a. $2,000,000 Combined Single Limits per occurrence with an annual aggregate limit of not less than $4,000,000.

   b. The OCIP Coverage's shall exclude blasting or explosion operations. If blasting or explosion operations are used in connection with the Work, Commercial General Liability insurance shall not contain an exclusion for blasting or explosion and shall be provided in limits established by the WisDOT at the time such blasting or explosion methods are elected. Such coverage shall apply to operations whether the operations occur on the Project site or away from the Project site.

   c. Wisconsin Department of Transportation, their respective officers, agents and employees, and any additional entities as the WisDOT may request as additional insureds must be named as an Additional Insured which shall include: i) liability arising out of the Work performed by the named insured; ii) liability arising out of the supervision of the Work performed by or operations of the named insured; and iii) liability of the acts or omissions of the Additional Insureds relating to Work performed by the named insured for the Project, except for sole negligence of the

Additional Insureds iv) will state that coverage is afforded on a primary and non-contributory basis.

d. Ongoing Construction Operation(s) in effect at all times while work is being performed by Contractor;

e. Subcontractors and Independent Contractors (if any);

f. Products and Completed Operations, including coverage applicable to additional insureds (as required by this agreement) with Completed Operations coverage to remain in force, whether by endorsement or renewal of coverage, including the contractor, any party required to be indemnified by this contract and any other party required by this contract to be named as an additional insured, for at least two (2) years from the date of final completion of the project and WisDOT's acceptance of the work; and

g. Explosion, collapse, and underground hazards.

h. Contractual Liability (insured contract) coverage sufficient to meet the requirements of this Contract (including defense costs and attorney's fees assumed under contract);

i. Personal and Advertising Injury Liability coverage (with the standard contractual and employee exclusions deleted);

j. Notice and Knowledge of Occurrence conditions limited to the knowledge of relevant corporate officers or risk managers with an Unintentional Errors and Omissions provision (providing that the insurer may not deny coverage unless it can show that it has been prejudiced by a failure of the insured to comply with a condition of the policy); and

k. CG 22 79 07 98 (or equivalent) is the only acceptable Professional Liability Exclusion.

l. Operations performed within 50' of railroad

m. Contractors must provide their own insurance for owned, leased, rented and borrowed equipment, whether such equipment is located at a project site or "in transit". Contractors are solely responsible for any loss or damage to their personal property including, without limitation, property or materials created or provided under the contract until installed at the project site, contractor tools and equipment, scaffolding and temporary structures.

2. Workers' Compensation and Employer's Liability insurance.

a. Workers' Compensation Limits: Statutory Limits

b. Employer's Liability limits:

$1,000,000 Bodily Injury by Accident, each accident $1,000,000 Bodily Injury by Disease, each employee $1,000,000 Bodily Injury by Disease, policy limits.

Terms and conditions shall include:

- USL&H – where applicable.
- Jones Act – where applicable.
- All states endorsement -where applicable.

3. Commercial Automobile Liability insurance as specified by Insurance Services Office (ISO), form CA 00 01, symbol 1 (any auto) with the following limits and endorsements:

   a. No Trucking or Hauling: $1,000,000 Each Accident

   b. Trucking or Hauling (Non Hazardous Materials): $2,000,000 Each Accident

   c. Trucking or Hauling Hazardous Materials: $5,000,000 Each Accident with an MCS 90 Endorsement and ISO Endorsement CA 99 48.

1. For any work over water, whether deemed navigable or otherwise, Contractors Pollution Liability insurance with $2,000,000 per occurrence and $2,000,000 aggregate policy limits.
2. Aviation and/or Watercraft Liability insurance, as appropriate, including hull and protection and indemnity for watercraft, or other insurance, in form and with limits of liability and from an insuring entity reasonably satisfactory to the WisDOT.

Contractor's failure to procure or maintain the insurance required by this Section and to assure all its Subcontractors of every tier maintain the required insurance during the entire term of the contract shall constitute a material breach of this contract under which the WisDOT may immediately suspend or terminate this contract or, at its discretion, procure or renew such insurance to protect the WisDOT's interests and pay any and all premiums in connection therewith, and withhold or recover all monies so paid from the contractor.

Contractor shall provide the WisDOT with certificates of insurance as evidence that required coverage's for insurance detailed in this section are in force. The bidder shall provide certificates of insurance in their pre-qualification statement as specified in 102.1.

Contractor shall notify the WisDOT at least 60 calendar days before a cancellation or material change in coverage and only obtain coverage from insurance companies licensed to do business in the state that have an AM Best rating of A- or better. The cost of providing the required insurance coverage and limits is incidental to the contract. The WisDOT will make no additional or special payment for providing insurance.

The above insurance requirements shall apply with equal force whether the contractor or a Subcontractor, or anyone directly or indirectly employed by either, performs the work under the Project.

9. Additional Insureds:

All insurance required by this agreement (excluding only workers compensation insurance) shall name WisDOT, all parties required to be indemnified by this contract and all other parties as reasonably requested by the WisDOT, as additional insureds. All policies (including primary, excess and/or umbrella) must provide that coverage shall be primary and non-contributory to any insurance maintained by the contractor or the additional insured, all of which shall be stated on the Certificate of Insurance provided by the contractor. The Additional Insured Endorsement shall be on Form CG 20 10 11/85, or CG 20 33 10/01 plus CG 20 37 10/01, or equivalent, and shall include ongoing and completed operations coverage, which shall not contain any restrictions**.**

IN THE EVENT THAT THE LAW OF THE STATE IN WHICH THE PROJECT IS LOCATED (OR APPLICABLE LAW) LIMITS THE ADDITIONAL INSURED COVERAGE THAT WISDOT MAY REQUIRE FROM THE CONTRACTOR, THEN THE CONTRACTOR SHALL BE REQUIRED TO OBTAIN ADDITIONAL INSURED COVERAGE TO THE FULLEST EXTENT OF COVERAGE AND LIMITS ALLOWED BY APPLICABLE LAW AND THIS CONTRACT SHALL BE READ TO CONFORM TO SUCH LAW.

10. Contractor Representations and Warranties to the WisDOT. Contractor represents and warrants to the WisDOT or behalf of itself and its subcontractors:

a. That all information it submits to the WisDOT or the OCIP administrator shall be accurate and complete.

b. That contractor, on behalf of itself and its subcontractors, has had the opportunity to read and analyze copies of the OCIP binders and specimen policies that are on file in the WisDOT's office. Any reference or summary in the contract, this special provision, the Insurance Manual, or elsewhere in any other contract document as to amount, nature, type or extent of OCIP coverage's and/or potential applicability to any potential claim or loss is for reference only. Contractor and its subcontractors have not relied upon said reference but solely upon their own independent review and analysis of the OCIP coverage's in formulating any understanding and/or belief as to amount, nature, type or extent of any OCIP coverage's and/or its potential applicability to any potential claim or loss.

c. That the costs of OCIP coverage's were not included in contractor's bid or proposal for the work, the contract price, and will not be included in any change order, change modification, or any request for payment for the work or extra work. The "costs of OCIP coverage's" is defined as the dollar amount of premiums, costs and fees the contractor and its subcontractors would have paid its insurance carrier to insure the operations and exposures which are being insured under the OCIP.

d. That contractor acknowledges that the WisDOT will not pay or compensate contractor or any subcontractor, in any manner, for costs of OCIP coverage's or for "insurance costs" except as specifically required to be maintained by contractor by the terms of this special provision.

11. Severability of Interests (Cross Liability):

All insurance required by this agreement (excluding only workers compensation insurance) shall include a provision or be endorsed to provide that, inasmuch as the policy is written to cover more than one insured, all terms, conditions, insuring agreements and endorsements, with the exception of limits of liability, shall operate in the same manner as if there were a separate policy covering each insured. No cross liability exclusions are permitted and there may not be any restrictions in any policies that limit coverage for a claim brought by an additional insured against a named insured. Also, there shall not be any provision in any insurance policy which excludes or conditions coverage on the existence of a contract or other agreement requiring insurance.

12. Breach of Insurance Requirements:

The contractor's failure to obtain and maintain insurance coverages as required by this agreement shall constitute a material breach of the contract. In such event WisDOT may at its option: (i) terminate the contractor for default; or (ii) purchase such coverage and backcharge the premium and associated costs to the contractor; or (iii) at their respective option, WisDOT and/or an additional insured can require the contractor and/or its Subcontractors to pay for attorney's fees, expenses, damages and liability as a result of any claim or lawsuit to the extent coverage would have been provided to them under the contractor's insurance but for the contractor's breach WisDOT has the right to backcharge the contractor for such sums. Furthermore, to the extent of their respective interest, the Insurers of those entities that were to be included as additional insureds are deemed to be third-party beneficiaries of the insurance procurement obligation.

13. **Subcontractor**:

Before permitting any Subcontractor to perform work under a subcontract, the contractor shall require by written contract that the subcontractor maintain insurance in like form and amounts to that required herein. The contractor shall be responsible to ensure that each Subcontractor maintains insurance in like form and amounts and shall provide evidence of same if requested. contractor shall provide copies of its Subcontractor's certificates of insurance coverage to WisDOT or the OCIP Administrator upon request.

14. Notice of Cancellation:

All insurance coverages required by this agreement shall contain a provision that the coverage afforded thereunder cannot be cancelled, non-renewed, allowed to lapse, or have any restricted modifications added unless at least 30 days prior written notice has been given to WisDOT. The contractor is responsible to provide replacement coverage conforming with the requirements of this agreement in the event of any cancellation, non-renewal or modification of any insurance coverages required by this agreement.

15. Limits of Insurance:

The contractor's insurance coverage and any additional insured coverage provided to WisDOT and any additional insured shall be for the full amount of any loss up to the policy(s) limits of liability and shall not be limited to the minimum insurance requirements of this contract. The contractor is responsible for notifying its insurance carriers in the event of a loss or potential loss involving coverage for the additional insureds. However, this does not prohibit any additional insureds from reporting a claim directly to the contractor's insurance carriers.

16. Deductibles/Denial of Claims:

The contractor shall be responsible, at no additional cost to WisDOT, for the payment of any deductibles or self-insured retention in connection with the insurance coverages required by this agreement, both for itself and all additional insureds. Any self-insured retention or deductible must be declared in writing at the time the contractor submits its bid and must be specifically approved by WisDOT prior to execution of the contract. The contractor shall be responsible for any loss arising out of coverage denial by its insurance carrier. The contractor may not procure policies that limit who may pay the SIR or deductible; rather, any SIR shall be payable by either the contractor or the Subcontractor and the contractor may not have a policy that prevents WisDOT from accessing or triggering coverage unless the SIR is paid by the contractor. Contractor shall also ensure that similar conditions are incorporated into all subcontracts. In the event that WisDOT is required to pay any deductible and/or SIR to access any insurance policy, Subcontractor shall promptly reimburse the contractor for such payment.

17. No Waiver of Insurance Requirements:

IT IS EXPRESSLY AGREED BETWEEN WISDOT AND THE CONTRACTOR THAT THE FAILURE OF WISDOT TO REQUIRE OR VERIFY COMPLETE AND TIMELY PERFORMANCE OF THE CONTRACTOR'S OBLIGATIONS UNDER THIS CONTRACT SHALL NOT BE A WAIVER BY WISDOT OF ANY RIGHT OF WISDOT TO REQUIRE THE CONTRACTOR TO COMPLY WITH THESE INSURANCE REQUIREMENTS AND/OR TO SEEK DAMAGES BECAUSE OF THE CONTRACTOR'S FAILURE TO COMPLY WITH THE INSURANCE REQUIREMENTS IN THIS CONTRACT.

18. Audits. Contractor agrees that the WisDOT, the OCIP administrator, and/or any OCIP insurer may audit contractor's or any of its subcontractor's project payroll records, books and records, insurance coverage's, insurance cost information, or any other information that contractor provides to the WisDOT, the OCIP administrator, or the OCIP insurers to confirm their accuracy and to assure that costs of OCIP coverage's are not included in any payment for the work.

19. The WisDOT's Election to Modify or Discontinue OCIP. The WisDOT may, for any reason, modify the OCIP coverage's, discontinue the OCIP, or request that contractor or any of its subcontractors withdraw from the OCIP upon 30 days written notice. Upon such notice contractor and/or one or more of its subcontractors, as specified by the

WisDOT in such notice, shall obtain and thereafter maintain at the WisDOT's expense, Contractor Maintained Coverages (or a portion thereof as specified by the WisDOT) of the OCIP coverage's. The form, content, limits of liability, cost, and the insurer issuing such replacement insurance shall be subject to the WisDOT's approval.

20. Withhold of Payments. The WisDOT may withhold from any payment owing to contractor the costs of OCIP coverage's if included in a request for payment. In the event the WisDOT audit of contractor's records and information as permitted in the contract, this special provision, or other contract documents reveals a discrepancy in the insurance, payroll, safety, or any other information required by the contract documents to be provided by contractor to the WisDOT, or to the OCIP administrator, or reveals the inclusion of costs of OCIP coverage's in any payment for the work, the WisDOT will have the right to full deduction from the contract price of all such costs of OCIP coverage's and all audit costs. Audit costs will include but not be limited to the fees of the OCIP administrator, and the fees of attorneys and accountants conducting the audit and review. If the contractor or its subcontractors fail to timely comply with the provisions of this special provision or the requirements of the Insurance Manual, the WisDOT may withhold any payments due contractor and its subcontractors until such time as they have performed the requirements of this special provision. Such withholding by the WisDOT will not be deemed to be a default hereunder.

21. Waiver of Claim and Waiver of Subrogation:

Where permitted by law, contractor hereby waives all rights of recovery under subrogation because of deductible clauses, inadequacy of limits of any insurance policy, limitations or exclusions of coverage, or any other reason against the WisDOT, the State of Wisconsin and any of its Agencies or Officer's, Agents or employees including without limitation, the OCIP administrator, its or their officers, agents, shareholders or employees of each, if any, and any other contractor or subcontractor performing work or rendering services on behalf of the WisDOT in connection with the planning, development and construction of the project, and contractor shall require that all contractor maintained insurance coverage related to the work include clauses providing that each insurer shall waive all of its rights of recovery by subrogation for claims described above.

22. Waiver of Subrogation. Where permitted by law, contractor shall also require that all contractor maintained insurance coverage related to the work include clauses providing that each insurer shall waive all of its rights of recovery by subrogation against the WisDOT, the State of Wisconsin and any of its Agencies or Officers, Agents or employees including without limitation, the OCIP administrator, its or their officers, agents, shareholders or employees of each, if any. Contractor shall require similar written express waivers and insurance clauses from each of its subcontractors. A waiver of subrogation shall be effective as to any individual or entity even if such individual or entity (a) would otherwise have a duty of indemnification, contractual or otherwise, (b) did not pay the insurance premium directly or indirectly, and (c) whether or not such individual or entity has an insurable interest in the property damaged.

23. Conflicts. In the event of a conflict, the provisions of this special provision shall govern, then the provisions of the contract and its other related contact documents, then the provisions of the Insurance Manual.

24. Safety. Contractor shall be solely responsible for safety on the project and safety relating to the work. Contractor shall establish a safety program that, at a minimum, complies with all local, state and federal safety standards, and any safety standards established by the WisDOT for the project, including the Project Safety and Health Plan Manual.
SEF-ZOO IC 15_0112

28. Subletting the Contract.

Replace standard spec 108.1.1 (3) with the following:

If proposing to have a party other than a subcontractor perform work, notify the engineer and submit details of this arrangement in writing. The engineer will determine if that arrangement constitutes subcontracting. Submit copies of all other agreements between any parties regarding the performance of work under the contract with the Request to Sublet.
SEF Rev. 14_1212

29. CPM Progress Schedule.

Modify the standard specs as follows:

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

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

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

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

With each Monthly CPM Progress Schedule Update also include:

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

SEF Rev. 14_1211

30. Pay Plan Quantity.

A Bid Items Designated as Pay Plan Quantity

Replace standard spec 109.1.1.2 with the following:

If the schedule of items designates a bid item with a **P** in the title, the department will not measure that bid item.

The approximate quantity shown on the schedule of items for a designated item is for information only and only an estimate. The engineer makes no guarantee that the quantity, which can be determined by computations based on contract information, will equal the approximate quantity shown on the schedule of items.

The department will use the plan quantity, the approximate quantity shown on the schedule of items, for payment unless a contract revision affects a designated bid item.

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

If the contractor believes that the quantity shown in the schedule of items varies significantly from the work required in the contract or a quantity variation significantly changes the character of the work, then follow the procedures as outlined in standard spec 104.3.
SEF Rev. 14_1212

31. Force Account.

Supplement standard spec 109.4.5.1 (3)1 *with the following:*

Include accumulation of wages to date for each employee performing force account work and identify allowable Federal Unemployment Tax (FUTA) and State Unemployment Tax (SUTA) multipliers.
SEF Rev. 14_1211

32. Clearing and Grubbing, Emerald Ash Borer.

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

Supplement standard spec 201.3 with the following:

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

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

(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.

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

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

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

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

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

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

Ash trees.

Ash limbs, branches, and roots.

Ash logs, slabs or untreated lumber with bark attached.

Cut firewood of all non-coniferous species.

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

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

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

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

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

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

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).

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

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

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

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

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

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

Burning is optional if in compliance with standard spec 201.3.

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

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

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

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

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

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

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

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

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

33. Abatement of Asbestos Containing Material B-40-284, Item 203.0210.S.0001.

A Description
This special provision describes abating asbestos containing material on structures according to the plans, the pertinent provisions of the standard specifications, and as hereinafter provided.

B (Vacant)

C Construction

Timothy G. Petrofske, License Number All-1175985, and Thomas McCoy, License Number All-117261, inspected Structure B-40-284 for asbestos on May 27, 2009. Regulated Asbestos Containing Material (RACM) was found on this structure in the following locations and quantities:

- Gasket - Gray; Bridge Railing - Northeast, North Center, and Northwest; Category I Non-Friable; 62(6 in x 6 in); 4(2 ft x 6in)

- Locktite - Gray; Bridge Railing Bolts - Northeast and South Center; Category I Non-Friable; 272(1 in x 1 in)

- Utilities; Light Pole - Bridge Parapet North and South; Category II Non-Friable; 4(25 ft x 6 in)

- Utilities; Conduit - Bridge Parapet North; Category II Non-Friable; 1(140 ft x 2 in)

- Utilities; Light with Conduit and Box - Bridge Column; Category II Non-Friable; 2(1 ft x 1 ft); 2(20 ft x 1 in); 2(1 ft x 1 ft)

The RACM on this structure must be abated by a licensed abatement contractor. A copy of the inspection report is available from Andrew Malsom, (262) 548-6705. 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 and the abatement report to Andrew Malsom, (262) 548-6705 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-40-284, W Center St over USH 45-Zoo Freeway
- Site Address: Section 18, 07N, 21E, Lat: 430402.25, Long: 880313.84, City of Wauwatosa
- Ownership Information: WisDOT Transportation Southeast Region, 141 NW Barstow St, P.O. Box 798, Waukesha, WI 53187-0798
- Contact: Jay Obenberger
- Phone: (262) 521-4430
- Age: 49 years. This structure was constructed in 1966.
- Area: 112784 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.

D Measurement

The department will measure Abatement of Asbestos Containing Material (Structure), completed according to the contract and accepted, as a single complete unit of work.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
203.0210.S.0001	Abatement of Asbestos Containing Material Structure B-40-284	LS

Payment is full compensation for submitting necessary forms; removing all asbestos; properly disposing of all waste materials; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the contract work.

34. Removing Crash Cushion, Item 204.9105.S.0001.

A Description

This special provision describes removing Crash Cushion according to the pertinent provisions of standard spec 204 and as hereinafter provided.

B (Vacant)

C (Vacant)

D Measurement

The department will measure Removing Crash Cushion in each, acceptably completed.

E Payment

Add the following to standard spec 204.5:

ITEM NUMBER	DESCRIPTION	UNIT
204.9105.S.0001	Removing Crash Cushion	Each

204-025 (20150630)

35. Removing Old Culverts and Bridges.

Modify the standard specs as follows:

Supplement standard spec 203.3.1 with the following:

Structure Removal Site Safety Plan
Prepare a Structure Removal Site Safety Plan covering all structure removal work included in the contract. Maintain posted copies of the Structure Removal Site Safety Plan at the site in the project field office. Provide two copies of the Structure Removal Site Safety Plan to the engineer at least four weeks prior to beginning removal work.

Structure Removal Plans
Prepare a structure specific removal plan for all structure removal work included in the contract, indicating the methods and sequence of demolition.

Examine the existing structure plans and visit the site prior to preparing and submitting the structure removal plan(s). The contractor is responsible for the methods and sequence of demolition, including effects on the overall stability of each structure being removed. At a minimum, each removal plan shall include:

1. The name of the professional engineer, registered in the state of Wisconsin who will be on site and monitoring the removal of existing structures as required in this specification.

2. The name of the contractor's on-site-employee designated in responsible charge of all removal operations.

3. The removal method and sequence of removal for each individual structure, including the staging of bridge removals.

4. Analysis of the stability of the structure based on the methods and sequence of demolition proposed, to ensure that the structure is demolished in a safe and controlled manner. The analysis computations shall be prepared, signed and sealed by a professional engineer registered in the State of Wisconsin.

5. Design and details of temporary supports, shoring or temporary bracing, if required to stabilize portions of partially remaining structures during the removal sequence or support partially remaining structures after staged removals. Include design computations and detail drawings for all temporary supports, shoring and bracing that indicate the exact placement of the temporary supports, shoring or bracing; verification of design loads; attachment details; and methods for the safe transfer of loads from existing structural elements to be removed to the temporary supports, shoring, or bracing. Temporary support, shoring, or bracing design computations and drawings details are to be prepared, signed and sealed by a professional engineer registered in the State of Wisconsin.

6. Design and details of temporary support foundations. Include in the foundation design the evaluation of expected foundation settlement and the effect that this will have on the structure being supported. Temporary support foundation design computations and drawing details are to be prepared, signed and sealed by a professional engineer registered in the State of Wisconsin.

7. Equipment type and locations of equipment on the structure(s) or adjacent roadways during the removal operations

8. Locations and type of work to be performed directly adjacent to traffic.

9. Details and locations of protective covers and other measures to ensure that people, property and improvements will not be endangered or damaged as a result of the removal operations. Include methods for protecting any pavement surfaces including shoulders, concrete barriers, and other highway features.

10. Methods of removal, hauling and disposal, including haul routes and disposal destination.

11. A schedule of anticipated roadway and lane closures to accommodate removal operations. Include the timing of individual lane or temporary roadway closures and the nature of removal operations that will be performed during the lane or roadway closures.

12. Acknowledgement that the contractor and removal design engineer responsible for preparing the removal plan have visited the site and reviewed the existing structure plans in preparing the removal plan.

Structure Pre-Removal Meetings

After submission of the Structure Removal Site Safety Plan and required Structure Removal Plan(s), schedule and conduct structure pre-removal meetings at a time agreed to by the engineer. Hold structure pre-removal meetings at least three working days prior to beginning structure removal activities. If the engineer agrees in advance, multiple structure removals can be combined and discussed at one structure pre-removal meeting. Otherwise, schedule and conduct a separate structure pre-removal meeting for each structure to be removed.

Supplement standard spec 203.3.2.1 with the following:

Perform structure removals according to the submitted Structure Removal Site Safety Plan and applicable Structure Removal Plan(s).

Replace standard spec 203.3.2.2 (1) with the following:

Except as specified below for closing culverts, completely remove all structures, culverts and substructures.

Supplement standard spec 203.5.1(2) with the following:

Payment includes preparation and submittal of a Structure Removal Site Safety Plan; preparation and submittal of Structure Removal Plan(s) and performing all structure removal work according to the submitted plans.
SEF Rev. 14_1215_revised

36. Pavement Breaking Equipment.

Use only hydraulic pavement breaking equipment for breaking pavement within 300 ft. of any structure. Do not use guillotine, drop hammer, falling weight, gravity impact breakers or equivalent equipment. A multi-head hydraulic drop hammer is allowed unless a structure is within 50 feet of the roadway.
SEF Rev. 14_0415

37. Removing Concrete Barrier.

Modify the standard specs as follows:

Supplement standard spec 204.3.2.2 with the following:

Under the Removing Concrete Barrier bid item, remove barrier and footing, unless specified in the plans, at the locations the plans show. Removal includes all required sawing according to standard spec 690.

Supplement standard spec 204.5.1(2) with the following:

Payment for Removing Concrete Barrier is full compensation for furnishing all required sawing and removal of existing barrier and footing, and sludge removal.
SEF Rev 14_1212

38. 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:

W. Center Street

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/default.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 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-labs.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/.

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 culvert, sewer and waterline trenches.
5. Structure and granular backfill placed at bridge abutments.

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, and 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.

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.

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 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.7.5 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 Culvert Pipe Trenches
Material placed within culvert pipe trenches is 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.7.6 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% of the maximum dry density as determined by AASHTO T 99 or T 272for the 4-point running average and a minimum of 92.0% 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% 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% 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% 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% 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% passing the No. 200 sieve.

B.7.7 Corrective Action
Notify the engineer if an individual field density test falls below the individual test control limit. The subgrade in this area is unacceptable. 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.

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.

39. QMP Base Aggregate.

A Description

A.1 General

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

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

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

(4) Provide and maintain a quality control program, defined as all activities related to and documentation of the following:

1. Production and placement control and inspection.
2. Material sampling and testing.

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

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

A.2 Contractor Testing for Small Quantities

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

(2) The requirements under this special provision apply equally to a small quantity for an individual bid item except as follows:

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

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

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

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

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

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

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

B Materials

B.1 Quality Control Plan

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

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

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

B.2 Personnel

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

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

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

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

B.3 Laboratory

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

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

B.4 Quality Control Documentation

B.4.1 General

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

B.4.2 Records

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

B.4.3 Control Charts

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

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

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

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

B.5 Contractor Testing

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

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

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

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

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

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

B.6 Test Methods

B.6.1 Gradation

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

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

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

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

1. Control limits are at the upper and lower specification limits.
2. There are no upper warning limits for sieves allowing 100 percent passing and no lower control limits for sieves allowing 0 percent passing.

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

B.6.2 Fracture

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

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

B.6.3 Liquid Limit and Plasticity

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

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

B.7 Corrective Action

B.7.1 General

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

B.7.2 Placement Corrective Action

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

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

(3) If corrective action improves the property in question such that the running average after 4 additional tests is within the warning limits, the contractor may return to the testing frequency specified in B.5.3. If corrective action does not improve the property in question such that the running average after 4 additional individual tests is

still in the warning band, repeat the steps outlined above starting with engineer notification.

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

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

B.8 Department Testing

B.8.1 General

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

B.8.2 Verification Testing

B.8.2.1 General

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

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

(3) The department will sample randomly, at locations independent of the contractor's QC work, collecting one sample at each QV location. The department will collect QV samples after the material has been bladed, mixed, and shaped but before compacting;

except, for 3-inch aggregates, the department will collect samples from the stockpile at load-out. The department will split each sample, test half for QV, and retain half.

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

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

B.8.3 Independent Assurance

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

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

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

B.9 Dispute Resolution

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

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

(3) If the project personnel cannot resolve a dispute, and the dispute affects payment or could result in incorporating non-conforming product, the department will use third party testing to resolve the dispute. The department's central office laboratory, or a mutually agreed on independent testing laboratory, will provide this testing. The engineer and contractor will abide by the results of the third party tests. The party in

error will pay service charges incurred for testing by an independent laboratory. The department may use third party test results to evaluate the quality of questionable materials and determine the appropriate payment. The department may reject material or otherwise determine the final disposition of nonconforming material as specified in standard spec 106.5.

C (Vacant)

D (Vacant)

E Payment

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

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

301-010 (20100709)

40. Select Crushed Material.

Modify the standard specs as follows:

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 contractor to sample, test and report gradation or fracture results to show conformance of 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.

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41. QMP HMA Pavement Nuclear Density.

A Description

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

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

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

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

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

B Materials

B.1 Personnel

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

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

B.2 Testing

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

B.3 Equipment

B.3.1 General

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

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

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

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

B.3.2 Correlation of Nuclear Gauges

B.3.2.1 Correlation of QC and QV Nuclear Gauges

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

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

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

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

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

B.3.2.2 Correlation Monitoring

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

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

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

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

B.4 Quality Control Testing and Documentation

B.4.1 Lot and Sublot Requirements

B.4.1.1 Mainline Traffic Lanes, Shoulders, and Appurtenances

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

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

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

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

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

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

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

Table 1

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

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

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

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

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

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

Table 2

B.4.2 Pavement Density Determination

B.4.2.1 Mainline Traffic Lanes and Appurtenances

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

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

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

B.4.2.2 Mainline Shoulders

B.4.2.2.1 Width Greater Than 5 Feet

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

B.4.2.2.2 Width of 5 Feet or Less

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

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

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

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

B.4.2.4 Documentation

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

B.4.3 Corrective Action

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

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

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

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

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

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

B.5 Department Testing

B.5.1 Verification Testing

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

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

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

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

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

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

B.5.2 Independent Assurance Testing

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

B.6 Dispute Resolution

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

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

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

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

B.7 Acceptance

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

C (Vacant)

D (Vacant)

E Payment

E.1 QMP Testing

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

E.2 Disincentive for HMA Pavement Density

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

E.3 Incentive for HMA Pavement Density

(1) Delete standard spec 460.5.2.3.

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

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

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

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

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

460-020 (20100709)

42. Concrete Maturity Testing.

A Description

This special provision requires using concrete maturity testing to determine strength for project control of concrete pavement, falsework removal, and structural concrete under the designated standard specs as follows:

Duration of the curing period	415.3.12
Duration of the cold weather protection period	415.3.13
Opening to service	415.3.15
Removing falsework	502.3.4.2
Duration of the required curing period	502.3.8
Duration of the cold weather protection period	502.3.9
Opening to service	502.3.10.1

The requirement for determining strength by the concrete maturity testing method supersedes all provisions for strength determination by other methods or provisions based on equivalent days within those designated subsections. The concrete maturity testing requirement also applies to all other provisions referencing strength determination under these designated subsections.

B Materials

Provide a maturity testing system that uses data-encrypted sensor devices permanently embedded in the field-placed concrete. Data-encrypted sensors have a chip that records both temperature and time information that can be downloaded to a reading device not permanently attached to those sensors.

Provide the department with a maturity reading device for each maturity testing system utilized on the project. Devices provided for the department use will become department property under the contract.

C Construction

Perform concrete maturity testing according to standard specification 502.3.10.1.3.3. Develop a strength/maturity relationship for each concrete mix design used under the contract. Base that relationship on strength results of cylinders from pavement,

appurtenant construction, ancillary concrete, or structural masonry units incorporated into the work and using those same mixes.

D (Vacant)

E Payment
No additional payment will be made by the department for maturity testing.
SEF Rev. 14_1211

43. Concrete Masonry Structures.

A Description
A.1 General
Work under this item applies to cast in place concrete for structures. Conform to standard specs 501, 502, 504, 701, 710 and 715 and as modified in this special provision. Apply this special provision to all cast in place concrete placed under the following bid items:

502.0100	Concrete Masonry Bridges
502.0200	Concrete Masonry Bridges HES
502.1100	Concrete Masonry Seal
504.0100	Concrete Masonry Culverts
504.0200	Concrete Masonry Culverts HES
504.0500	Concrete Masonry Retaining Walls
504.0600	Concrete Masonry Retaining Walls HES
504.0900	Concrete Masonry Endwalls

A.2 Concrete Masonry Bridges
Work under the item Concrete Masonry Bridges applies to cast in place concrete for bridge substructures, which includes abutments and piers. Cast in place concrete for bridge superstructures, which includes bridge decks, raised medians, sidewalks, and parapets, is covered under the special provision item HPC Masonry Structures.

B (Vacant)

C Construction
Replace standard spec 501.3.8.2 with the following:

The contractor is responsible for the quality of the concrete placed in hot weather. Submit a written temperature control plan at or before the pre-pour meeting. In that plan, outline the actions taken to control concrete temperature if the concrete temperature at the point of placement exceeds 80° F (27° C). Do not place concrete without the engineer's written acceptance of that temperature control plan. Perform the work as outlined in the temperature control plan.

If the concrete temperature at the point of placement exceeds 90° F (32° C), do not place concrete under the following bid items:

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

Notify the engineer whenever conditions exist that might cause the temperature at the point of placement to exceed 80º F (27º C). If project information is not available, obtain information from similar mixes placed for other nearby work.

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

Supplement standard spec 501.3 with the following:

501.3.11 Slip Forming
Do not place concrete by the slip-form method for any item covered by this special provision.

D (Vacant)

E (Vacant)
SEF Rev. 14_1211

44. Storm Sewer.

Supplement standard spec 204.3.2.2 with the following:

Material placed within storm sewer trenches is subject to the quality control for the zone that the material is being placed and shall conform to QMP Subgrade article listed elsewhere in this special provision document.

Supplement standard spec 204.5.1 with the following:

QMP sampling, testing and documentation if applicable is incidental to removing storm sewer bid item and no separate payment will be made.

Supplement standard spec 608.3.1.1 with the following:

Two weeks prior to start of storm sewer construction, provide a shoring design and installation sequence for each location where shoring is to be used. Have a professional engineer, currently registered in the State of Wisconsin and knowledgeable of the specific

site conditions and requirements, verify the adequacy of the design. Submit one electronic copy in portable document format of each shoring design, signed and sealed by the same professional engineer verifying the design, to the engineer for incorporation into the permanent project record.

Supplement standard spec 608.3.5 with the following:

Material placed within storm sewer trenches is subject to the quality control for the zone that in which the material is located and shall conform to QMP Subgrade article listed elsewhere in this special provision document.

Replace standard spec 608.3.5(1) with the following:

Conform to backfill detail as shown on the plans. Backfill all trenches and excavations immediately after completing storm sewer construction per detail(s) shown on the plans. Backfill all trenches and excavations of all new storm sewer and storm sewer structures not occupied by Backfill Controlled Low Strength or backfill slurry with backfill material conforming to standard spec 209.

Supplement standard spec 608.3 with the following:

Place rubber gasket joints over the spigot end or tongue of the entering pipe for all round storm sewer pipes horizontal and elliptical pipes with a rise less than or equal to 40-inches. Clean the gasket and the ends of the pipe from sand and gravel. If the gasket provided is neither factory lubricated nor self-lubricating, lubricate the outside of the gasket and the inside of the bell or groove of the last pipe with an engineer - approved vegetable lubricant immediately before making the joint. Place the spigot or tongue of the pipe being laid with the gasket in place into the bell or groove end of the previously laid pipe. Set pipe carefully to line and grade, and push or jack home. The engineer may order the use of a jack or "come-along" if deemed necessary to ensure that the joints are completely tight.

For horizontal elliptical pipe rise greater than 40-inches use a mastic joint compound submitted to and approved by the engineer. Where factory lubricated rubber gasket joints are not available, clean the ends of the pipe from sand and gravel. Place engineer-approved mastic joint sealer on both the spigot and bell ends of the pipe being laid. Apply additional mastic around each joint exterior and wrap each joint with Geotextile Fabric Type DF laid flat meeting requirements of standard spec 645. Wrap each joint so that the Geotextile Fabric overlaps each joint a distance of approximately ½ of the pipe diameter.

Replace standard spec 608.5(2) with the following:

Payment for the Storm Sewer Pipe bid items is full compensation for providing all materials, including all special Y's, mitered sections, elbows and connections required; for all submittals; for excavating and wasting excess material, except rock excavation; for providing rubber gaskets; Lubrication of rubber gaskets; mastic joint sealer; for

supporting utilities in storm sewer trench; for shoring design, providing a signed and sealed copy of the design; for installation, monitoring, and removal of shoring; for forming foundation; for laying pipe; for sealing joints and making connections to new or existing features, bedding material; for backfilling and providing backfill slurry and granular backfill material; for QMP sampling, testing and documentation; for cleaning out; and absent the pertinent contract bid items, for restoring the work site.

Supplement standard spec 608.3 with the following:

608.3.9 Incorporating or Disposing of Excavated Material
(1) Incorporate excavated material in the work to the extent practicable and conforming to section 209. Use materials with suitable engineering properties for riprap or backfill. If the contract contains the Excavation Common or Borrow bid items, and embankment material is needed at the time of disposal, use the balance of the excavated material, with suitable engineering properties, in the embankment.

(2) Dispose of surplus or unsuitable material as specified in standard spec 205.3.12.

45. Backfill Slurry.

This special provision describes furnishing and placing backfill slurry for, but not limited to, removing and abandoning utility pipes and structures, installation of storm sewer, sanitary sewer and water pipes and structures, and exposing existing utility items as shown on the plans.

Use fine aggregate according to standard spec 501.2.5.3 and number 1 coarse aggregate conforming to standard spec 501.2.5.4, and water conforming to standard spec 501.2.4 in the backfill slurry mix. Weigh aggregates at a batch plant suitable for batching concrete masonry. Mix and deliver to the project site using a truck mixer. Add enough water to enable the mixture to flow readily. Submit a mix design for the engineers review prior to placement. Backfill Slurry is considered a class III concrete mix and the department will accept the mix by certification and will follow the QMP process per standard spec 716. Mix acceptance and testing in the field is not required.

Prior to placement of backfill slurry provide for positive drainage of the area to be backfilled. Discharge from the truck in a manner to prevent segregation. Consolidation or compaction effort will not be required. Twelve hours shall elapse before paving over the backfill.

Material placed within the roadway foundation as defined in standard spec 101.3 is subject to the quality control for the zone that the material is located in and shall conform to QMP Subgrade article listed elsewhere in this special provision document. Non-conforming slurry will be replaced at no additional cost to the department.

Include backfill slurry used for, but not limited to, removing and abandoning utility pipes and structures, installation of storm sewer, sanitary sewer and water pipes and structures, and exposing existing utility items under appropriate pipe bid items. No separate payment

will be made for providing positive drainage of the area to be backfilled; for providing mix design; for furnishing, mixing, transporting and placing backfill slurry, and for QMP certification.

46. Catch Basins, Manholes, and Inlets.

Furnish Grade A concrete conforming to standard spec 501 as modified in 716.

Provide Ductile Iron Castings for Inlet Covers Type V and Inlet Covers Type 27-M Bolted conforming to ASTM A536 Grade 80-55-06.

Supplement standard spec 611.3.1 with the following:

Use a Grade "A" concrete for final adjustment of manhole cover. Provide a butyl rubber gasket or butyl rubber rope for joints of precast reinforced concrete manhole sections. Butyl Rubber gasket joint used for manholes conforms to 8.41.6 of the Standard Specification for Sewer and Water Construction in Wisconsin, latest Edition. Provide non-rocking covers for all drainage structures subject to traffic loading.

Submit shop drawings for all drainage structures. For structures where WisDOT standard detail drawings are not available, provide shop drawings prepared, verified and stamped by a professional engineer currently registered in the State of Wisconsin. Submit one electronic copy of shop drawings in portable document format for engineer's review two weeks prior to start fabrication. Show clearly on shop drawings information for all pipe connections to the structure. The contractor is responsible for all errors of detailing and fabrication. The omission from the shop drawings of any pipe connection shall not relieve contractor of the responsibility of furnishing and installing such materials, even though the shop drawings may have been reviewed and accepted by the engineer.

Provide bolted covers for drainage structure cover types J Special, V and 27 M Bolted. Weld all other existing and proposed storm sewer structure covers subject to traffic loading according to Welding Sewer Access Covers spec.

Supplement standard spec 611.3.2 with the following:

Conform to storm sewer concrete collar detail for storm sewer pipes to structure connections as shown on the plans.

Supplement standard spec 611.3.3 with the following:

Use monolithic concrete shimming as shown on plans for final adjustment of drainage structures located within the freeway concrete pavement, concrete shoulders, concrete curb and gutter and concrete barrier wall. If the adjustment is less than 4-inches, the engineer may choose to direct the contractor to use grade rings for adjustments for storm sewer structures outside the freeway concrete pavement and at other non-freeway locations.

Supplement standard spec 611.3.7 with the following:

Construct height adjustments of 4-inches or more with concrete grade rings. Never use grade rings less than 2-inches thick.

Replace standard spec 611.5.2 (1) with the following:

Payment for Catch Basins, Manholes, and Inlets bid items is full compensation for providing all submittals; materials, including all masonry, and concrete bricks, for Grade "A" concrete adjustments and monolithic concrete shimming; adjusting rings; conduit and sewer connections, steps, and other fittings; for providing and installing butyl rubber joints; for furnishing backfill, backfilling; all excavating, disposing of surplus material, and for cleaning out and restoring the work site; except that the department will pay for covers, including frames, grates and lids separately.

Cost of non-rocking covers for all drainage structures subject to traffic loading is incidental to new cover on proposed structure or reconstructing/adjusting manholes or inlets on existing structure.

Cost for providing bolted cover types J special, Type V and Type 27-M are considered incidental to cover type.

Welding covers and removing welds as directed by the engineer are paid under separate bid items.

47. Fence Safety, Item 616.0700.S.

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

B Materials
Furnish notched conventional metal "T" or "U" shaped fence posts.

Furnish fence fabric meeting the following requirements.

Color:	International orange (UV stabilized)
Roll Height:	4 feet
Mesh Opening:	1 inch min to 3 inch max
Resin/Construction:	High density polyethylene mesh
Service Temperature:	-60° F to 200° (ASTM D648)
Tensile Yield:	Avg. 2000 lb per 4 ft. width (ASTM D638)
Ultimate Tensile Strength:	Avg. 3000 lb per 4 ft. width (ASTM D638)
Elongation at Break (%):	Greater than 100% (ASTM D638)
Chemical Resistance:	Inert to most chemicals and acids

C Construction
Drive posts into the ground 12 to 18 inches. Space posts at 7 feet.

Use a minimum of three wire ties to secure the fence at each post. Weave tension wire through the top row of strands to provide a top stringer that prevents sagging.

Overlap two rolls at a post and secure with wire ties.

D Measurement
The department will measure Fence Safety by the linear foot along the base of the fence, center-to-center of posts, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
616.0700.S	Fence Safety	LF

Payment is full compensation for furnishing and installing fence and posts; maintaining the fence and posts in satisfactory condition; and for removing and disposing of fence and posts at project completion.
616-030 (20070510)

48. Furnishing and Planting Plant Materials.

Supplement standard spec 632.2.2.1 (1) with the following:

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.

49. Landscape Planting Surveillance and Care Cycles.

Modify standard spec 632.3.19.2 to include the following:

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 damages in the amount of $500 per day to cover the cost of performing the work with other forces.

50. 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. New mounting brackets are incidental to the sign being installed.

Modify standard spec 637.2.4 with the following:

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

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

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

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

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

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

Append standard spec 637.3.2.1(3) with the following:

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

Append standard spec 637.3.3.2(2) with the following:

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

Append standard spec 637.3.3.3(3) with the following:

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

51. Field Facilities.

Replace standard spec 642 with the following:

The department has procured its own Field Facilities located at 2424 S. 102nd Street; West Allis, WI 53227.
SEF-ZOO IC 14_1212

52. 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.

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

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

Do not store materials, equipment, or park vehicles within 4 feet of barrier wall that has not been pinned.

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

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.

Do not use flag persons to direct, control, or stop freeway or ramp traffic. Obtain approval from the engineer to use a flag person to direct, control, or stop local street traffic.

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

53. Traffic Control Signs Removal.

Supplement standard spec 643.3.8.3 with the following:

Remove all signs on temporary mounts and other potential associated hazards to the traveling public from the right-of-way when not in use.
SEF Rev. 14_1212

54. Traffic Control Detour Signs Not in Use.

Replace standard spec 643.3.8.6(6) with the following:

Immediately remove or cover signing when the detour is no longer in effect. When removing signs, remove all signs, posts, supports, and other potential associated hazards to the traveling public from within the right-of-way.
SEF Rev. 14_1212

55. Lighting Systems.

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:

- State Electrical Shop at 935 South 60th street, West Allis, as directed by Mr. Mike Prebish, (414) 266-1170.
- 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.

Add the following to standard spec 651.5:

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

There will be no measurement for payment for abandoning conductors or removing conductors for scrap.

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. The department will allow, at the contractor's discretion, for the salvaging of conductors to be abandoned, if possible.

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 "ELECTRIC".

Add the following to standard specification 655.3.1:

Wet location splices are anticipated on this project and are incidental to the installation of pull box or polyethylene duct. Use City of Wauwatosa approved splice kit.

City of Wauwatosa accepts Scotchcast 82-A1 for inline splices and 82-B1 for wye splices as manufactured by 3M. Substitute materials shall be approved in writing by the engineer prior to use.
At each pull point or access point, indicate the line side bundle with a lap of blue tape. Conductors in poles and in pull boxes or other terminations shall be marked with a 6-Inch long blue tape wrap to identify the set of conductors emanating from the distribution center (feeder).

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 standard spec 657.3.5:

Corrosion protection measures described in standard spec 657.3.1 and standard spec 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 shall provide the manufacturer with a written notice of any defect within 30 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 City of Wauwatosa, Randy Michelz, at rmichelz@wauwatosa.net or

at (414) 471-8429 prior to order 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.

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

A Description

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

B Materials

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

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

C Construction

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

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

D Measurement

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

E Payment

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

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

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

643-015 (20140630)

57. Temporary Pedestrian Surface Asphalt, Item 644.1410.S.

A Description
This special provision describes providing, maintaining, and removing temporary pedestrian surface.

B Materials
Furnish 1 1/4-inch dense graded aggregate conforming to standard spec 305.2. Furnish:

- Asphaltic surface conforming to standard spec 465.2.

C Construction
Place, compact, and level a dense graded aggregate foundation before placing the surface.

Provide a firm, stable, and slip-resistant surface layer with vertical joints no higher than 1/4 inch and horizontal joints no wider than 1/2 inch. Asphalt may also be used to ramp up to materials up to 1 inch thick. Construct conforming to the following:

- Asphalt surface a minimum of 2 inches thick compacted with compactors, tampers, or rollers.

Align parallel to the existing roadway grade or, if outside of a street or highway right-of-way, do not exceed 5 percent longitudinal slope. Provide cross slope of 1 to 2 percent unless the engineer approves a steeper cross slope in writing.

Maintain the surface with a 4-foot minimum clear width and the specified joint and slope requirements. Repair or reconstruct installations disturbed during construction operations. Remove and dispose of as specified in standard spec 203.3.4 when no longer required.

D Measurement
The department will measure Temporary Pedestrian Surface (Type) 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
644.1410.S	Temporary Pedestrian Surface Asphalt	SF

Payment is full compensation for providing, maintaining, and removing temporary pedestrian surface.

58. Temporary Pedestrian Safety Fence, Item 644.1616.S.

A Description
This special provision describes providing, maintaining, and removing the temporary pedestrian safety fence.

B Materials

Furnish notched metal "T" or "U" shaped fence posts weighing 1 1/3 pounds per foot or more.

Furnish select 2x4 dimensional lumber.

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

The engineer may allow prefabricated fencing systems conforming to Americans with Disabilities Act Accessibility Guidelines.

C Construction

Provide a continuous safety fence with the top edge free of sharp or rough edges.

Repair or reconstruct installations disturbed during construction operations. Remove and dispose of as specified in standard spec 204.3 when no longer required.

D Measurement

The department will measure Temporary Pedestrian Safety 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
644.1616.S	Temporary Pedestrian Safety Fence	LF

Payment is full compensation for providing, maintaining, and removing the temporary pedestrian safety fence.

644-025 (20150630)

59. Pavement Marking Grooved Wet Reflective Tape 4-Inch White, Item 646.0881.S; 8-Inch White, Item 646.0883.S.

A Description

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

B Materials

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

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

C Construction

C.1 General

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

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

C.2 Groove Depth

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

C.3 Groove Width – Longitudinal Markings

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

C.4 Groove Position

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

C.5 Groove Cleaning

C.5.1 Concrete

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

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

C.5.2 New Asphalt

Groove pavement five or more days after paving.

Use a high-pressure air blower with at least 185 ft^3/min air flow and 120 psi air pressure to clean the groove.

C.5.3 Existing Asphalt

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

Use a high-pressure air blower with at least 185 ft^3/min air flow and 120 psi air pressure to clean the groove.

C.6 Tape Application

Apply the wet reflective pavement marking tape when both the air and surface temperature are 40 degrees F and rising.

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

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

   - Apply SPA-60 during May 1 to September 30, both dates inclusive due to Volatile Organic Compound Limitations.
   - Apply P-50 during October 1 to April 30, both dates inclusive.

2) For the remainder counties:

   - Apply either adhesive.

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

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

D Measurement
The department will measure Pavement Marking Grooved Wet Reflective Tape (Width) for grooved applications in length by the linear foot of tape placed according to the contract and accepted.

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

ITEM NUMBER	DESCRIPTION	UNIT
646.0881.S	Pavement Marking Grooved Wet Reflective Tape 4-Inch	LF
646.0883.S	Pavement Marking Grooved Wet Reflective Tape 8-Inch	LF

Payment is full compensation for cleaning and preparing the pavement surface; furnishing and installing the material; and for removing temporary pavement marking, if necessary.
646-018 (20120615)

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

Standard spec 106.2 – Supply Source and Quality
Add the following to standard spec 106.2:

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

Department-Furnished Items
CCTV Camera
CCTV Camera Pole
Ethernet Switch
Microwave Vehicle Detector
5.8 GHz Ethernet Bridge

Pick-up small department-furnished equipment, such as communications devices, cameras, and controllers, from the department's Statewide Traffic Operations Center (STOC), 433 W. St. Paul Ave., Milwaukee, WI 53203 at a mutually agreed upon time during normal state office hours. Contact Jeff Madson of the department's STOC at (414) 225-3723 to coordinate pick-up of equipment.

Large department-furnished equipment, such as camera poles will be delivered by the supplier to a contractor-controlled site within Milwaukee County. Delivery will not necessarily be in a "just in time" manner. Store the equipment until field installation. Provide location details and a contact for delivery coordination upon receiving the contract's Notice to Proceed.

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

Standard spec 106.3 – Approval of Materials
Add the following to standard spec 106.3:

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

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

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

- Mounting assemblies for the vehicle speed and classification sensors, including their attachment to the structure.
- Mounting LED warning signs to the sign structure.
- Mounting detail for dynamic message signs.
- Any contractor-designed structure or foundation.

The department will complete its review of the material within 30 days from the date of receipt of the submission, unless otherwise specified. The department will advise the contractor, in writing, as to the acceptability of the material submitted. The department may determine that if no exceptions were taken for the item, it is approved, and no further action is required by the contractor; or the item may be partially or totally rejected, in which case modify and/or amend the submittal as required by the department and resubmit the item within 14 days. At this time, the review and approval cycle described above will begin again.
670-005 (20150630)

61. Intelligent Transportation Systems – General Requirements.

A Description
A.1 General
This contract includes furnishing and installing elements for an Intelligent Transportation System (ITS) in or along the existing roadway as shown on the plans.

Unusual aspects of this project include:

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

A.2 Surge Protection

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

B Materials

B.1 General

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

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

B.2 Outdoor Equipment

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

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

B.3 Custom Equipment

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

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

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

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

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

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

B.4 Environmental Conditions

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

1. **Vibration and Shock:** Vehicle speed and classification sensors and any other equipment mounted atop poles or on structures shall not be impaired by the continuous vibration caused by winds (up to 90 mph with a 30 percent gust factor) and traffic.
2. **Duty Cycle:** Continuous
3. **Electromagnetic Radiation:** The equipment shall not be impaired by ambient electrical or magnetic fields, such as those caused by power lines, transformers, and motors. The equipment shall not radiate signals that adversely affect other equipment.

4. **Electrical Power:**
    a. **Operating power:** The equipment shall operate on 120-volts, 60-Hz, single-phase unless otherwise specified. It shall conform to its specified performance requirements when the input voltage varies from 89 to 135 volts and the frequency varies +3 Hz.
    b. **High frequency interference:** The equipment operation shall be unaffected by power supply voltage spikes of up to 150 volts in amplitude and 10 microseconds duration.
    c. **Line voltage transients:** The equipment operation shall be unaffected by voltage transients of plus or minus 20 percent of nominal line voltage for a maximum duration of 50 milliseconds. Equipment in the field shall meet the power service transient requirements of NEMA Standard TS-2 when connected to the surge protectors in the cabinets.
5. **Temperature and Humidity:**
    a. **Field equipment:** Equipment in the field shall meet the temperature and humidity requirements of NEMA Standard TS-2. Liquid crystal displays shall be undamaged by temperatures as high as 165 degrees F, and shall produce a usable display at temperatures up to 120 degrees F.
    b. **Equipment in Controlled Environments** shall operate normally at any combination of temperatures between 50 degrees F and 100 degrees F, and humidity's between 5 percent and 90 percent, non-condensing, and with a temperature gradient of 9 degrees F per hour.

B.5 Patch Cables and Wiring

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

B.6 Surge Protection

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

- The protectors shall suppress a peak surge current of up to 10k amps.
- The protectors shall have a response time less than one nanosecond.
- The protector shall clamp the voltage between the two wires at a voltage that is no more than twice the peak signal voltage, and clamp the voltage between each wire and ground at 50 volts.
- The first stage of protection shall be a three-element gas discharge tube, and the second stage shall consist of silicon clamping devices.

- The protector shall also contain a resettable fuse (PTC) to protect against excessive current.
- There shall be no more than two pairs per protector.
- It shall be possible to replace the protector without using tools.

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

C Construction

C.1 Thread Protection

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

C.2 Cable Installation

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

C.3 Wiring

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

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

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

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

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

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

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

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

C.4 System Operations
If the contractor's operations unexpectedly interrupt Intelligent Transportation Systems (ITS) service, notify the engineer immediately and restore service within 24 hours. Repair all damaged facilities to the condition existing before the interruption. If service is not restored within 24 hours, the department may restore service to any operating device and deduct restoration costs from payments due the contractor.

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

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

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

62. Cameras.

Replace standard spec 677.2(2) with the following:

(2) Under the Install Camera Assembly bid item, furnish cables and connectors required to transmit video and camera control data between the camera assembly and the Ethernet switch as shown on the plans and as directed by the engineer. Cables shall conform to the following:

1. Outdoor rated Category 5e, or better, UTP cable with water-blocking flooded core and UV-resistant polyethylene jacket. Cable shall consist of 4-pairs of 24 AWG solid copper conductors and shall meet the requirements of ANSI/TIA/EIA 5 68A Category 5e, CENELEC EN50173, ICEA S-90-661, and ISO/IEC 11801.
2. Outdoor rated 3-conductor 16 AWG power cable in a UV resistant jacket. Cable shall be UL listed and CSA Certified for outdoor use and must meet the requirements of CSA Flexible Cord – C22.2-49, be MSHA Approved and RoHS Compliant.
3. Combine camera control and video into the same composite cable, if possible.
4. Integrate the camera assembly with the camera lowering system.

Replace standard spec 677.3(15) with the following:

(15) Use a purpose built "Pass-Fail" network cable tester to test the network cable installation for Category 5, Class E compliance. Repair any connections or cable as needed for the test to register a "Pass".

Delete standard spec 677.3(20).

Replace standard spec 677.3(21) with the following:

(21) Make all camera cable connections among the camera, camera power source, Ethernet switch, and other associated devices.

Delete standard spec 677.3(2) 5.

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

A Description

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

B Materials

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

C Construction

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

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

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

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

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

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

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

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

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

D Measurement
The department will measure Anchor Assemblies Light Poles on Structures as a unit for each individual anchor bolt assembly, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
657.6005.S	Anchor Assemblies Light Poles on Structures	Each

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

65. Install Pole Mounted Cabinet, Item 673.0225.S.

A Description

This special provision describes installing department furnished aluminum enclosures on poles for intelligent transportation systems equipment.

B Materials

Use stainless steel bolts, nuts, and washers unless otherwise specified.

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

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

The service panel will be equipped with a four-outlet handi-box. Wire the handi-box to the series portion of the filtering surge protector.

Use metallic conduit, fittings, and adapters required from the underground conduit transition point to the cabinet as part of this item. A typical installation requires on 2-inch conduit. Use metallic conduit according to standard spec 652.

C Construction

Fasten the field cabinet securely onto a pole. Provide bolted stainless steel connections with lock washers, locking nuts, or other engineer-approved means to prevent the connection nuts from backing off. Isolate dissimilar materials from one another using stainless steel fittings. Make all power connections to the cabinet as specified in standard spec 656.

Drill and tap the cabinet, as necessary, to mount the terminal blocks and other attachments to the service panel, to provide an entrance on the back of the cabinet for cable from the pole mounted intelligent transportation systems equipment, and to mount the service panel to the cabinet as shown in the details. Remove all sharp edges or burrs, or both, caused by the cutting or drilling process. Seal all openings to prevent water from entering the cabinet. Mount the surge protector to the service panel.

Install metallic conduit on the exterior of the pole (for entrance to the cabinet from the ground) as shown in the plans, and according to the applicable requirements of standard spec 652.

D Measurement
The department will measure Install Pole Mounted Cabinet as each individual assembly, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
673.0225.S	Install Pole Mounted Cabinet	Each

Payment is full compensation for installing the pole mounted cabinet; for making all connections and conduit/wire entrances; and for furnishing all testing.
673-010 (20100630)

66. Install Ethernet Switch, Item 675.0400.S.

A Description
This special provision describes installing an Ethernet switch, and providing all necessary associated wiring.

B Materials
The department will furnish the Ethernet switch. Provide all necessary cables between the Ethernet switch and terminal server or other device.

C Construction
Install the Ethernet switch in a new or existing field cabinet. Connect it to devices as shown on the plans, or as directed by the engineer.

D Measurement
The department will measure Install Ethernet Switch by the unit, installed according to the contract, tested, and accepted.

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

ITEM NUMBER	DESCRIPTION	UNIT
675.0400.S	Install Ethernet Switch	Each

Payment is full compensation for installing an Ethernet switch; furnishing all necessary incidental hardware; and making all necessary connections.
675-040 (20100630)

67. EBS Excavation, Item SPV.0035.0001.

A Description

This special provision describes excavating and disposing of material taken below the subgrade of future pavement structures at locations determined by the engineer.

B Materials

Excavate all materials below subgrade not classified as rock, stone piles and stone fences, or marsh excavation. Perform work according to standard spec 205.2.2 and as hereinafter provided.

C Construction

Perform work according to the pertinent provisions of standard spec 205.3 and as hereinafter provided.

C.1 Yielding Subgrade

After rough grading on all or a portion of the subgrade in cut areas and in areas requiring 2 feet or less embankment is complete and the grade is ready for blue tops, point out areas of yielding subgrade to the engineer. The engineer will evaluate the subgrade to determine if EBS Excavation is required.

If the engineer requests, provide loaded trucks and run the subgrade as the engineer directs to confirm yielding areas. Perform EBS Excavation in yielding areas as directed by the engineer.

C.2 Excavation Below Subgrade

Excavate materials as directed by the engineer. Remove deposits of frost-heave material, unstable silty soils, wet and unstable soil, material salvaged from old road cores in marshes, topsoil containing considerable amounts of humus or vegetable matter, rocks, or other undesirable foundation material to the depth below finished grade as the engineer directs.

Compact, or prepare otherwise as required, the existing ground within the roadway foundation as necessary to support the roadway and attain the specified density.

Dispose of all excavated materials offsite at no expense to the department. Locate disposal sites outside the right-of-way and comply with all regulations relating to disposal of solid waste. Ensure that disposal sites are neatly constructed. In performing these operations, do not create a nuisance or cause pollution or siltation of natural watercourses, streams, lakes, wetlands, or reservoirs. Obtain written permits for disposal from the owner of the property where placing the material, unless disposing of the material at a licensed waste disposal operation. Furnish permits, or copies of permits, to the engineer before disposal. Do not deposit waste in wetlands.

C.3 Temporary Drainage
During construction, slope and drain the excavation bottoms to prevent water accumulation. If it is necessary in the prosecution of the work to interrupt existing surface drainage, sewers, or under drainage, provide temporary drainage until completing permanent drainage work.

D Measurement
The department will measure EBS Excavation by the cubic yard, acceptably completed, as computed using the method of average end areas, with no correction for curvature.

The department will not measure for payment materials excavated in forming benches or steps in preparing the foundation for embankments placed on slopes.

The department will not measure for payment materials excavated to remove frost from newly constructed embankments or cut subgrades unless directed by the engineer.

If undercutting designated slopes to provide for placing topsoil or salvaged topsoil, the undercut is incidental to the Topsoil or Salvaged Topsoil bid items.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.0001	EBS Excavation	CY

Payment for EBS Excavation is full compensation for performing excavation below subgrade after receiving engineer approval; for the satisfactory disposal of all resulting material offsite; for obtaining and furnishing copies of permits; for furnishing, placing, and removing all temporary drainage installations; and for providing loaded trucks and running them on the subgrade to confirm yielding areas.

The department will only pay for engineer-approved EBS Excavation to correct problems beyond the contractor's control. Work performed under standard spec 105.3 to correct unacceptable work is the contractor's responsibility.

68. EBS Backfill, Item SPV.0035.0002.

A Description
This special provision describes backfilling EBS Excavation with select crushed material.

B Materials
Furnish all materials according to standard spec 312.2 and as hereinafter provided.

C Construction
Place select crushed material where EBS Excavation was performed or as the engineer directs. Compact select crushed material using standard compaction conforming to standard spec 301.3.

D Measurement
The department will determine weight or volume, adjust for moisture, and convert between weight and volume as specified in standard spec 301.4.

The department will measure EBS Backfill by the cubic yard, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.0002	EBS Backfill	CY

Payment for EBS Backfill is full compensation for providing and compacting select crushed material in areas of EBS Excavation.

The department will only pay for EBS Backfill at engineer-approved EBS Excavation locations. Work performed under standard spec 105.3 to correct unacceptable work is the contractor's responsibility.

The department will not pay for EBS Backfill to replace materials excavated to remove frost from newly constructed embankments or cut subgrades.

69. HPC Masonry Structures, Item SPV.0035.4000.

This special provision describes specialized material and construction requirements for high-performance concrete used in bridge structures. Conform to standard spec 501, 502 and 509, as modified in this special provision. This special provision also describes QMP concrete pavement and structures. Conform to standard spec 715 as modified in this special provision.

MODIFY THE STANDARD SPECIFICATIONS AS FOLLOWS:

501.2.5.4.1 General
Replace the entire text with the following:

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

(2) Use virgin aggregates only.

501.2.5.4.2 Deleterious Substances
Replace paragraph one with the following:

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

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

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

501.2.5.4.3 Physical Properties
Replace paragraph one with the following:

(1) The department will ensure that Los Angeles wear testing conforms to AASHTO T 96, soundness testing conforms to AASHTO T 104 using 5 cycles in sodium sulfate solution on aggregate retained on the No. 4 sieve, and freeze-thaw soundness testing conforms to AASHTO T 103. The percent wear must not exceed 30, the weighted soundness loss must not exceed 6 percent, and the weighted freeze-thaw average loss must not exceed 15 percent.

501.2.9 Concrete Curing Materials
Replace the entire text with the following:

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

501.3.2.4.3.3 Extended Delivery Time
Delete paragraph one.

501.3.5.1 General
Replace paragraph one with the following:

(1) Use central-mixed concrete as defined in standard spec 501.3.5.1(2) for all work under this special provision.

501.3.5.2 Delivery
Replace paragraph three with the following:

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

501.3.7.1 Slump
Replace the entire text with the following:

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

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

501.3.8.2.1 General
Replace paragraphs one and two with the following:

(1) Take the following steps to ensure the quality of the concrete placed. Submit a written temperature control plan at or before the pre-pour meeting. In that plan, outline the actions the contractor will take to control concrete temperature if the concrete temperature at the point of placement exceeds 80° F. Do not place concrete without the engineer's written acceptance of that temperature control plan. Perform the work as outlined in the temperature control plan.

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

501.3.8.2.2 Bridge Decks
Replace the entire text with the following:

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

(2) For concrete placed in bridge decks, submit a written evaporation control plan at each pre-pour meeting. In that plan, outline the actions the contractor will take to maintain concrete surface evaporation at or below 0.15 pounds per square foot per hour. Do not place concrete for bridge decks without the engineer’s written acceptance of that evaporation control plan. If the engineer accepts an evaporation control plan calling for ice, the department will pay $0.75 per pound for that ice. Perform the work as outlined in the evaporation control plan.

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

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

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

(6) At least 8 hours before each pour, the engineer will inform the contractor in writing whether or not to proceed with the pour as scheduled. If the actual computed evaporation rate during the pour exceeds 0.15 pounds per square foot per hour, at the sole discretion of the engineer, the contractor may be allowed to implement immediate corrective action and complete the pour. If the engineer allows the placement to continue, the department will pay $0.75 per pound for the quantity of ice required to maintain the concrete surface evaporation at or below 0.15 pounds per square foot per hour.

502.3.2.1 Detailed Plans
Replace the entire text with the following:

(1) As specified in standard spec 105.2, submit four copies of detailed plans and computations for falsework, signed and sealed by a professional engineer registered in the State of Wisconsin, three weeks prior to erection of falsework for review and acceptance. Acceptance of the detailed plans and computations will in no way relieve the contractor of the responsibility of providing a safe and stable structure, and obtaining satisfactory results.

502.3.5.4 Superstructures
Delete paragraph six.

502.3.7.8 Floors
Replace paragraph five with the following:

(5) Set the rails or tracks that the finish machine rides on, to the required elevation; and ensure they adjust to allow for settlement under load. Support the rails or tracks outside the limits of the finished riding surface. Do not support rails or tracks on the tops of girders, or within the finished riding surface, without written permission of the engineer.

Delete paragraph thirteen, fourteen and fifteen.

Add the following to the end as paragraphs nineteen, twenty, twenty-one, twenty-two, and twenty three:

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

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

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

(22) Place HPC Masonry Structures for bridge decks during nighttime hours. Begin work no earlier than two hours before sunset and end no later than 2 hours after sunrise; unless alternate begin and end times are approved prior to the concrete placement by the engineer. To determine acceptable hours, use the sunset and sunrise times published by the National Weather Service for the proposed date of the concrete placement or as mutually agreed to by the contractor and the engineer.

(23) Provide lighting as necessary to safely perform the required work and facilitate inspection during nighttime hours. Ensure that lighting does not interfere with or impede traffic on open roadways and does not cause glare, shine or directly face the eyes of oncoming drivers. After initial setup, drive through and observe the lighted work area from each direction on the main roadway. Adjust lighting alignment if lighting causes glare, shine or directly faces the eyes of oncoming drivers

502.3.8.1 General
Replace paragraph one with the following:

(1) Maintain adequate moisture throughout the concrete mass to support hydration for at least 14 days.

502.3.8.2.1 General
Replace the entire text with the following:

(1) Wet-cure the concrete for bridge decks, structural approach slabs, sidewalks on bridges and raised medians on bridges for 14 days by use of a soaker hose system, or other engineer-approved methods. Cover the finished surface of bridge decks and overlays with one layer of wetted burlap or wetted cotton

mats within 10 minutes after the finishing machine has passed. Apply the burlap/cotton gently so as to minimize marking of the fresh concrete. Keep the first layer of burlap/cotton continuously wet until the bridge deck or overlay is sufficiently hard to apply a second layer of wetted burlap/cotton. Immediately after applying the second layer of burlap/cotton, continue to keep the deck wet until placing and activating the soaker hose system. Throughout the remainder of the curing period, keep the burlap/cotton continuously wet with soaker hoses hooked up to a continuous water source. Inspect the burlap/cotton twice daily to ensure the entire surface is moist. If necessary, alter the soaker hose system as needed to ensure the entire surface is completely covered and stays moist. After 48 hours from the time of completion of the bridge deck or overlay pour, the soaker hose system and burlap/cotton may be covered with polyethylene sheeting. Provide a continuous flow of water through the soaker hose system for the entire curing period.

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

(3) Set up and test the fogging system before each bridge deck, structural approach slab, bridge mounted sidewalk or bridge mounted raised median pour. Keep the fogging system set up and operational for the duration of the pour.

502.3.8.2.3 Decks
Delete the entire text.

502.3.8.2.4 Parapets
Replace the entire text with the following:

(1) Cure the inside and outside concrete faces and tops of railings or parapets by covering with wetted burlap immediately after form removal and surface finish application. Keep the burlap thoroughly wet for at least seven days; or by covering for the same period with thoroughly wet polyethylene-coated burlap conforming to standard spec 502.2.6.4

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

502.3.9.6 Bridge Decks
Replace paragraph two with the following:

(2) Protect the underside of the deck, including the girders, for bridge deck and overlay pours by housing and heating when the national weather service forecast predicts temperatures to fall below 32° F during the cold weather protection period. Maintain a minimum temperature of 40° F in the enclosed area under the deck for the entire 14-day curing period.

502.5.1 General

Replace paragraph one with the following:

· The department will pay for plan quantities at the contract unit price and incidentals necessary to complete the work under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.4000	HPC Masonry Structures	CY

Lighting for nighttime bridge deck placement is included in the item HPC Masonry Structures and will not be measured or paid for separately.

710.5 Sampling and Testing

Add the following standard spec:

710.5.7 Chloride Penetration Resistance

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

· Strip permeability samples for AASHTO T 277 testing of their molds and wet cure to an age of 7 days in a standard moist room or water tank. After 7 days, submerge the samples in water heated to 100° F until an age of 28 days. Upon completion of the curing process, obtain one sample from each cylinder and test according to AASHTO T 277.

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

715.2.3.2 Structures

Replace paragraph one with the following:

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

(1B) The laboratory trial mix data must include the results of the following tests:

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

(1C) The 28-day compressive strength must be greater than or equal to 4000 psi. The 28-day results of the permeability test must be less than or equal to 1500 coulombs.

Replace paragraph two with the following:

(2) Provide a minimum cementitious content of 470 pounds per cubic yard and a maximum cementitious content of 540 pounds per cubic yard. For all superstructure and substructure concrete, unless the engineer approves otherwise in writing, conform to one of the following:
1. Use class C fly ash or grade 100 or 120 slag as a partial replacement for Portland cement. For binary mixes use 15% to 30% fly ash or 20% to 30% slag. For ternary mixes use 15% to 30% fly ash plus slag in combination. Percentages are stated as percent by weight of the total cementitious material in the mix.
2. Use a type IP, IS, or IT blended cement.

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70. Portable Speed Trailer, Item SPV.0045.0001.

A Description

This special provision describes furnishing, hauling, placing, erecting, re-erecting, operating, maintaining, moving and removal of portable speed trailers during the construction of this project.

B Materials

Furnish portable speed trailer according to the pertinent requirements of standard spec 643 and the Manual on Uniform Traffic Control Devices (MUTCD), latest edition, for portable changeable message signs (PCMS).

Provide a battery powered device with a regulatory speed limit sign and a radar speed sign displaying speed in mph. The flash rate should be between 50 and 60 cycles per minute. The distance between the bottom of the display and the pavement shall be a

minimum height of 5 feet, measured vertically from the bottom of the sign to the elevation of the near edge of the pavement.

C Construction

Furnish, haul, place, erect, re-erect, operate, maintain, move, and remove devices at locations as shown on the plans and as directed by the engineer.

Coordinate the placement and duration of these devices with the engineer at least 24 hours before its intended use and accommodate within the project. Provide an area to park the devices that is still visible to traffic.

Space five traffic control drums at ten foot intervals as needed in front of the portable speed trailer.

Move devices not performing as intended to the satisfaction of the engineer within 24 hours of notification.

D Measurement

The department will measure Portable Speed Trailer by the day acceptably completed. For this special provision, the number of days measured is defined as the number of calendar days that the portable speed trailer is used in moving operations or short-term stationary work. A calendar day begins with each deployment within a defined time period and exceeding two hours.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0045.0001	Portable Speed Trailer	Day

Payment is full compensation for furnishing, hauling, placing, erecting, re-erecting, operating, maintaining, moving and removal of portable speed trailers during the construction of this project. Drums are paid separately under traffic control items.
SEF Rev 14_1211

71. Crash Cushion Temporary Left In Place, Item SPV.0060.0001.

A Description

This special provision describes furnishing, installing, and maintaining Crash Cushion Temporary Left In Place as shown on the plans.

Crash Cushion Temporary Left In Place becomes property of the department after final acceptance by the engineer.

B Materials
This work shall be according to the pertinent provisions of standard spec 614.2.7 and as hereinafter provided.

Use Model SCI 100GM Crash Attenuator from Smart Cushion Innovations (SCI) Products.

C Construction
This work shall be according to the pertinent provisions of standard spec 614.3.4, as shown on the plans, and as hereinafter provided.

D Measurement
The department will measure Crash Cushion Temporary Left In Place as each crash cushion, acceptably left in place.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.0001	Crash Cushion Temporary Left In Place	Each

Payment is full compensation for providing, installing, and maintaining the Crash Cushion.

72. Traffic Control Full Freeway Closure, Item SPV.0060.0002.

A Description
This item shall consist of furnishing the labor and equipment required for closing and subsequently opening the freeway accordance to standard spec 643, the plans, and as directed by the engineer.

B (Vacant)

C Construction
Drums, barricades and signs may remain along the outside edge of the freeway shoulder when the freeway is open to traffic. Handle signs according to the spec "Traffic Control Detour Signs Not in Use" when the freeway is open.

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

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.0002	Traffic Control Full Freeway Closure	Each

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

73. Traffic Control Close-Open Freeway Entrance Ramp, Item SPV.0060.0003.

A Description

This item shall consist of furnishing the labor and equipment required for closing and subsequently opening a freeway entrance ramp and associated auxiliary lane according to standard spec 643, the plans, and as directed by the engineer.

B (Vacant)

C Construction

Drums, barricades and signs may remain along the roadway when the exit ramp is open to traffic. Handle signs according to the spec "Traffic Control Detour Signs Not in Use" when the exit ramp is open.

D Measurement

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

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.0003	Traffic Control Close-Open Freeway Entrance Ramp	Each

Payment is full compensation for closing and subsequently opening a freeway entrance ramp. No separate payment will be made for closure or partial closure of adjacent auxiliary lanes. Drums, barricades and signs will be paid for separately under the various traffic control items.

74. Traffic Control Interim Freeway Lane Closure, Item SPV.0060.0004.

A Description

This special provision describes adjusting existing traffic control items that have previously been placed on the freeway for a lane closure, intended lane closure or are in position for staged construction as shown on the plans into position for an additional lane closure, and for readjusting the traffic control items to their original state or position upon removal of

the additional lane or two lane closure within a 24 hour period. All work shall be according to standard spec 643, the plans, and as directed by the engineer.

B (Vacant)

C (Vacant)

D Measurement
The department will measure Traffic Control Interim Freeway Lane Closure as each individual freeway lane or two-lane closure is setup and subsequently removed per direction of traffic within a 24-hour time period, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.0004	Traffic Control Interim Freeway Lane Closure	Each

Payment is full compensation for setup and subsequent removal per direction of traffic within a 24-hour time period of a freeway lane or two-lane closure.

75. Traffic Control Interim Freeway Two Lane Closure, Item SPV.0060.0005.

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

B (Vacant)

C (Vacant)

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

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.0005	Traffic Control Interim Freeway Two Lane Closure	Each

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

76. Traffic Control Local Road Lane Closures, Item SPV.0060.0006.

A Description
This special provision describes furnishing the labor and equipment required for closing and subsequently opening a local road lane or lanes according to standard spec 643, the plans, and as directed by the engineer.

B (Vacant)

C Construction
Drums and barricades may remain along the roadway when the local road is open to traffic. Handle signs according to the spec "Traffic Control Detour Signs Not in Use" when the local road is open.

D Measurement
The department will measure Traffic Control Local Road Lane Closures by each individual local road lane or two-lane closure that is set up and subsequently removed in each traffic direction within a 24 hour time period, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.0006	Traffic Control Local Road Lane Closures	Each

Payment is full compensation for closing and subsequently opening a local road lane or lanes. Drums, barricades, lights, arrow boards and signs will be paid for separately under the various traffic control items.
SEF 15_0114

77. Removing Lighting Units, Item SPV.0060.1001.

A Description
This special provision describes removing concrete base mounted aluminum lighting units and direct buried aluminum or concrete lighting units according to the pertinent provisions of standard spec 204 of the standard specifications and as herein provided. The work under this item consists of removing aluminum pole, aluminum or concrete direct buried pole, arms, luminaire and breakaway device if applicable. Removed materials

shall become the property of the contractor and shall be disposed of off the project site. Lamp disposal shall be paid separately.

B (Vacant)

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

D Measurement
The department will measure Removing Lighting Units as each individual removed 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.0060.1001	Removing Lighting Units	Each

Payment is full compensation for removing, disposing of the pole, arms, pole wiring and luminaires.

78. Removing Luminaires Underdeck, Item SPV.0060.1002.

A Description
The work under this item shall consist of removing existing luminaires underdeck from the railroad bridge deck intended to remain in service. Removed materials shall become the property of the contractor and shall be disposed of off the project site. Lamp disposal shall be paid separately.

B (Vacant)

C Construction
Dispose of all materials off the site, except sodium vapor lamps. Lamps shall be disposed of under the requirements of a separate pay item.

D Measurement
The department will measure Removing Luminaires Underdeck as each individual removed 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.0060.1002	Removing Luminaires Underdeck	Each

Payment is full compensation for removing and disposing of luminaires underdeck.

79. Removing Underdeck Lighting, Item SPV.0060.1003.

A Description
This special provision describes removing underdeck lighting according to the pertinent provisions of standard spec 204 and as herein provided. The work under this item consists of removing underdeck lighting luminaires, attached conduits, wires, attached junction boxes, and associated hardware and appurtenances at locations shown in the plan. Removed materials shall become the property of the contractor and shall be disposed of off the project site. Lamp disposal shall be paid separately.

B (Vacant)

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

All materials shall be removed as described on the plans and as directed by the engineer. The disposal of removed item shall be done according to pertinent requirements of standard spec 203.3.4.

All embedded conduits, junction boxes and hardware shall be either removed as part of structure or remain in place. Associated items included for each underdeck lighting system may vary by locations as shown on the plans.

D Measurement
The department will measure Removing Underdeck Lighting by each unit per location removed, 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.0060.1003	Removing Underdeck Lighting	Each

Payment is full compensation for removing and disposing of luminaires, attached conduits, attached junction boxes, and hardware.

80. Lamp Disposal High Intensity Discharge, Item SPV.0060.1004.

A Description

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

B (Vacant)

C Construction

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

Deliveries to the department shall be prearranged. Deliveries shall be consolidated into a truckload or more, except that where all the lamps removed under a contract measure less than a truckload, all shall be delivered as one load at one time.

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

Pack broken lamps into minimum 6 mil plastic bags, which in turn shall be placed inside sturdy cardboard boxes or the equivalent, with the number of lamps clearly marked on each box. Mark the outer packaging "broken lamps". The department will reject metal containers.

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

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

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

D Measurement

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

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.1004	Lamp Disposal High Intensity Discharge	Each

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

81. Lighting Pull Boxes Wauwatosa, Item SPV.0060.1005.

A Description

This special provision describes furnishing and installing polymer concrete electrical pull boxes at the locations shown on the plans according to standard spec 653.

B Materials

Furnish precast polymer concrete (quazite) pull boxes of rectangular composite enclosure with nominal 17" wide x 30" long and 24" total depth, Style-PG, open bottom, # PG1730BA24 as manufactured by Hubbell Power Systems, Inc. or approved equal. Cover shall be heavy duty, bolted cover with logo "ELECTRIC" #PG-1730HA00. The pull boxes shall be listed and labeled by (UL) or other Nationally Recognized Testing Laboratory.

C Construction

Conform to standard spec 673.3 and City of Wauwatosa standards. The pull boxes shall be installed 12-inches of crushed stone, set flush with grade and backfilled.

D Measurement

The department will measure Lighting Pull Boxes Wauwatosa as each individual lighting pull box, 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.0060.1005	Lighting Pull Boxes Wauwatosa	Each

Payment is full compensation for furnishing and installing all materials, including pull box, crushed aggregate, for excavation, backfill, for disposing of surplus material.

82. Concrete Bases Type 5 Special, Item SPV.0060.1006.

A Description

This special provision describes furnishing and installing concrete bases type 5 special as shown on the plans and as directed by the engineer.

B Materials
Materials shall confirm pertinent requirements of standard spec 654.2.

C Construction
Construction shall confirm pertinent requirements of standard spec 654.3. The concrete base size shall be as shown on the plans.

D Measurement
The department will measure Concrete Bases Type 5 Special as each individual base installed and 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.0060.1006	Concrete Bases Type 5 Special	Each

Payment is full compensation as described in standard spec 654.5.

83. Poles Type 5-Aluminum 25-FT, Item SPV.0060.1007.

A Description
This special provision describes furnishing and installing aluminum light poles.

B Materials
Conform to materials requirements in the plan details. Additionally, conform to applicable requirements of standard spec 657.2.

C Construction
Conform to standard spec 657.3.

D Measurement
The department will measure Poles Type 5-Aluminum 25-FT as each individual unit, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price according to standard spec 657.5 under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.1007	Poles Type 5-Aluminum 25-FT	Each

Payment is full compensation as described in standard spec 657.5.

84. Install 5.8 GHz Ethernet Bridge, Item SPV.0060.2012.

A Description

This special provision describes installing a department-furnished, or salvaged, 5.8 GHz Ethernet bridge access point or subscriber unit at a new or existing cabinet or new or existing pole.

B Materials

Materials will include department-furnished materials and contractor furnished materials.

Department-furnished or salvaged, materials include the following:

- One 5.8 GHz Ethernet bridge with integral antenna.
- One 5.8 GHz Ethernet bridge power converter.
- One 5.8 GHz Ethernet bridge mounting bracket.

Contractor-furnished materials include the following:

- Mounting hardware.
- Outdoor rated Category 6 communications cable.
- Inline network cable surge suppressor.

C Construction

Bond the surge suppressor to the cabinet grounding system.

Install the 5.8 GHz Ethernet bridge in a point-to-point or point-to-multipoint configuration as shown on the plans and as directed by the engineer.

Use the manufacturer's set-up software to configure the Ethernet bridge radio for its intended use. Use the signal strength indicator on the radio to find the optimum position. Also perform a frequency analysis to determine the optimal hop pattern of the radios and test the continuity of the link by polling the radios using the software provided. The position of the radio and the hop pattern shall be adjusted until the polls show at least 200 consecutive polling intervals have been successfully transmitted and received. Demonstrate to the engineer that the hop pattern selected corresponds to the optimal noise free frequencies identified in the frequency analysis. Deliver 3 copies of the final test results for signal strength, frequency analysis, and test polling.

D Measurement

The department will measure Install 5.8 GHz Ethernet Bridge as each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.2012	Install 5.8 GHz Ethernet Bridge	Each

Payment is full compensation for installing, setting up, configuring, and testing the 5.8 GHz Ethernet bridge radio, surge suppressor, cables, and connections; and transportation.

85. Ground Rod, Item SPV.0060.2013.

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

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

C Construction
Use exothermic welding to connect the ground wire to the rod. Install the rod vertically, or as close to vertical as conditions permit. Select locations with moist soil, if available. Place the rod at least 6 feet from all other ground rods.

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

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.2013	Ground Rod	Each

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

86. Pile Dynamic Analyzer (PDA) Testing, Item SPV.0060.4001; Pile Dynamic Analyzer (PDA) Restrikes, Item SPV.0060.4002; CAse Pile Wave Analysis Program (CAPWAP) Evaluation, Item SPV.0060.4003.

A Description
The items consist of providing Pile Dynamic Analyzer (PDA) load testing and analyses/evaluation, as outlined in the contract plans and this special provision. This Dynamic Pile Load Testing is being done to set pile resistance criteria. Production piles will be driven according to pile resistance criteria produced by the contractor after PDA testing and evaluation is completed at each substructure unit. PDA restrikes will be completed as described in this special provision, or as directed by the engineer.

The piles and pile driving will be paid for under standard specification 550. This applies to both piles installed using the PDA criteria and for production piles installed using the criteria developed by the contractor from the PDA installations.

Data collected during the testing described herein will form the basis for the final driving criteria to be applied to production piles in the substructure unit under consideration. Submit to the engineer the name and qualifications of the person(s) completing this work. Provide documentation that the person(s) completing this work have successfully completed at least five PDA testing projects within the last three years, and that these identified projects are of a scope and complexity similar to that anticipated for this project. Persons without this minimum experience will not be allowed to complete work on this project. Also submit documentation of experience with PDA equipment manufactured by Pile Dynamics, Inc. and the CAse Pile Wave Analysis Program (CAPWAP). All dynamic monitoring shall be performed using a PDA (Model PAK, PAX, or PAL). Furnish all equipment necessary for the dynamic monitoring such as sensors, cables, or wireless transmitters, etc. The equipment shall conform to the requirements of ASTM D4945. A person with a minimum of 4 years of experience and who has achieved a minimum of Advanced Level on the Foundation QA Examination for Providers of PDA Testing Services, shall be in charge of PDA operations and of data interpretation. They shall be present on site, or by remote connection, at the time of all PDA testing.

B (Vacant)

C Construction

C.1 Test Locations

Perform dynamic pile load testing at the pile locations identified on the plans. These locations are referred to simply as 'PDA Test Piles' throughout the remainder of this specification. Piles noted as PDA Test Piles are a functional load-carrying part of the completed foundation unit, and not solely used for testing.

C.2 Driving Sequence

Perform PDA testing on the first piles installed in each substructure unit. PDA Test Piles shall be located as shown on the footing plan. No other piles in the substructure unit shall be used for PDA testing unless agreed to by the engineer. Do not drive any other piles in the unit until all required testing has been completed and the final driving criteria for that substructure unit has been determined in writing and accepted by the engineer.

C.3 Pile Driving

Drive PDA Test Piles to penetration depths and/or penetration resistances as directed by the engineer. Drive PDA Test Piles using the same methods and equipment that have been accepted for driving the production piles.

Drive PDA Test Piles to one of the following lengths:

- If the required plan driving resistance is achieved at a pile length less than plan length, stop driving the pile. Pile restrikes will be required as described in Section C6 of this special provision to document that the minimum plan required driving resistance is achieved.

- If PDA indicated pile capacity is greater than or equal to 85% of the required driving resistance, at the estimated plan length, stop driving. Pile restrikes will be required as described in Section C6 of this special provision to document that the minimum plan required driving resistance is achieved.
- If the pile resistance at plan length is less than 85% of the required driving resistance, continue to drive the pile until the resistance reaches 85% or more of the plan driving resistance. Upon achieving 85% or more, stop driving. Pile restrikes will be required as described in Section C6 of this special provision to document that the minimum plan required driving resistance is achieved.

In all cases, the required plan driving resistance will be shown either through end of initial drive data or from restrike data, as defined above.

C.4 Scheduling
Provide a written schedule to the engineer showing all required PDA Test Pile activities for the following week. Submit this schedule a minimum of two working days prior to the first day included in the schedule.

Multiple concurrent PDA testing and/or analyses will be allowed. Any delays to the contractors schedule due to coordination or untimeliness of PDA testing or evaluation/analyses will not be grounds for extension of contract time.

C.5 Installation Testing
Perform dynamic measurements following procedures set forth in ASTM D4945 during the driving of piles designated as PDA Test Piles.

Continuous PDA monitoring may require multiple installations of PDA testing equipment depending on the supplied pile length. If multiple piles lengths are used to produce the final installed pile, multiple PDA equipment installations will be required. With the PDA testing equipment attached, drive the pile and monitor using the PDA equipment.

C.6 Restrike Tests
Perform restrike tests on all PDA test piles as part of the initial dynamic pile load testing program as described in section C5. See restrike criteria given in section C3.

Wait a minimum of 12 hours and a maximum of 72 hours or a time period as directed by the engineer, after initial pile installation is complete; then, restrike each PDA test pile with the required dynamic testing instruments attached.

Warm the hammer before the restrike by applying at least 20 blows to a non-test pile, or by other means acceptable to the engineer.

The maximum amount of penetration required during the restrike test shall be 6 inches, or the maximum number of hammer blows required will be 30, whichever occurs first.

The pre-approved pile-driving hammer used for restrike testing shall be capable of supplying enough energy to develop a minimum of twice the required driving resistance shown on the plans.

C.7 CAPWAP Evaluation and Drive Criteria

Pile-driving criteria for each substructure unit shall be determined from dynamic pile tests conducted on the total length of each pile noted for PDA Testing in the plans. Submit the required driving resistance and the driving criteria for the production piles determined by dynamic pile testing to the engineer for acceptance for the production pile installation. Electronically submit the driving criteria and a report with the results of the CAPWAP evaluation to the engineer.

Utilize the dynamic test data to establish the following pile driving criteria: (1) a minimum driven length below cutoff level, and (2) a maximum penetration rate per 10 hammer blows for 30 consecutive blows. Drive all remaining piles in each unit according to the established criteria for that unit.

Driving production piles shall continue until the required driving resistance is achieved for 30 consecutive hammer blows. Mark penetration per 10 consecutive hammer blows.

The engineer may alter driving criteria as necessary to assure development of adequate pile capacity. In any pile where pile capacity or integrity is suspect, the engineer may order PDA testing.

D Measurement

The department will measure Pile Dynamic Analyzer (PDA) Testing as each individual unit, acceptably completed, in which one unit includes all PDA-related effort on one pile during the initial driving.

The department will measure Pile Dynamic Analyzer (PDA) restrikes as each individual unit, acceptably completed, in which one unit includes all of the restrike and testing effort required on an individual pile when it is restruck.

The department will measure CAse Pile Wave Analysis Program (CAPWAP) Evaluation as each individual unit, acceptably completed, in which one unit includes all analyses and effort required to provide drive criteria for installation of production piles in one substructure unit.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.4001	Pile Dynamic Analyzer (PDA)Testing	Each
SPV.0060.4002	Pile Dynamic Analyzer (PDA) Restrikes	Each
SPV.0060.4003	CAse Pile Wave Analysis Program (CAPWAP) Evaluation	Each

Payment for Pile Dynamic Analyzer (PDA) Testing is full compensation for facilitating the initial dynamic pile load test on a given pile, including possible multiple sensor installations.

Payment for Pile Dynamic Analyzer (PDA) Restrikes is full compensation for facilitating and performing one restrike test on a pile, including the sensor installation, mobilization of equipment, hammer warm-up, and pile restriking.

Payment for CAse Pile Wave Analysis Program (CAPWAP) Evaluation is full compensation for providing the personnel, software and equipment to evaluate the results of the monitoring for each substructure unit for the purpose of establishing production pile driving criteria, and the electronic submittal of the driving criteria and report with the results of the CAPWAP evaluation.

87. Sanitary Manhole TYPE A, Item SPV.0060.5010.

A Description

This work includes furnishing and installing a standard 48-Inch diameter sanitary manhole (Type A) made of precast concrete with necessary reinforcement, frames and self-sealing covers, internal frame/chimney seal, materials, proper backfilling, surface replacement and work necessary to the completion of precast manholes including the connection with all incoming and outgoing sewers, all stubs, steps, removing existing manhole and base, and all necessary bypass pumping.

Perform the work in accordance with the Standard Specifications for Sewer and Water Construction in Wisconsin, latest Edition.

B Materials

B.1 General

All materials and work required to install the manhole will conform to the Standard Specifications for Sewer and Water.

B.2 Manhole

Manhole barrels shall be constructed of pre-cast reinforced concrete sections. Precast manholes and cones shall conform to ASTM Specifications, C478, latest revision.

B.3 Frame and Grate

New frames and covers are required on all new sanitary manholes and shall be supplied by the contractor. Sanitary sewer manhole covers shall be self-sealing with an o-ring gasket. They shall be Neenah R-1661-B or equal. They shall have one 1-Inch vent hole which is sealed with a removable flexible plug and two concealed pick holes. Frames for sanitary sewer manholes shall be compatible with the covers.

B.4 Manhole Seal

Furnish and install new Cretex, or NPC Flexrib, or approved equal internal frame/chimney seal, as shown in the construction details on the plans. Meet the material

requirements of section 8.42.3 and the performance requirements of section 8.42.4 of the Standard Specifications for Sewer and Water.

B.5 Joints
Joints for precast manholes shall meet the requirements of ASTM C-443, latest revision, except that sealant shall be butyl rubber gasket or butyl rubber rope. Flexible butyl rubber gaskets or rope shall comply with the physical requirements for Type "B" gaskets in AASHTO Designation M-198, or Federal Specification SSS-00210-A, sealing compound, preformed plastic for expansion joints and pipe joints.

Use Mac-Wrap by Mar Mac Construction Products Co. or Cretex Wrap by Cretex Specialty Products or ConWrap CS-212 by Concrete Sealants, Inc or approved equal. This shall be considered incidental to the installation of the sanitary sewer manhole.

B.6 Steps
All manholes shall be provided with steps equally spaced vertically at a maximum of 16 inches on center installed by the manufacturer. Steps shall be embedded into the riser or conical top section of the wall a minimum of 3 inches. Manhole steps shall be made of gray cast iron conforming to the requirements of ASTM Designation A-48 Class No. 30B and shall have a minimum cross sectional dimension of one inch in any direction. Each section of the manhole shall be aligned so the steps create a continuous ladder.

C Construction
Construct manholes as shown in the plans. Fill the excavation with Backfill Slurry, to existing surface or to appropriate depth for pavement restoration.

C.1 Inverts
Construct benches up to the crown or top of the outgoing pipe and slope as specified for a sanitary manhole in accordance with File Numbers 11, 12, and 13 of the Standard Specifications for Sewer and Water.

C.2 Surface Preparation
Remove manhole cover and power wire brush the lower 3 inches of the manhole frame to remove any loose rust or scale and repair any imperfections by either grinding smooth or filling with mortar. A smooth, clean sealing surface is required. Realign the casting if it is offset more than approximately 2 inches from the chimney. Remove all loose and protruding mortar and brick from the upper 7-Inch chimney and clean surface by power wire brushing. Provide a 4-Inch wide sealing surface starting 2 inches down from the bottom of the frame.

All sealing surfaces must be circular, reasonably smooth, clean and free of any loose material or excessive voids. If such a surface does not exist for the bottom of the sleeve to seal against, use one-component, quick-set, high strength, non-shrink, polymer modified patching mortar which has been formulated for vertical or overhead use. If the bottom of the sleeve is to seal against the top of an eccentric (straight side) cone and an

inadequately high vertical surface does not exist, contact the manufacturer to obtain details to build the required vertical surface.

Use caulk to fill minor irregularities in the bottom sealing surface. The caulk shall be a butyl rubber caulk conforming to AASHTO M-198, Type B. Apply a single bead of the caulk to the center portion of the lower sealing surface of the sleeve.

Any flaws in the manhole frame, such as minor cracks, pits or protrusions, shall be repaired by either filling with mortar or grinding smooth.

D Measurement

The department will measure Sanitary Manhole Type A as a unit for each individual manhole, 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.0060.5010	Sanitary Manhole Type A	Each

Payment is full compensation for furnishing and installing all materials including pre-cast manhole base, riser, bench, cone section, frames, grates or lids, and chimney adjustment rings; for installing gaskets, joint seals, steps, bedding material, backfill material; for furnishing all excavation, dewatering, sheathing and shoring, forming foundation, and masonry work; for making sanitary sewer connections; for making lateral connections: for backfilling including mechanical compaction and compaction testing; for removing sheeting and shoring; for disposal of all surplus or waste material; and for clean-up.

88. Sanitary Manhole TYPE D, Item SPV.0060.5020.

A Description

This work includes furnishing and installing a standard 48-Inch diameter sanitary outside drop manhole (Type D) made of precast concrete with necessary reinforcement, frames and self-sealing covers, internal frame/chimney seal, outside drop and encasement, materials, proper backfilling, surface replacement and work necessary to the completion of precast manholes including the connection with all incoming and outgoing sewers, all stubs, steps, removing existing manhole and base, and all necessary bypass pumping.

Perform the work in accordance with the Standard Specifications for Sewer and Water Construction in Wisconsin, latest Edition.

B Materials

B.1 General

All materials and work required to install the manhole will conform to the Standard Specifications for Sewer and Water.

B.2 Manhole
Manhole barrels shall be constructed of pre-cast reinforced concrete sections. Precast manholes and cones shall conform to ASTM Specifications, C478, latest revision.

B.3 Frame and Grate
New frames and covers are required on all new sanitary manholes and shall be supplied by the contractor. Sanitary sewer manhole covers shall be self-sealing with an o-ring gasket. They shall be Neenah R-1661-B or equal. They shall have one 1-Inch vent hole which is sealed with a removable flexible plug and two concealed pick holes. Frames for sanitary sewer manholes shall be compatible with the covers.

B.4 Manhole Seal
Furnish and install new Cretex, or NPC Flexrib, or approved equal internal frame/chimney seal, as shown in the construction details on the plans. Meet the material requirements of section 8.42.3 and the performance requirements of section 8.42.4 of the Standard Specifications for Sewer and Water.

B.5 Joints
Joints for precast manholes shall meet the requirements of ASTM C-443, latest revision, except that sealant shall be butyl rubber gasket or butyl rubber rope. Flexible butyl rubber gaskets or rope shall comply with the physical requirements for Type "B" gaskets in AASHTO Designation M-198, or Federal Specification SSS-00210-A, sealing compound, preformed plastic for expansion joints and pipe joints.

All exterior joints shall be wrapped with Mac-Wrap or Cretex Wrap by Cretex Specialty Products or ConWrap CS-212 by Concrete Sealants, Inc or approved equal. This shall be considered incidental to the installation of the sanitary sewer manhole.

B.6 Steps
All manholes shall be provided with steps equally spaced vertically at a maximum of 16 inches on center installed by the manufacturer. Steps shall be embedded into the riser or conical top section of the wall a minimum of 3 inches. Manhole steps shall be made of gray cast iron conforming to the requirements of ASTM Designation A-48 Class No. 30B and shall have a minimum cross sectional dimension of one inch in any direction. Each section of the manhole shall be aligned so the steps create a continuous ladder.

B.7 Outside Drop
All manholes shall meet the material and construction requirements of section 3.5.8.d and Detail File No. 19 of the Standard Specifications for Sewer and Water.

C Construction
Construct manholes as shown in the plans. Place bedding material the full depth of the excavation under the pipe prior to laying the pipe when a sewer main or lateral enters a manhole any distance above the manhole invert. Any sewer main or lateral entering a manhole greater than 2 feet above the spring line of the outgoing sewer, the incoming sewer shall be connected to the manhole by means of an outside drop manhole (Type D).

The drop pipe shall be the same diameter as the incoming sewer. Fill the excavation with Backfill Slurry, to existing surface or to appropriate depth for pavement restoration.

C.1 Inverts
Construct benches up to the crown or top of the outgoing pipe and slope as specified for a sanitary manhole in accordance with File Numbers 11, 12, and 13 of the Standard Specifications for Sewer and Water.

C.2 Surface Preparation
Remove manhole cover and power wire brush the lower 3 inches of the manhole frame to remove any loose rust or scale and repair any imperfections by either grinding smooth or filling with mortar. A smooth, clean sealing surface is required. Realign the casting if it is offset more than approximately 2 inches from the chimney. Remove all loose and protruding mortar and brick from the upper 7-Inch chimney and clean surface by power wire brushing. Provide a 4-Inch wide sealing surface starting 2 inches down from the bottom of the frame.

All sealing surfaces must be circular, reasonably smooth, clean and free of any loose material or excessive voids. If such a surface does not exist for the bottom of the sleeve to seal against, use one-component, quick-set, high strength, non-shrink, polymer modified patching mortar which has been formulated for vertical or overhead use. If the bottom of the sleeve is to seal against the top of an eccentric (straight side) cone and an inadequately high vertical surface does not exist, contact the manufacturer to obtain details to build the required vertical surface.

Use caulk to fill minor irregularities in the bottom sealing surface. The caulk shall be a butyl rubber caulk conforming to AASHTO M-198, Type B. Apply a single bead of the caulk to the center portion of the lower sealing surface of the sleeve.

Any flaws in the manhole frame, such as minor cracks, pits or protrusions, shall be repaired by either filling with mortar or grinding smooth.

D Measurement
The department will measure Sanitary Manhole Type D as a unit for each individual manhole, 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.0060.5020	Sanitary Manhole Type D	Each

Payment is full compensation for furnishing and installing all materials including pre-cast manhole base, riser, bench, cone section, exterior drop pipe, frames, grates or lids, and chimney adjustment rings; for installing gaskets, joint seals, steps, bedding material, backfill material; for furnishing all excavation, dewatering, sheathing and shoring,

forming foundation, and masonry work; for making sanitary sewer connections; for making lateral connections: for backfilling including mechanical compaction and compaction testing; for removing sheeting and shoring; for disposal of all surplus or waste material; and for clean-up.

89. Removing Sanitary Manhole Wauwatosa, Item SPV.0060.5030.

A Description

This special provision describes removing existing sanitary sewer manholes, as shown on the plans, according to the pertinent provisions of standard spec 204, conforming to the requirements in the separate special provision entitled "General Requirements for Sanitary Sewer and Water", and as hereinafter provided.

B Materials

Furnish Backfill Slurry according to the pertinent requirements of standard spec 209 except as hereinafter modified.

Use aggregates that conform to standard spec 501 for Grade A Concrete. Weigh aggregates at a batch plant suitable for batching concrete masonry. Mix and deliver to the project site using a truck mixer. Add enough water to enable the mixture to flow readily.

C Construction

C.1 General

Plug the existing pipe with an 8-inch brick or concrete wall. Fill the excavation with Backfill Slurry, to existing surface or to appropriate depth for pavement restoration. Salvage the existing frame and cover. Contact Joe Marks of City of Wauwatosa at (414) 479-8931 to arrange for pickup of frame and cover.

D Measurement

The department will measure Removing Sanitary Manhole Wauwatosa as each individual removed manhole, 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.0060.5030	Removing Sanitary Manhole Wauwatosa	Each

Payment is full compensation for excavating, removing, disposing, bulk heading adjacent sewer pipes, backfill slurry; for salvaging frames and covers and for disposing of materials.

90. Water Main Vertical Offset, Item SPV.0060.5040.

A Description

This work includes providing and installing ductile iron water main vertical offsets at locations as indicated in the plans, conforming to the Standard Specifications for Sewer and Water Construction in Wisconsin, latest edition and as hereinafter provided.

B Materials

B.1 General

Ductile iron (DI) piping shall be in accordance to AWWA C150, Class 55. Design pipe joint ends for rubber push-on gasket joints, conforming to AWWA C111.

Cast in or stamp on pipe manufacturer's mark, year of production, and "DI' or "DUCTILE.'

Pipe shall be cement mortar lined and have internal and external bituminous coats.

B.2 Fittings

Fittings shall conform to AWWA C110, centrifugally cast in metal or sand-lined molds. Use of compact fittings conforming to AWWA C153 is acceptable. In no case shall fitting grade rating be less than adjoining pipe. Fittings shall be from same manufacturer as pipe. Nuts and bolts for joints and fittings shall be corrosion resistant steel, NSS Technologies, Inc., Cor-Blue or approved equal.

B.3 Polyethylene Sheeting for Pipe Corrosion Protection

Polyethylene sheeting conforming to ASTM D4976, Type I, Class B, color black, Grade E-1, 1200 psi tensile strength, minimum thickness of 8 mil. Tube diameter or sheet width shall conform to AWWA C105.

Furnish tape for polyethylene sheeting that is 2-inch wide, black tape with rubber adhesive and minimum 9 mil polyethylene backing. Tape shall be 3M™ Preservation Sealing Tape 481 or Scapa Preservation Tape 136 or an approved equal.

B.4 Trench Insulation

Extruded polystyrene board conforming to ASTM C578, Type V, rigid, closed cell type, with integral high density skin, Dow Chemical Company STYROFOAM™ Highload 100 or Owens Corning Foamular 1000 or an approved equal.

Thermal Resistance: Typical 5 year aged value of R-5 per inch of thickness per ASTM C518.

Board Size: 24 x 96 x 2-inch thick. Square edges. Compressive Strength: Minimum 100 psi per ASTM D1621. Water Absorption: 0.7 percent by volume maximum per ASTM D2842.

All bedding, cover and backfill materials shall meet City of Wauwatosa Standards and be approved by the City of Wauwatosa.

C Construction

C.1 General

In accordance to Wisconsin Statute 182.0175, "Damage to Transmission Facilities," Excavator, as defined in 182.0175(1)(bm), shall be solely responsible to provide advance notice to “Diggers Hotline, Inc.” (800) 242-8511 not less than three working days prior to commencement of any Excavation, as defined in the statute, required to perform work contained in this Project, and further, Excavator shall comply with all other requirements of this Statute relative to Excavation.

Before beginning excavation of trench, contractor shall uncover stub end of existing water main to which relay is to connect, to permit adjustments in line and grade and verify connection required.

C.2 Installation of Ductile Iron Pipe

Join pipe and fittings by means of a compression type rubber gasket push-on joints conforming with AWWA C111.

Excavation and backfill for buried pipe shall conform to the Standard Specifications for Sewer and Water.

Remove lumped subsoil, boulders, and rock. If rock is encountered, remove to provide a clearance of at least 6 inches below and on each side of pipe, valves, and fittings.

Lay and maintain water mains to lines and grades established in the plans.

Trench preparation shall proceed in advance of pipe installation only as far as can be backfilled in the same day.

Place and shape bedding material to pipe, to a minimum depth of three inches under bell and four inches under spigot and compact to 95 percent modified proctor density.

Lower water main, fittings, valves, and hydrants carefully into trench, by means of derrick, ropes, or other suitable tools or equipment, to prevent damage to water main materials and protect coatings and linings.

Provide holes for bells at each joint but no larger than necessary for joint assembly and assurance that pipe barrel will lie flat on trench bedding.

Restrain all joints as designated on drawings, at lengths as designated and provide all vertical offsets sized to match the diameter of existing water main.

Contractor shall restrain all joints within the vertical offset, and install offset in accordance with the Standard Specifications, and meet all minimum vertical clearances therein.

Contractor shall hand expose existing main as required for joint restraint installation.

Contractor shall provide lengths of pipe as sufficient to adequately cross the utility in conflict with the existing water main to maintain minimum separation as stated in the Standard Specifications.

Trench bedding shall be true and even in order to provide support for full length of pipe barrel, except a slight depression may be provided to allow withdrawal of pipe slings or other lifting tackle.

Do not place debris, tools, clothing, or other materials in pipe during laying operations. Assemble joint and bring pipe to correct line and grade as each length of pipe is placed in trench.

Take precautions to prevent foreign materials from entering joint space and carefully check joint recess for foreign material before installing gasket.

Remove lumps of clay, mud, cinders, and similar materials that may have accumulated on surface of pipe during storage or laying and encase pipe in polyethylene sheeting in accordance with AWWA C105.

Secure pipe in place with bedding material, placed by hand or equally careful means, keeping bell end open. Remove pipe and fittings that do not allow sufficient and uniform space for joints and replace with pipe and fittings of proper dimensions to ensure such uniform space.

Upon daily and temporary completion of pipe installation, close open ends of pipe by a water-tight plug or other means approved by engineer. This provision applies during daytime inactivity as well as overnight.

If water is in trench, maintain pipe seal in place until water level is lowered four inches below pipe invert.

Whenever it becomes necessary to lay a main over, under, or around a known obstruction, contractor shall furnish and install required fittings. No additional compensation will be paid to contractor for any expenses incurred because of such obstruction.

When an unknown underground structure interferes with work to such an extent that an alteration of the plans is required and alteration results in a change in cost to contractor, engineer will issue a written order for such altered work, specifying basis of payment or credit for such altered work.

Keep interior and exterior of pipe clean and free from foreign material before installation. Provide necessary means to wipe, brush, swab, or air blast to remove any foreign material from interior of pipe as instructed by pipe manufacturer and as directed by engineer.

Provide and place approved bedding sand and cover under and above water service to depths indicated in the plans. Provide and install crushed concrete backfill to depths indicated. Compact bedding sand and cover, and crushed concrete backfill to 95% modified proctor density.

C.3 Water Main Pressure and Leakage Testing
Pressure Testing:

After pipe has been laid, subject newly laid pipe or any valved section thereof to a hydrostatic pressure of at least 1.5 times working pressure at point of testing.

Tests pressures shall:

- Not be less than 1.25 times working pressure at highest point along test section.
- Not exceed pipe or thrust restraint design pressures.
- Be of at least 2-hour duration.
- Not vary by more than plus or minus 5 psi for duration of test.
- Not exceed twice rated pressure of valves or hydrants when pressure boundary of test section includes closed gate valves or hydrants. NOTE: Do not operate valves in either direction at differential pressure exceeding rated pressure.
- Not exceed rated pressure of valves when pressure boundary of test section included closed, resilient seated gate valves or butterfly valves.

Slowly fill each valved section of pipe and apply specified test pressure, based on elevation of lowest point of line or section under test and corrected to elevation of test gage, by means of a pump connected to pipe acceptable to engineer.

Do not operate valves in either opening or closing direction at differential pressures above rated pressure.

Before applying specified test pressure, completely expel air from section of pipe under test.

If permanent air vents are not located at all high points, Contractor shall install corporation cocks at such points to expel air as line is filled with water.

After all air has been expelled, close corporation cocks and apply test pressure. At conclusion of pressure test, remove corporation cocks and plug or leave in place at discretion of City of Wauwatosa.

Carefully examine exposed pipe, fittings, valves, hydrants, and joints during test.

Repair or replace any damaged or defective pipe, fittings, valves, or hydrants that are discovered following pressure test with sound material, and repeat test until it is satisfactory to City of Wauwatosa.

C.4 Leakage Testing

Leakage test may be conducted concurrently with pressure test.

Leakage shall be defined as quantity of water that must be supplied into newly laid pipe, or any valved section thereof, to maintain pressure within 5 psi of specified test pressure after air in pipeline has been expelled and pipe has been filled with water. Leakage shall not be measured by a drop in pressure in a test section over a period of time.

No pipe installation will be accepted if leakage is greater than that determined by following formula: L = SD times Square Root of P, divided by 133,200

Where L is allowable leakage in gallons per hour; S is length of pipe tested in linear feet; D is nominal diameter of pipe in inches; and P is average test pressure during leakage test in pounds per square inch gage.

When hydrants are in test section, test shall be made against main valve in hydrant. Acceptance shall be determined on basis of allowable leakage. If any test of laid pipe discloses leakage greater than that specified, contractor shall, at its own expense, locate and make repairs or replacement.

C.5 Flushing and Disinfection

Place calcium hypochlorite at upstream end of first section of pipe, at upstream end of each branch main, in first pipe section past valve, in hydrant leads, and at a minimum 500 foot interval in main.

Place the following amounts of calcium hypochlorite granules at beginning of main and at each 500-foot interval:

Pipe Diameter (Inches)	Calcium Hypochlorite Granules (Ounces)
4	0.5
6	1.0
8	2.0
12	4.0
16 and larger	8.0

Contractor may use tablets if prior approval is obtained from engineer. Procedure shall be as follows:

- Place one 5-gram calcium hypochlorite tablet in each hydrant, hydrant branch, and other appurtenance.
- Place 5-gram calcium hypochlorite tablets in accordance to the following table in each section of pipe.

Pipe Diameter	**Length of Pipe Section (feet)**				
(Inches)	**<13**	**18**	**20**	**30**	**40**
4	1	1	1	1	1
6	1	1	1	2	2
8	1	2	2	3	4
10	2	3	3	4	5
12	3	4	4	6	7
16	4	6	7	10	13

Based on 3.25 grams available chlorine per tablet, any portion of tablet rounded to next higher integer.

Attach tablets to inside and top at each end of newly installed pipe with an NSF 61 approved adhesive such as ITW Redhead A7, or an approved equal.

Do not apply adhesive to tablet except on broad side to be attached to surface of pipe.

If tablets are attached before pipe section is placed in trench, mark their position on section so it can be readily determined that pipe is installed with tablets at top.

When installation is completed, fill main with water at a rate such that water within main will flow at a velocity no greater than one foot per second.

Contractor shall separately meter and pay for water for filling and initial flushing of main.

Contractor shall provide labor and material necessary to transfer water from source to main to be tested. Only local City of Wauwatosa Water Utility employees shall operate valves.

Water shall enter main and be tested at low point in system to force entrapped air out at high end through an available hydrant or air release valve.

Close upper end hydrant or valve after air is expelled and chlorinated water discharge is present. Take precautions to assure that entrapped air is eliminated.

Water shall remain in pipe for at least 24 hours or as defined by regulatory requirements. If water temperature is less than 40 degrees F, water shall remain in pipe for at least 48 hours.

Position valves so that strong chlorine solution in main being treated will not flow into water mains in active service.

Water from new mains must successfully pass bacteriological test in accordance to requirements of Wisconsin Department of Natural Resources.

Properly and securely brace and maintain excavation until successful testing, flushing, chlorinating, and sampling of main is completed.

Contractor shall be responsible for protecting any required excavation by means of proper barricades and lanterns during sampling and testing period.

Provide access to main for sampling as directed by engineer. Water Utility will take necessary samples of water and obtain laboratory tests of samples.

D Measurement

The department will measure Water Main Vertical Offset, per each, 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.0060.5040	Water Main Vertical Offset	Each

Payment is full compensation for furnishing all materials; and for excavating, backfilling, and compacting.

91. Adjusting Water Valves, Item SPV.0060.5050.

A Description

This special provision describes the adjustment of existing water service boxes and water gate valve boxes to match the proposed finish grade as shown in the plans and as hereinafter provided.

B (Vacant)

C Construction

C.1 Water Valve Boxes

Adjust water service boxes and water gate valve boxes vertically as required by contractor operations. Set the finish service of valve box in a plumb, vertical position

flush with the pavement or terrace. Protect the top section of the box. Provide a new top section if broken.

Correct the condition of the valve if Wauwatosa Water Utility determines the valve is inoperable even after pavement is installed at the contractor's expense. Make corrections within five days of notification by the city.

D Measurement

The department will measure Adjusting Water Valves as each individual unit, acceptably completed, regardless of the number of adjustments made to the valve box.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.5050	Adjusting Water Valves	Each

Payment is full compensation for providing all required materials; for removing, reinstalling and adjusting the valves. The contractor shall replace valves rendered unusable by the contractor's operations or rendered inoperable by Wauwatosa Water Utility at no expense to the department.

92. Adjusting Water Manhole, Item SPV. 0060.5060.

A Description

This work includes adjusting water manholes to an elevation as determined by the engineer as well as installing frame and cover, according to the Standard Specifications for Sewer and Water Construction in Wisconsin, latest edition and amendments.

Add or remove masonry adjusting rings as needed. This item applies to structures to be lowered less than 6 inches or raised less than 12 inches.

B Materials

B.1 Adjusting Rings

Adjustment rings shall be concrete with steel reinforcement in conformance with ASTM C-478. Precast concrete rings shall have an inside diameter to match the manhole opening, be not less than 2 inches nor more than 6 inches high, and have a wall thickness of 6 inches unless otherwise specified. The rings shall contain a minimum of one No. 2 reinforcing rod centered within the ring. Do not use any cracked or broken rings. The top of precast manhole cones shall be set a maximum of 18 inches lower than established grade in unimproved areas, with the top of the manhole cover being ringed up flush with the existing ground. The minimum number of adjusting rings shall be one 2-inch ring. The maximum height of adjusting rings shall be 8 inches in paved areas. All joints between the adjusting rings shall be filled with grout or mortar, including between the cone and the adjusting ring and the adjusting ring and the frame.

B.2 Manhole
Precast manholes and cones shall conform to ASTM Specifications, C478, latest revision.

C Construction
C.1 General
The location of existing water manholes to be adjusted is indicated on the plans. Adjust these items as shown in the plans. Reconstruct manholes as necessary so that the frames and cover when placed will be at the established required grade; remove the existing frame and cover. Install seals according to the manufacturer's recommended installation procedures. Furnish and use Backfill Slurry in the manhole excavation area to existing surface or to appropriate depth for pavement restoration. Salvage the existing frame and cover.

C.2 Surface Preparation
Remove manhole cover and power wire brush the lower 3 inches of the manhole frame to remove any loose rust or scale and repair any imperfections by either grinding smooth or filling with mortar. A smooth, clean sealing surface is required. Realign the casting if it is offset more than approximately 2 inches from the chimney. Remove all loose and protruding mortar and brick from the upper 7-Inch chimney and clean surface by power wire brushing. Provide a 4-Inch wide sealing surface starting 2 inches down from the bottom of the frame.

All sealing surfaces must be circular, reasonably smooth, clean and free of any loose material or excessive voids. If such a surface does not exist for the bottom of the sleeve to seal against, use one-component, quick-set, high strength, non-shrink, polymer modified patching mortar which has been formulated for vertical or overhead use. If the bottom of the sleeve is to seal against the top of an eccentric (straight side) cone and an inadequately high vertical surface does not exist, contact the manufacturer to obtain details to build the required vertical surface.

Use caulk to fill minor irregularities in the bottom sealing surface. The caulk shall be a butyl rubber caulk conforming to AASHTO M-198, Type B. Apply a single bead of the caulk to the center portion of the lower sealing surface of the sleeve.

Any flaws in the manhole frame, such as minor cracks, pits or protrusions, shall be repaired by either filling with mortar or grinding smooth.

D Measurement
The department will measure Adjusting Water Manhole as a unit per each adjustment, 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.0060.5060	Adjusting Water Manhole	Each

Payment is full compensation for furnishing and installing all materials including adjusting rings and masonry; for excavating, backfilling, and compacting; for disposing of surplus materials; and for cleaning out and restoring the structure.

93. Abandoning Water Manhole, Item SPV. 0060.5070.

A Description

This work includes abandoning existing water manholes in place, according to the plans, the Standard Specifications for Highway and Structure Construction, latest edition and amendments, Standard Specifications for Sewer and Water Construction in Wisconsin, latest edition and amendments (SSSW), and as hereinafter provided and these special provisions.

B Materials

B.1 General

Furnish Backfill Slurry according to the pertinent requirements of standard spec 209 except as hereinafter modified. Use aggregates that conform to standard spec 501 for Grade A Concrete. Weigh aggregates at a batch plant suitable for batching concrete masonry. Mix and deliver to the project site using a truck mixer. Add enough water to enable the mixture to flow readily.

C Construction

C.1 General

Clean manhole thoroughly. Plug the existing pipe with an 8-inch brick or concrete wall. Remove the walls of the structure to a depth of 3 feet below grade or to the base if directed by the engineer. Fill the excavation with Backfill Slurry, to existing surface or to appropriate depth for pavement restoration. Maintain satisfactory bypass service during these operations.

Salvaged castings become the property of the contractor.

D Measurement

The department will measure Abandoning Water Manhole as a unit for each individual manhole, 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.0060.5070	Abandoning Water Manhole	Each

Payment is full compensation for furnishing and installing all materials; for furnishing and placing Backfill Slurry; for salvaging frames and covers and for disposing of materials.

94. Adjusting Sanitary Manhole; Item SPV. 0060.5080.

A Description

This work includes adjusting sanitary manholes to an elevation as determined by the engineer as well as installing frame and cover, internal frame/chimney seal, according to the Standard Specifications for Sewer and Water Construction in Wisconsin, latest edition and amendments (SSSW) and the "Special Provision Notes for Sanitary Sewer Work" as found in the plans.

Add or remove masonry adjusting rings as needed. This item applies to structures to be lowered less than 6 inches or raised less than 12 inches.

B Materials

B.1 Adjusting Rings

Adjustment rings shall be concrete with steel reinforcement in conformance with ASTM C-478. Precast concrete rings shall have an inside diameter to match the manhole opening, be not less than 2 inches nor more than 6 inches high, and have a wall thickness of 6 inches unless otherwise specified. The rings shall contain a minimum of one No. 2 reinforcing rod centered within the ring. Do not use any cracked or broken rings. The top of precast manhole cones shall be set a maximum of 18 inches lower than established grade in unimproved areas, with the top of the manhole cover being ringed up flush with the existing ground. The minimum number of adjusting rings shall be one 2-inch ring. The maximum height of adjusting rings shall be 8 inches in paved areas. All joints between the adjusting rings shall be filled with grout or mortar, including between the cone and the adjusting ring and the adjusting ring and the frame. Rings shall be grooved to receive a step.

B.2 Manhole

Precast manholes and cones shall conform to ASTM Specifications, C478, latest revision.

B.4 Manhole Seal

Furnish new Cretex, NPC Flexrib, or approved equal internal frame/chimney Seal, as shown in the plans. The seal shall meet the material requirements of section 8.42.3 and the performance requirements of section 8.42.4 of the SSSW.

C Construction

C.1 General

The location of existing sanitary manholes to be adjusted is indicated on the plans. Adjust these items as shown in the plans. Reconstruct manholes as necessary so that the frames and cover when placed will be at the established required grade; remove the existing frame and cover. Install seals according to the manufacturer's recommended installation procedures. Furnish and use Backfill Slurry in the manhole excavation area to existing surface or to appropriate depth for pavement restoration. Salvage the existing frame and cover.

C.2 Surface Preparation
Remove manhole cover and power wire brush the lower 3 inches of the manhole frame to remove any loose rust or scale and repair any imperfections by either grinding smooth or filling with mortar. A smooth, clean sealing surface is required. Realign the casting if it is offset more than approximately 2 inches from the chimney. Remove all loose and protruding mortar and brick from the upper 7-Inch chimney and clean surface by power wire brushing. Provide a 4-Inch wide sealing surface starting 2 inches down from the bottom of the frame.

All sealing surfaces must be circular, reasonably smooth, clean and free of any loose material or excessive voids. If such a surface does not exist for the bottom of the sleeve to seal against, use one-component, quick-set, high strength, non-shrink, polymer modified patching mortar which has been formulated for vertical or overhead use. If the bottom of the sleeve is to seal against the top of an eccentric (straight side) cone and an inadequately high vertical surface does not exist, contact the manufacturer to obtain details to build the required vertical surface.

Use caulk to fill minor irregularities in the bottom sealing surface. The caulk shall be a butyl rubber caulk conforming to AASHTO M-198, Type B. Apply a single bead of the caulk to the center portion of the lower sealing surface of the sleeve.

Any flaws in the manhole frame, such as minor cracks, pits or protrusions, shall be repaired by either filling with mortar or grinding smooth.

D Measurement
The department will measure Adjusting Sanitary Manhole as a unit per each adjustment, 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.0060.5080	Adjusting Sanitary Manhole	Each

Payment is full compensation for furnishing and installing all materials including adjusting rings, masonry, and internal frame/chimney seals; for excavating, backfilling, and compacting; for disposing of surplus materials; and for cleaning out and restoring the structure.

95. Reconstruct Sanitary Manhole, Item SPV.0060.5090.

A Description
This work includes reconstructing a sanitary manhole to an elevation as determined by the engineer, in accordance to the Standard Specifications for Sewer and Water Construction in Wisconsin, latest edition and amendments (SSSW), and as hereinafter provided.

B Materials

B.1 Manhole

Manhole barrel sections shall be constructed of precast reinforced concrete sections.

Precast manholes and tops shall conform to ASTM Specifications, C478, latest revision.

B.2 Manhole Seal

Sanitary manhole seal–internal/external, as shown in the construction details on the plans, shall meet the material requirements of section 8.42.3 and the performance requirements of section 8.42.4 of the SSSW.

B.3 Joints

Joints for precast manholes shall meet the requirements of ASTM C-443, latest revision, except that sealant shall be butyl rubber gasket or butyl rubber rope. Flexible butyl rubber gaskets or rope shall comply with the physical requirements for Type "B" gaskets in AASHTO Designation M-198, or Federal Specification SSS-00210-A, sealing compound, preformed plastic for expansion joints and pipe joints.

B.4 Steps

All manholes shall be provided with steps equally spaced vertically on center installed by the manufacturer as shown on the standard detail sheet. Steps shall be embedded into the riser or conical top section of the wall a minimum of 3 inches. Manhole steps shall be Type PS-2-BG as manufactured by M.A. Industries, Peachtree City, GA 30269; or Type LML-13-NCR as manufactured by American Step Company Inc., Griffin, GA; or equal. Provide certified test data that the steps are capable of withstanding an 800- pound vertical load without sustaining more than a 3/8-inch permanent set when tested in accordance to Section 10 of ASTM C 497.

B.5 Elastomeric Waterproofing Sealer

Elastomeric waterproofing membrane shall be a single component, bitumen-modified, moisture-curing polyurethane similar to TREMproof 60 as manufactured by Tremco, 10701 Shaker Blvd., Cleveland, Ohio 44104; or Duramem V500 as manufactured by Pecora Corporation, 2601 Oakland Avenue, Garland, Texas 75040; or Thiodeck C.F. as manufactured by Toch/Carboline Company, 350 Hanley Industrial Court, St. Louis, Missouri 63144; or equal.

B.6 Plastic Sheet

Plastic sheet shall be clear plastic, minimum 4 mils. thick, of length and width to cover elastomeric waterproofing sealer.

B.7 Granular Backfill

Granular backfill shall consist of hard durable particles or fragments of stone, gravel, or sand. Granular backfill shall conform to the following grading requirements:

GRADING REQUIREMENTS FOR GRANULAR BACKFILL

Sieve Sizes	Percent Passing by Weight
3 inches	100
2 inches	95 – 100
No. 4	35 - 60
No.	200 5 - 15

C Construction

C.1 General

Reconstruct manholes to conform to the detail on the standard detail sheet and in the locations shown in the plans.

Salvage and reinstall existing frames and covers.

C.2 Backfill

Backfill with granular backfill material. Place in suitable lifts not exceeding 8 inches loose depth and compact each lift to a minimum of 90 percent of maximum density as determined by AASHTO T 180. Compact with mechanical vibrating or impact tampers.

Remove all form materials and trash from the excavation before placing any backfill. Backfill around manholes only after the concrete has attained 2/3 of the specified compressive strength. Obtain the engineer's approval of concrete work and attained strength prior to backfilling. Backfill shall be brought up uniformly around manholes and structures to prevent unbalanced lateral loading.

Do not operate earth-moving equipment within 5 feet of walls of manholes for the purpose of depositing or compacting backfill materials. Compact backfill adjacent to concrete walls with hand-operated tampers or other equipment that will not damage the manhole.

C.3 Elastomeric Waterproofing Sealer

Elastomeric waterproofing sealer shall be applied to all gravity sewer manholes. Thoroughly sandblast the section of the manhole frame over which the sealer is to be applied, the manhole header, extension and cone and the top 12 inches of the manhole riser. All surfaces shall be free of dust, oil, rust, loose materials and other contaminants. Take necessary precautions to prevent rebound from the sandblasting operation to enter the sewer system. If the mortar between grade rings or brick courses is removed to a depth greater than 1/4 inch by the sandblasting, the joints shall be refilled with mortar as specified herein. All new masonry work shall be cured a minimum of 24 hours prior to applying the waterproofing sealer.

Apply the 4-inch wide bond breaker tape completely around the manhole circumference and centered over the mortar joint between the manhole frame and the manhole extension. Immediately before applying the sealer, wipe all surfaces with a cleaner and

immediately prime. The cleaner and primer shall be furnished by the sealer manufacturer. Apply the sealer with a trowel, roller or by spraying to achieve a thickness of not less than 100 wet mils. Do not apply the sealer when the ambient temperature is below 40 degrees F. The sealer shall extend from 9 inches below the bottom of the manhole cone and be carried over the top and onto the flange of the frame a minimum of 5 inches.

Allow the sealer to cure a minimum of 24 hours before backfilling when the ambient temperature is above 70 degrees F, and 48 hours when the ambient temperature is below 70 degrees F. Immediately before backfilling, loosely wrap two layers of 4 mil plastic sheet over the sealed area to prevent direct contact between the sealer and the backfill material.

D Measurement

The department will measure Reconstruct Sanitary Manhole as a unit for each individual manhole, 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.0060.5090	Reconstruct Sanitary Manhole	Each

Payment is full compensation for providing and installing all required materials, including masonry and fittings: for salvaging and reinstalling existing covers, including frames, grates or lids; for furnishing all necessary excavation, backfilling, disposing of surplus material, and for cleaning out and restoring the work site.

96. Abandon Water Service, Item SPV.0060.5100; Abandon Sanitary Sewer Service, Item SPV.0060.5110.

A Description

This special provision describes abandoning existing sanitary and water laterals, as shown on the plans, conforming to the requirements in the separate special provision entitled "General Requirements for Sanitary Sewer and Water", and as hereinafter provided.

Perform the work according to the Standard Specifications for Sewer and Water Construction in Wisconsin, latest Edition.

Notify the City of Wauwatosa of the commencement of construction at least three district business days in advance. Notify, in writing, all businesses and property owners/occupants within the project limits to inform them of the project and to inform them of any temporary sewer service disconnections. Provide and maintain all necessary bypass pumping for utility abandonment.

B Materials

B.1 General

All materials and work required to abandon the services will conform to the Standard Specifications for Sewer and Water.

C Construction

Abandoning existing sanitary laterals by plugging the end of the existing lateral using a method approved by the city sewer utility. Install Mechanical watertight plug 4" to 6" inside cast iron, clay or concrete laterals. Cap PVC laterals with PVC glue fittings.

Prior to abandonment of water services the Municipal Utility will remove the water meter and shut-off the service at the curb box

Abandon water services to meet the requirements of standard specifications for sewer and water section 5.5.16. Watermain branches to be abandoned according to 4.14.6 of the standard specifications for sewer and water. The open end of copper laterals shall be closed by peening the end. The open end of service pipe and branches shall be cut and plugged with an approved gasketed cap.

D Measurement

The department will measure Abandon Water Service and Abandon Sanitary Sewer Service as each individual unit, regardless of size or pipe material, 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.0060.5100	Abandon Water Service	Each
SPV.0060.5110	Abandon Sanitary Sewer Service	Each

Payment is full compensation for furnishing and installing all materials including all labor, tools, equipment, and incidentals necessary for abandonment. For plugging sanitary sewer connections; for sealing water lateral connections; for backfilling including mechanical compaction; for restoration for disposal of all surplus or waste material; and for clean-up.

97. Hydrant Assembly Relocation, Item SPV.0060.5120.

A Description

This work includes relocating existing hydrants at locations indicated in the plans, conforming to the Standard Specifications for Sewer and Water Construction in Wisconsin, latest edition and as hereinafter provided.

B Materials

B.1 New Hydrant Assembly

Provide new water main hydrants and hydrant lead piping boxes meeting the requirements of the City of Wauwatosa.

Hydrant shall be a AWWA C502 hydrant with all operating nuts and hose connections meeting City of Wauwatosa size requirements.

B.2 Fittings

Fittings shall conform to AWWA C110, centrifugally cast in metal or sand-lined molds. Use of compact fittings conforming to AWWA C153 is acceptable.

In no case shall fitting grade rating less than adjoining pipe.

Fittings shall be from same manufacturer as pipe.

Nuts and bolts for joints and fittings shall be corrosion resistant steel, NSS Technologies, Inc. Cor-Blue or approved equal.

B.5 Polyethylene Sheeting for Pipe Corrosion Protection

Furnish polyethylene sheeting conforming to ASTM D4976, Type I, Class B, color black, Grade E-1, 1200 psi tensile strength, minimum thickness of 8 mil. Tube diameter or sheet width shall conform to AWWA C105.

Furnish tape for polyethylene sheeting that is 2-inch wide, black tape with rubber adhesive and minimum 9 mil polyethylene backing. Tape shall be 3M™ Preservation Sealing Tape 481 or Scapa Preservation Tape 136 or an approved equal.

C Construction

C.1 General

In accordance to Wisconsin Statute 182.0175, "Damage to Transmission Facilities," Excavator, as defined in 182.0175(1)(bm), shall be solely responsible to provide advance notice to “Diggers Hotline, Inc.” (800-242-8511) not less than three working days prior to commencement of any Excavation, as defined in the statute, required to perform work contained in this project, and further, Excavator shall comply with all other requirements of this Statute relative to Excavation.

C.2 Installation of Hydrant Assembly

Provide hydrants, hydrant lead valves, and fittings.

Place crushed clear stone below base of re-located hydrant to 6 inches above drain holes in hydrant stem.

Solidly buttress new hydrant against trench wall.

Join pipe and fittings by means of a rubber gasket push-on joints conforming to AWWA C111.

D Measurement
The department will measure Hydrant Assembly Relocation by each hydrant assembly provided and installed, 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.0060.5120	Hydrant Assembly Relocation	Each

Payment is full compensation for furnishing all materials; excavating, backfilling, and compacting.

98. Cover Plates Left-In-Place, Item SPV.0060.8005.

A Description
This special provision describes furnishing and installing a steel plate to cover storm sewer structures which will support construction, backfill material, and traffic loading according to standard spec 611, as shown on the plans, and as hereinafter provided.

B Materials
Provide a ¾-inch minimum thickness steel plate that extends to the outside edge of the masonry walls.

Provide ¼-inch diameter steel bolts and epoxy to secure the cover plate to the top deck of the structure.

Backfill with base aggregate dense, 1 ¼-inch.

C Construction
Remove all loose debris and other material on the structure deck which would interfere with cover plate installation. Drill 3/8-inch holes in the cover plate, centered in each corner. Set the cover plate on the structure deck, ensuring the access hole is completely covered and that the cover plate extends to the edges of the masonry. The cover plate shall be below the proposed flow line elevation. Embed and epoxy each ¼-inch steel bolts a minimum of 2-inches into the structure deck through each drilled hole. Backfill to the subgrade elevation any voids above the cover plate with base aggregate dense 1 ¼-inch.

Cover plates left in place become the property of the department after obtaining final acceptance from the engineer

D Measurement
The department will measure Cover Plates Left-In-Place as each individual cover plate left in place, 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.0060.8005	Cover Plates Left-In-Place	Each

Payment is full compensation for furnishing and installing the cover plate and leaving cover plates in place; furnishing and installing steel bolts; base aggregate dense 1 ¼-inch backfill; and for excavation.

99. Inlet Covers Type R Special, Item SPV.0060.8006.

A Description
The work under these items shall be according to the requirements of standard spec 611 and the details as shown on the plans.

B (Vacant)

C (Vacant)

D Measurement
The department will measure Inlet Cover (Types) by the unit in place, furnished, installed and 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.0060.8006	Inlet Covers Type R Special	Each

Payment is full compensation conforming to standard spec 611.5.

100. Manhole 9-Foot Special, Item SPV.0060.8012.

A Description
This work shall consist of design and construction of either a cast-in-place or precast storm sewer structure made of concrete with necessary reinforcement, metal frames, grates and lids, including required excavating and backfilling.

B Materials
Conform to standard spec 611.2.

C Construction
Conform to standard spec 611.3.

D Measurement
The department will measure Manhole 9-Foot Special 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.0060.8012	Manhole 9-Foot Special	Each

Payment is full compensation for structure design; providing all materials, including all masonry, for Grade "A" concrete adjustments and monolithic concrete shimming; conduit and sewer connections, steps and other fittings; for furnishing all excavating and backfill; disposing of surplus material; and for cleaning out and restoring the work site. The department will pay for covers, including frames, grates, and lids separately.

The department will apply contract unit prices without adjustments to the quantities of manholes constructed to depths not greater than one foot above or below the elevations shown on the plans. Manholes that the engineer orders constructed to a depth greater than one foot above or below elevations shown on the plans will be specified for extra work and paid for according to standard spec 109.4.

101. Pipe Connection to Existing Structure, Item SPV.0060.8015.

A Description
This special provision describes connecting new storm sewer pipe to existing structure.

B Materials
Conform to standard spec 608.2 and standard spec 611.2

C Construction
Conform to standard spec 607.3 and standard spec 611.3

D Measurement
The department will measure Pipe Connection to Existing Structure by each pipe connected, 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.0060.8015	Pipe Connection to Existing Structure	Each

Payment is full compensation for performing all work; excavation, backfilling, furnishing, masonry and fittings; disposing of surplus material, coring holes in existing structure to connect new pipe; and installing all materials, couplings, concrete collars, and pipe.

102. Pavement Marking Grooved Preformed Thermoplastic Stop Line 18-Inch White, Item SPV.0090.0001; Crosswalk 24-Inch White, SPV.0090.0002.

A Description

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

B Materials

Furnish preformed thermoplastic pavement marking and sealant material, if required, from the department's approved products list.

C Construction

C.1 General

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

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

C.2 Groove Depth

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

C.3 Groove Width – Linear Markings

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

C.4 Groove Position

Position the groove edge according to the plan details.

C.4.1 Linear Marking

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

C.4.2 Special Marking

Groove a box around the special marking up to 4 inches from the perimeter of the special marking.

C.5 Groove Cleaning

C.5.1 Concrete

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

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

C.5.2 New Asphalt

Groove pavement 10 or more days after paving. Use a high-pressure air blower with at least 185 ft^3/min air flow and 90 psi air pressure to clean the groove.

C.5.3 Existing Asphalt

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

C.5.4 Asphalt

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

C.6 Preformed Thermoplastic Application

Preheat the surface if necessary based on manufacturer's recommendation.

Application of the preformed thermoplastic in the groove without sealant will be as follows:

- May 1 to September 30, both dates inclusive – the Southeast Region and the ozone non-attainment or maintenance Northeast Region counties of Sheboygan, Manitowoc, Kewaunee, and Door.
- June 1 to August 31 – the Southwest Region, and the Northeast, North Central, and Northwest Regions except for the ozone non-attainment or maintenance Northeast Region counties of Sheboygan, Manitowoc, Kewaunee, and Door.

Application of the preformed thermoplastic in the groove with sealant materials will be as follows:

- October 1 to April 30, both dates inclusive – the Southeast Region and the ozone non-attainment or maintenance Northeast Region counties of Sheboygan, Manitowoc, Kewaunee, and Door.
- September 1 to May 31, both dates inclusive – the Southwest Region and the Northeast, North Central, and Northwest Regions, except for the ozone non-attainment or maintenance Northeast Region counties of Sheboygan, Manitowoc, Kewaunee, and Door.

The sealant must be wet.

D Measurement

The department will measure Pavement Marking Grooved Preformed Thermoplastic (Type) (Size) by the linear foot, 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.0090.0001	Pavement Marking Grooved Preformed Thermoplastic Stop Line 18-Inch White	LF
SPV.0090.0002	Pavement Marking Grooved Preformed Thermoplastic Crosswalk 24-Inch White	LF

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

103. Pavement Marking Grooved Preformed Plastic Tape 4-Inch Yellow, Item SPV.0090.0003.

A Description

This special provision describes furnishing, grooving, and installing preformed plastic pavement marking tape as shown on the plans, according to standard spec 646, and as hereinafter provided.

B Materials

Furnish grooved preformed plastic pavement marking tape and adhesive material, if required, from the department's approved products list.

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

C Construction

C.1 General

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

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

C.2 Groove Depth

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

C.3 Groove Width – Longitudinal Markings

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

C.4 Groove Position

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

C.5 Groove Cleaning

C.5.1 Concrete

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

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

C.5.2 New Asphalt

Groove pavement 5 or more days after paving.

If opening to traffic an asphalt lane that is not grooved, place temporary pavement marking. For asphalt lanes not open to traffic, temporary pavement marking is not required.

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

C.5.3 Existing Asphalt
Check for structural integrity in supporting grooving operations. If the structural integrity of the asphalt pavement is inadequate to support grooving operations, immediately notify the engineer.

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

C.6 Tape Application
Apply the tape when both the air and surface temperature are 40 degrees F and rising.

Apply tape in the groove as per manufacturer's recommendations. If manufacturer's recommendations require surface preparation adhesive, apply an adhesive with lower than 91g/l VOC during the following period of time due to Volatile Organic Compound Limitations:

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

Use any adhesive from the preformed plastic approved products list in the remainder counties and for the remainder of the year.

The adhesive must be dry (feels tacky but is no longer in liquid form) and have a matte finish rather than a glossy wet appearance.

Tamp the pavement marking tape with a tamper cart roller cut to fit the groove. Tamp three complete cycles with grooved modified equipment.

D Measurement
The department will measure Pavement Marking Grooved Preformed Plastic Tape (Width) Yellow in length by the linear foot of tape placed according to the contract and accepted.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.0003	Pavement Marking Grooved Preformed Plastic Tape 4-Inch Yellow	LF

Payment is full compensation for cleaning and preparing the pavement surface; furnishing and installing the material; furnishing, placing, and removing temporary pavement marking, if necessary.
February2012LLGroovedPrePlastic.doc

104. Concrete Barrier Temporary Precast Delivered Special, Item SPV.0090.0004.

A Description

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

Concrete Barrier Temporary Precast Delivered Special becomes property of the department after final acceptance by the engineer.

B (Vacant)

C Construction

C.1 Delivery, On-The-Project Trucking and Removal

Replace standard spec 603.3.2.2 (1) with the following:

Under the Concrete Barrier Temporary Precast Delivered Special bid item, furnish and deliver temporary barrier to worksites within the project and leave it in place upon project completion.

D Measurement

The department will measure the Concrete Barrier Temporary Precast Delivered Special by the linear foot acceptably completed, measured as the linear feet of installed length left in place once for each contract-identified worksite within the project and other moves the engineer directs. The department will only measure moves requiring a truck haul. The department will not measure moves made solely to accommodate the contractor's means and methods.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.0004	Concrete Barrier Temporary Precast Delivered Special	LF

Replace standard spec 603.5.3 (1) with the following:

Payment for Concrete Barrier Temporary Precast Delivered Special is full compensation for providing barrier, initial delivery, trucking between worksites and leaving barrier, steel rail connections and steel cap rail in place after contract completion.
SEF Rev. 14_0916

105. Maintain Concrete Barrier Temporary Precast, Item SPV.0090.0005.

A Description

This special provision describes maintaining existing concrete barrier temporary precast including any attached temporary glare screen and reflectors. The temporary barrier has been left in place under a previous contract. Assume ownership and responsibility of the temporary barrier, temporary glare screen and reflectors upon the contract's Notice to Proceed. The location of this temporary barrier is shown in the Traffic Control plans.

Concrete barrier temporary precast, including any attached temporary glare screen and reflectors that are to remain in place at the end of this contract as shown in the Traffic Control plans, becomes property of the department after final acceptance by the engineer.

B Materials

The concrete barrier temporary precast left in place from a previous project is Wisconsin type concrete barrier temporary precast.

C Construction

Maintain Wisconsin type concrete barrier temporary precast left in place according to standard spec 603.

Realign the wall after snow plow operations or as directed by the engineer. Maintain reflectors and hardware in a condition similar to when new on the project.

Keep drainage/lifting slot holes free from debris.

D Measurement

The department will measure Maintain Concrete Barrier Temporary Precast by the linear foot of concrete barrier temporary precast, acceptably maintained.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.0005	Maintain Concrete Barrier Temporary Precast	LF

Payment is full compensation for receiving, maintaining, keeping concrete barrier temporary precast drainage/lifting slot holes free from debris, and leaving on the project site concrete barrier temporary precast including any attached temporary glare screen and reflectors.

SEF 14_1215

106. Galvanized Pipe Railing, Item SPV.0090.0006.

A Description
This special provision describes fabricating, galvanizing, and installing railing according to standard spec 506 and 513 and the plan details, as directed by the engineer, and as hereinafter provided.

B (Vacant)

C (Vacant)

D Measurement
The department will measure Galvanized Pipe Railing in length by the linear foot along the top rail, 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.0090.0006	Galvanized Pipe Railing	LF

Payment is full compensation for fabricating, galvanizing, transporting, and installing the railing, including any touch-up and repairs.

107. Pipe Underdrain 6-Inch Special, Item SPV.0090.0007.

A Description
This special provision describes providing necessary subsurface drainage by constructing trenches, placing the required geotextile fabric, installing the designated pipes or drainage devices, connecting the underdrain to receiving structures, providing cored connection holes, back-plastering and or mortaring connections to storm sewer structures (both on the external and internal sides of the receiving structure), providing and installing PVC or HDPE fittings, and caps or plugs ,for excavating, plowing, backfilling the trenches with the specified backfill material according to standard spec 310, 612 and 645, salvaging; disposing of surplus material; and restoring the work site as shown on the plans and details, and as hereinafter provided.

B Materials
B.1 Base Aggregate
Use only base aggregate open graded conforming to standard spec 310.2.

B.2 Geotextile Fabric
Utilize geotextile fabric consisting of Type DF Schedule A and conforming to standard spec 645.2.4. Completely wrap the installation trench with geotextile fabric.

C (Vacant)

D Measurement
The department will measure Pipe Underdrain 6-Inch Special by the linear foot, acceptably completed. The department will measure along the centerline of the pipe, center to center of junctions and fittings.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.0007	Pipe Underdrain 6-inch Special	LF

Payment is full compensation for providing, handling, and placing all materials, including pipe, base aggregate open graded, geotextile fabric Type DF Schedule A, providing cored connections, making all necessary connections to the receiving structures, performing back-plastering and or mortaring of underdrain connections to storm sewer structures, providing and installing all fittings, and caps or plugs; for furnishing all excavating, plowing, and re-compacting, salvaging; disposing of surplus material; and restoring the work site.

108. Fence Temporary 6-Foot, Item SPV.0090.0008.

A Description
This special provision describes furnishing, erecting and maintaining temporary chain link fence 6-foot including gates, as shown on the plans and as directed by the engineer, according to standard spec 616, and as hereinafter provided. The intent of this specification is to provide a secure enclosure.

B Materials
Fencing parts furnished do not have to be new materials. Used, re-rolled and open seam materials will be permitted. Gates shall be a minimum of 12 feet wide.

No specific metallic coating will be required for the chain link fencing materials. Materials furnished do not have to be of the same type. Fence height shall be a minimum of 6 feet.

The engineer may reject fencing materials which, in the engineer's opinion, are too damaged or misaligned to provide acceptable closure.

C Construction
Fence posts may be driven into the ground or set in augered holes, backfilled and compacted. Minimum embedment shall be 4 feet. In paved areas fence posts shall be fastened to either temporary concrete barrier or the pavement by methods ensuring a secure enclosure. Where fence is installed in areas that are not to be disturbed by subsequent construction activities, the disturbed area shall be restored in kind at no additional cost to the department.

D Measurement
The department will measure Fence Temporary 6-Foot in place by the linear foot from end posts, center to center, along the ground line, acceptably completed. Temporary fence will be measured once for payment. Additional measurement for fence maintenance and removal will not be made.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.0008	Fence Temporary 6-Foot	LF

Payment is full compensation for furnishing all materials; erecting posts, gates and fence; maintaining fencing; removing and disposing of fencing; and for restoring disturbed areas.

109. Polyethylene Duct 1 ¼-Inch, Item SPV.0090.1001.

A Description
This special provision describes furnishing and installing underground Cable-In-Duct, 2-conductors AWG No. 4 with AWG No. 8 Ground, including Cable Testing, and Erosion Control (as required). Cable in Duct shall be installed in earth, in conduit, in lighting poles and distribution centers, and at other locations as shown in the plans or required to suit field conditions.

All work under this item shall be completed according to standard spec 655 except as hereinafter amended.

Conductors shall be installed after duct is installed and paid for separately.

B Materials
The duct shall comply with standard spec 655.

C Construction
The duct shall be installed according to standard spec 655.

D Measurement
The department will measure Polyethylene Duct 1 ¼-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.0090.1001	Polyethylene Duct 1 ¼-Inch	LF

Payment is full compensation for furnishing and installing materials, including duct, for excavating trenches, for placing duct; for backfilling; for restoring disturbed or damaged areas, including sodding; for making connections and testing installed cable system; and for disposing of surplus material.

110. Fence Decorative Bridge B-40-880, Item SPV.0090.4004.

A Description

ThisThis special provision describes fabricating, galvanizing, polymer coating, painting, delivering and installing decorative fencing on bridge superstructures, wing walls, and retaining walls in accordance to the plans, the pertinent provisions of the standard specifications, and as hereinafter provided.

B Materials

B.1 General

Utilize only materials meeting the requirements as shown on the plans and the applicable provisions of the standard specifications as follows:

- Structural Steel: standard spec 506.2.2
- Steel Mesh: standard spec 505.2.5
- Painting: standard spec 517.2 and 517.3

Blast clean steel, after fabrication, per SSPC-SP 6, and galvanize according to ASTM A 123. Supply all bolts, nuts and washers as factory galvanized according to ASTM A 153. Repair zinc coating damaged during fabrication as specified in standard spec 513.3.3(3). Grind the welded joints shown in the plans to a smooth finish.

Steel preparation includes the chamfering of sharp edges. Flatten all sharp edges by a single pass of a grinder or suitable device along the sharp edge. Condition any thermal cut edges before blast cleaning by shallow grinding or other cleaning to remove any hardened surface layer. Remove all evident steel defects exposed in accordance to AASHTO M 160 prior to blast cleaning.

Construct the fence fabric of 8 GA. 2-inch by 2-inch welded wire mesh galvanized to ASTM A 123 and then covered with a polymer-coating conforming to the following requirements:

Thickness of Polymer-Coating:	ASTM F668
Adhesion:	ASTM F668
Accelerated Aging Test:	ASTM F668, D1499
Mandrel Bend Test:	ASTM F668

Construct the polymer-coating of a dense impervious covering applied without voids, tears or cuts that reveal the galvanized mesh substrate. Visible roughness, bubbles, blisters and flaking in the polymer coating will be a basis for rejection. Utilize polymer-coating with color as specified in B.3 and conforming to the requirements of ASTM F934. Place the vertical wires of the mesh on the inside face (pedestrian / traffic side) of the fence.

B.2 Two Coat System

After galvanizing, coat all exterior surfaces of steel fence at field erection and expansion joints with a two coat system as hereinafter provided.

Clean all galvanized surfaces to be painted per SSPC-SP1 to remove chlorides, sulfates, zinc salts, oil, dirt, organic matter and other contaminants. Then brush blast clean the cleaned galvanized surface per SSPC-SP16 to create a slight angular surface profile (1.0 - 1.5 mils suggested) for paint adhesion. Do not fracture the galvanized finish or remove any dry film thickness during the brush blast cleaning process.

Prior to application of the tie-coat, remove visible deposits of oil, grease and other contaminates from the surface per SSPC-SP1, and clean the brush blasted surface of dust, dirt and loose residue conforming to standard spec 517.

After cleaning provide a tie coat from an approved coating system that is specifically intended to be used on a galvanized surface. The tie coat shall etch the galvanized surface and prepare the surface for the top coat. Apply a top coat matching the specified color. Utilize a contrasting color for the tie and top coats. Use a pre-approved top coat that is resistant to the effects of the sun, and is suitable for use in a marine environment. Paint the various decorative fence components with the tie and top coats before final assembly of the fence panels. Do not damage the painted surface during panel assembly or fence installation.

Use one of the qualified paint sources and products given below. An equivalent system may be used with the written approval of the engineer.

Producer	Coat	Products	Dry Film Minimum Thickness (mils)	Minimum Time Between Coats (hours)
Sherwin Williams 1051 Permeter Drive, Suite 710 Schaumburg, IL 60173 (847) 330.1562	Tie	Recoatable Epoxy Primer B67-5 Series/B67V5	2.0 to 4.0	6
	Top	Acrolon 218 HS Polyurethane , B65-650	2.0 to 4.0	NA
Carboline 350 Hanley Industrial St. Louis, MO 63144 (314) 644.1000	Tie	Rustbond Penetrating Sealer FC	1	36
	Tie	Carboguard 60	4.0 to 6.0	10
	Tie	Carboguard 635	4.0 to 6.0	1
	Top	Carboline 133 LH(satin)	4	NA
Wasser Corporation 4118 B Place NW Suite B Aubum, WA 98001	Tie	MC-Ferrox B 100	3.0 to 5.0	8
	Top	MC-Luster 100	2.0 to 4.0	NA
PPG Protective and Marine Coatings P.O. Box 192610 Little Rock, AR 72219-2610 (414) 339-5084	Tie	Amercoat 399	3.0 to 5.0	3
	Top	Amercoat 450H	2.0 to 4.0	NA

B.3 Color
Match Federal Color 27038 – Black, for the finished color for the coating system for decorative fencing.

C Construction
Provide shop drawings in accordance to the requirements of standard spec 506.3.2. Provide shop drawings containing material sizes and types, weld sizes and locations, and all necessary details, dimensions, and information to allow fabrication of the fence in conformance with the requirements of the contract. Obtain shop drawing review and acceptance prior to beginning fabrication.

Provide a full sized painted 6-foot by 10-foot long fence test panel. Deliver the test panel to the job site within 60 days of the award of the contract. Unload and set up the test panel in an area designated by the engineer. Obtain test panel acceptance prior to beginning fabrication of fences.

During construction and at the time of delivery the engineer will inspect the frame components. Obtain engineer acceptance of the product after the delivery is unloaded on the site. After the product is unloaded, signify in writing that the fence was received in acceptable condition per the engineer's inspection. Any damage to the fence panels after the acceptable delivery will be the responsibility of the installation contractor.

Conform all welding to the applicable requirements of standard spec 506. Obtain the approval of the engineer prior to any field welding, field cutting, or drilling.

Minimize the number and size of touch-up spots during construction. Follow the manufacturer's recommendations for damaged area repairs. Final acceptance will not be granted without engineer approval of the field paint appearance.

Provide the engineer with the name, address, and phone number of a representative of the fence fabricator for future coordination.

During handling, protect finish coating from damage. If damaged during handling, the fencing may be rejected by the engineer or engineer may direct the fabricator to repair the finish in accordance to the manufacturer's recommendations. Provide the engineer a copy of the manufacturer's recommended repair procedure and materials before repairing damaged coatings.

D Measurement

The department will measure Fence Decorative Bridge B-40-880 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.0090.4004	Fence Decorative Bridge B-40-880	LF

Payment is full compensation for cleaning, galvanizing, welding, fabricating, polymer-coating welded wire mesh, painting, assembling, furnishing, delivering and installing fence components, lighting access panels and test panel; for preparing shop drawings and for repairing zinc coating or damaged areas.
SEF Rev. 14_1014revised.

111. Sanitary Sewer 12-Inch PVC, Item SPV.0090.5010.

A Description

Perform work under these items according to the details as shown in the plans and the requirements of the Standard Specifications for Sewer and Water Construction in Wisconsin, latest Edition.

Notify the City of Wauwatosa prior to construction at least three business days in advance. Notify, in writing, all businesses and property owners/occupants within the project limits to inform them of the project and to inform them of any temporary sewer service disconnections. Provide and maintain all necessary bypass pumping for sanitary sewer relay.

B Materials

All materials and work required to install the sanitary sewer will conform to the Standard Specifications for Sewer and Water.

B.2 PVC Pipe

The pipe shall be polyvinylchloride Pipe (PVC), ASTM D-3034 SDR-26. All fittings, including bends, shall be of the same material as the proposed sanitary sewer main. Material joining the fitting to the pipe shall be free from cracks and shall adhere tightly to each joining surface.

B.3 Pipe Gaskets

Sanitary sewer pipes shall have rubber gaskets conforming to ASTM F-477.

C Construction

C.1 General

Construct 12-inch pipe as shown in the plans.

C.2 Laying Of Pipe

C.2.1 Bedding, Cover, Foundation and Backfill Material

All sewer pipe shall be laid in a Standard Section, Class "C" bedding conforming to File No. 3 with modifications as specified in Section 3.2.6(i) for PVC pipe of the Standard Specifications for Sewer and Water, unless otherwise noted on the plans. Cover material for PVC pipe shall be the same as that specified in the Standard Specifications for Sewer and Water for bedding

Compact granular backfill mechanically to a minimum of 95% maximum density as determined by ASTM D1557, Method D (Modified Proctor Test) from the top of the pipe cover material to the surface of the trench. Special compaction equipment and measures are required where standard compaction equipment cannot be utilized. Flooding of backfill will not be allowed. Compact native backfill mechanically to a minimum of 90% maximum density as determined by ASTM D1557 (Modified Proctor Test) from top of pipe cover material to trench surface. Compaction of the excavated and granular backfill material shall be compacted to achieve uniform consolidation in conformance with section 2.6.14(b) of the “SWS”.

C.2.3 Joints Between Dissimilar Pipe Materials

Connect dissimilar pipe materials by means of a nonshear flexible compression coupling. Install couplings in strict accordance with the manufacturer's recommendations. Joints on sanitary sewers between dissimilar pipe shall be either a non-shear coupling as manufactured by DFW/HPI or shall be made with flexible mechanical compression joint

coupling conforming to ASTM C-594 Type B with stainless steel bands and shear ring conforming to ASTM A-167 as manufactured by Joints, Inc. (Calder) of Gardena, CA; Fernco Joint Sealer Co. of Ferndale, MI., or equal and in addition, using a transitional bushing conforming to ASTM C-594 Type B when pipe with different outside diameters are to be connected.

The cost of connecting dissimilar pipe materials with nonshear flexible compression coupling is incidental to the cost of sanitary sewer pipe.

D Measurement

The department will measure Sanitary Sewer 12-Inch, by the linear foot of sewer acceptably completed. The pipe will be measured horizontally to the nearest foot, from center-to-center of manholes, to the end of the new pipe, or to the outside face of structures, whichever is applicable.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.5010	Sanitary Sewer 12-Inch PVC	LF

Payment is full compensation for providing all materials including all pipe materials, fittings, and accessories required; for furnishing all asphaltic pavement removal and excavating; for providing and placing pipe bedding and cover material; for laying pipe; for sealing joints and making connections to new or existing facilities; for backfilling and compaction; for leakage testing; for providing and maintaining all necessary bypass pumping for sanitary sewer relay; for removing existing pipe, and for cleaning out and restoring the work site.

112. Abandoning Sanitary Sewer 12-Inch, Item SPV.0090.5020.

A Description

A.1 General

Perform work under these items according to the details as shown on the plans and the pertinent requirements of standard spec 204 and standard spec 501 and the Standard Specifications for Sewer and Water Construction in Wisconsin, latest Edition.

B Materials

B.1 Cellular Concrete

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

Notify the City of Wauwatosa of the commencement of construction at least three district business days in advance. Notify, in writing, all businesses and property owners/occupants within the project limits to inform them of the project and to inform them of any temporary sewer service disconnections. Provide and maintain all necessary bypass pumping for sanitary sewer abandonment.

Bulkhead sewers that are to be abandoned in place with an 8-inch brick or concrete wall. Fill all sewers with cellular concrete. Remove frame, cover, and manhole to a minimum depth of 3 feet below grade.

D Measurement

The department will measure Abandoning Sanitary Sewer 12-Inch by the linear foot of sewer completed. The pipe will be measured horizontally to the nearest foot, through all manholes designated to be abandoned, from face to face of bulkheads, including the bulkhead thickness.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.5020	Abandoning Sanitary Sewer 12-Inch	LF

Payment is full compensation for providing all materials including all excavating; for bulkheading and abandoning existing sanitary sewer with cellular concrete; for providing backfill slurry material; and for providing and maintaining all necessary bypass pumping for abandonment.

113. Removing Sanitary Sewer Pipe, Item SPV. 0090.5030.

A Description

This special provision describes completely removing existing sanitary sewer pipe and disposing of all resulting materials according to the plans, Standard Specifications for Highway and Structure Construction, latest edition and amendments, Standard Specifications for Sewer and Water Construction in Wisconsin, latest edition and amendments (SSSW), the "Special Provision Notes for Sanitary Sewer Work" as found in the plans, and as hereinafter provided and these special provisions.

B Materials

Granular backfill as required in Chapter 2.6.2 of the SSSW, shall conform to the requirements for Base Aggregate Dense 3/4-Inch, of standard spec 305.1.

C Construction

Remove the sanitary sewer pipe in its entirety. Perform work according to the pertinent specifications of standard spec 204. The contractor is responsible for the safe methods and sequence of controlled removal operations. Completely remove the existing utility to

the extent required to avoid interfering with new construction work as shown on plans and as directed by the engineer.

The cutting and removal of existing sanitary sewer pipe from within the trench of replacement sanitary sewer will not be paid for separately, but shall be considered incidental to the respective sanitary sewer item.

Thoroughly clean the ends of the existing pipe to remain and abandon according to Section 3.2.24 of the SSSW.

Provide granular backfill as required in Chapter 2.6.2 of the SSSW, meeting the requirements for Base Aggregate Dense 3/4-Inch, of standard spec 305.1.

Consolidate all backfill by mechanical compaction per specification 2.6.14(b) of the SSSW. Special compaction equipment and measures are required where standard compaction equipment cannot be utilized. Flooding of backfill will not be allowed. Compaction shall achieve uniform consolidation in conformance with section 2.6.14(b) of the SSSW.

Provide by-pass pumping of wastewater round construction zone during working hours.

During non-work hours, provide temporary connection of replacement sanitary sewer to existing sanitary sewer to provide uninterrupted sanitary sewer service.

D Measurement

The department will measure Removing Sanitary Sewer Pipe by the linear foot, acceptably completed, measured horizontally to the nearest foot from face to face of bulkheads along the centerline of the pipe.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.5030	Removing Sanitary Sewer Pipe	LF

Payment is full compensation for providing all excavating; furnishing and installing all materials; for cutting and removing existing sanitary sewer pipe; for abandoning unused sewers; for furnishing and placing granular backfill; and for hauling and disposing of all materials.

114. Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 48x76-Inch, Item SPV.0090.8010.

A Description
Furnish and install reinforced concrete pipe storm sewers.

B Materials
Conform to materials as per standard spec 610.2(1).

Provide storm sewer reinforced concrete (Class) (size) conforming to Concrete D-Load Pipe ASTM C 507 specifications.

Provide storm sewer pipe reinforced concrete pipe (Class) (size) conforming to Concrete D-Load Pipe ASTM C 507 specifications. The design strength of the pipe shall be the D-load to produce the 0.01-inch crack carrying HL 93 truck load and maximum fill height over the pipe as shown on the plan.

The storm sewer pipe reinforced concrete pipe (class) (size) design shall be responsibility of the contractor and shall be designed by a professional engineer, registered in the State of Wisconsin, with knowledge of the specific site conditions and requirements. Submit one copy of the storm sewer pipe design, signed and sealed, to the engineer for incorporation into the permanent project record.

C Construction
Construct according to the plans and standard spec 610.3.

Place factory lubricated gasket over the spigot end or tongue of the entering pipe. Clean the gasket and the ends of the pipe from sand and gravel. Place the spigot or tongue of the pipe being laid with the gasket in place into the bell or groove end of the previously laid pipe. Set pipe carefully to line and grade, and push or jack home. The engineer can order the use of a jack or “come-along” if deemed necessary to ensure that the joints are completely tight.

D Measurement
The department will measure Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical (Class) (Size) bid item(s) by the linear foot, acceptably completed. The measured quantity equals the number of linear feet of pipe measured along the centerline of the pipe. The department will measure from center to center of drainage Storm Sewer Structure. The department will make no deduction from these measured lengths for intermediate Storm Sewer Structures or fittings.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.8010	Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 48x76-Inch	LF

Payment will conform to standard spec 610.5 of the standard specifications and submitting one copy of storm sewer pipe design, signed and sealed by a professional engineer registered in the State of Wisconsin.

No separate payment will be made for placing and or installing factory lubricated gaskets.

115. Survey Project 1060-34-84, Item SPV.0105.0001; Survey Project 1060-35-85, Item SPV.0105.0002.

A Description

This special provision describes modifying standard spec 105.6 and 650 and as follows to define the requirements for construction staking for this contract.

Replace standard spec 105.6.2 with the following:

The department will not perform any construction staking for this contract. Obtain engineer's approval prior to performing all survey required to layout and construct the work under this contract.

The survey includes establishing horizontal and vertical position for all aspects of construction including but not limited to storm sewer, subgrade, base, curb, gutter, curb and gutter, drainage structures, structure layout, bridges, all retaining wall layout, pavement, pavement markings (temporary and permanent), barriers (temporary and permanent), freeway and local street lighting, electrical installations, supplemental control, slope stakes, ITS, FTMS, parking lots, paths, utilities, conduit, water main, sanitary sewer, landscaping elements, installation of community sensitive design elements, traffic control items, fencing, etc.

The department may choose to perform quality assurance surveys during the project. These quality assurance surveys do not relieve the responsibility for performing all survey work required to lay out and construct the work under this contract.

Delete standard spec 650.1.

B (Vacant)

C Construction

Replace standard spec 650.3.1 (5) and 650.3.1 (6) with the following:

Perform survey work using global positioning or conventional methods. Establish additional benchmarks and control points as necessary to support the method of operation, or as the engineer directs. Do not use global positioning methods to establish the following:

1. Structure layout horizontal or vertical locations.
2. Concrete pavement vertical locations.
3. Curb, gutter, and curb and gutter vertical locations.
4. Concrete barrier vertical locations.
5. Storm Sewer layout horizontal or vertical locations, including but not limited to structure centers, offsets, access openings, rim and invert elevations.
6. Sanitary sewer construction or other gravity –based drainage system, including but not limited to structure centers, offsets, access openings, rim and invert elevations.

Maintain neat, orderly, and complete survey notes, drawings, and computations used in establishing the lines and grades. This includes, but is not limited to:

- Raw data files
- Digital stakeout reports
- Control check reports
- Supplemental control files (along with method used to establish coordinates and elevation)
- Calibration report

Make the survey notes and computations available to the engineer within 24 hours as the work progresses unless a longer period is approved by the engineer.

Replace standard spec 650.3.3.1 with the following:

Under the Survey Project bid item, global positioning system (GPS) machine guidance for conventional subgrade staking on all or part of the work may be substituted. The engineer may require reverting to conventional subgrade staking methods for all or part of the work at any point during construction if, in the engineer's opinion, the GPS machine guidance is producing unacceptable results.

Replace standard spec 650.3.3.3.4.1 with the following:

The department will provide the contractor staking packet as described in the Construction and Materials Manual (CMM) 7.10. At any time after the contract is awarded, the available survey and design information may be requested. The department will provide that information within five business days of receiving the contractor's request. The department incurs no additional liability beyond that specified in standard spec105.6 or standard spec 650 by having provided this additional information.

Supplement standard spec 650.3.3.3.6.2 with the following:

Record all subgrade elevation checks and submit a hard copy to the engineer within 24 hours or as requested by the engineer.

Supplement standard spec 650.3 with the following:

650.3.15 Sanitary Sewer and Water Main
Record all elevation data for pipe inverts, outside drops, bends, fittings, casings and other information necessary to accurately record the construction document. Submit a hard copy to the engineer within 24 hours or as requested by the engineer.

Set and maintain construction stakes or marks as necessary to achieve the required accuracy and to support the method of operations. Locate all pipe inverts, drops to within 0.02 feet horizontally and to within 0.01 feet vertically.

Provide the as-built xyz coordinates and elevations, in the project horizontal and vertical datum, of all tie in locations for the as-built plan. Also provide the locations of the casing ends, the elevation of the top of casing and the size and material of all pipes.

D Measurement
Replace standard spec 650.4 with the following:

The department will measure Survey Project 1060-34-84 and Survey Project 1060-35-85 as separate single lump sum unit of work, acceptably completed.

E Payment
Replace standard spec 650.5 with the following:

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.0001	Survey Project 1060-34-84	LS
SPV.0105.0002	Survey Project 1060-35-85	LS

Payment is full compensation for performing all survey work required for layout, documentation, recording, asbuilting sanitary sewer and water main, and constructing all work under this contract. The department will not make final payment for any staking item until the contractor submits all survey notes and computations used to establish the required lines and grades to the engineer within 24 hours of completing this work. The department will deduct from payments due the contractor for the additional costs specified in 105.6. No additional payments will be made for restaking due to construction disturbance and knock-outs.
SEF Rev. 14_0909

116. Pavement Cleanup Project 1060-34-84, Item SPV.0105.0003; Pavement Cleanup Project 1060-35-85, Item SPV.0105.0004.

A Description

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

B Materials

B.1 Pavement Cleanup

Furnish a vacuum-type street sweeper equipped with a power broom, water spray system, and a vacuum collection system.

Utilize vacuum equipment with a self-contained particulate collector capable of preventing discharge from the collection bin into the atmosphere.

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

C Construction

C.1 Pavement Cleanup

Keep all pavements, curb lanes and gutters both closed and open to public traffic within the job-site boundaries free of dust and debris generated from any activity under the contract. Keep all pavements, curb lanes and gutters adjacent to the project free of dust and debris that are affected by land disturbing, dust generating activities, as defined in the contractor's dust control implementation plan.

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

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

- W. Center Street (STH 100 to N 117th Street)
- N. 112th Street (W. Clark Street to W. Center Street)
- N. 113th Street (W. Clarke Street to W. Center Street)
- N. 114th Street (W. Clarke Street to W. Center Street)
- N. 116th Street (W. Clarke Street to W. Center Street)

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

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

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

D Measurement
The department will measure Pavement Cleanup Project 1060-34-84 and Pavement Cleanup Project 1060-35-85 as 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.0105.0003	Pavement Cleanup Project 1060-34-84	LS
SPV.0105.0004	Pavement Cleanup Project 1060-35-85	LS

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

Payment is full compensation for surveillance, mobilization, sweeping, and disposing of materials.
SEF Rev. 14_1203

117. Control of Water 1060-34-84, Item SPV.0105.0005.

A Description
This section addresses the provision for designing, furnishing all labor and material needed to control, handle, dispose and treat groundwater and surface water that may be encountered in all excavations as required for performance of the work as shown in the plans.

This special provision does not cover temporary drainage. Conform to standard spec 205 for temporary drainage.

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

B Materials
The contractor is responsible to determine materials required to meet this special provision.

C Construction

C.1 Submittals

C.1.1 General

The discharge permits and water control plan shall be submitted to the engineer at least 30 days prior to start of excavation, unless otherwise noted.

C.1.2 Subsurface Conditions

Shaft Station 438NS+00 to Shaft Station 455NS+00: The contractor shall review pertinent geotechnical reports for groundwater information and soil types.

C.1.3 Submittals

Discharge Permit: Submit discharge and well permit applications to Wisconsin Department of Natural Resources (WDNR) if dewatering wells are to be used. Also submit design and calculations for the sedimentation tank or clarifier system to be utilized to reduce sediment levels to minimum levels required by WDNR prior to discharging.

Water Control Plan: Water control plan shall be coordinated with requirements of special provisions. The following items shall be included in the water control plan, as a minimum:

a. Descriptions of proposed groundwater and surface water control facilities including, but not limited to, equipment, methods, installation, standby equipment and power supply, pollution control facilities including silt removal facilities, discharge locations to be utilized, removal of water control systems, and provisions for immediate temporary water supply as required by this section.
b. The contractor shall submit shop drawings showing locations, dimensions, and relationships of elements of each water control system.
c. Design calculations demonstrating dewatering zone of influence, and adequacy of proposed water control systems and components. The contractor may be required to demonstrate the systems proposed in the water control plan and to verify that adequate equipment, personnel, and materials are provided to dewater the excavations at all locations and times required. The contractor shall provide manufacturer's literature describing installation, operation, and maintenance procedures for all components of the water control system.
d. Monitoring plans including measurement of: pumping rates at excavated locations and wells, reading of piezometers, and water quality sampling of discharge.
e. Method(s) to measure discharge quantities.
f. If system is modified during installation or operation, revise or amend and resubmit Water Control Plan.

Quality Control: During construction, submit rate of discharge, pumping rate measurements, water level readings taken at piezometers, groundwater quality data, and sediment content test results. Contractor’s readings shall be performed in addition to any readings taken by the engineer. Submit the data and test results within 24 hours of readings.

C.1.4 Acceptance
All Information Submittals should be submitted to the engineer. The engineer can reject the submittals which do not contain adequate detail, as required herein. The contractor shall resubmit the rejected submittals within seven days upon the receipt of the engineer's rejection notice.

C.2 General Requirements
The contractor shall continuously control, handle, treat and dispose water at all times during the course of construction, and provide adequate backup systems to accomplish control of water in conformance with this special provision to obtain satisfactory working conditions and to maintain the progress of the work. Water to be controlled includes groundwater, contaminated groundwater; and surface water (precipitation and run-off).

All required drainage, pumping, treatment, and disposal shall be done without damage to adjacent property or structures and without interference with the operations of other contractors, or the rights of public and private owners, or pedestrian and vehicular traffic.

The contractor shall modify the water control system at their own expense if, after installation and while in operation, it causes or threatens to cause damage to adjacent property or to existing buildings, structures, or utilities.

C.3 Regulatory Requirements
Storm water discharge to storm sewers, watercourses, lakes, and wetlands shall conform to the requirements of local, state, and Federal regulations. Water from excavations shall be kept separate from storm water discharge associated with surface construction.

In the event that contaminated waters are encountered, the contractor is required to notify the department prior to discharging contaminated water. Comply with WDNR regulations regarding disposal of contaminated groundwater. Obtain additional permits, if required. Notify the Milwaukee Metropolitan Sewerage District for any discharge of contaminated water into the sewer system, and provide laboratory test results documenting contaminant concentrations.

C.4. Surface Water Control
Intercept and divert surface drainage away from the work sites by the use of dikes, curbwalls, ditches, sumps, or other means. Design surface drainage systems to prevent erosion either on or off the site. Control surface runoff to prevent entry of surface water into excavations and to prevent erosion either on or off the site. Remove drainage systems when no longer needed.

C.5 Water Control in Excavations
Use water control methods that are appropriate, as determined by the contractor, to permit conditions, ground conditions, construction operations, and requirements of these plans and special provisions. The methods shall involve removal of water accumulating within excavations from precipitation and groundwater infiltration, and may involve

removal of water outside excavations by means such as the use of dewatering or pressure relief wells.

Water control methods shall minimize adverse effects of elevated or reduced water pressure on the work, the surrounding ground and adjacent facilities and structures. Design and operate the water control measures to prevent removal of in-situ materials (development of lost ground), or loosening or softening of subgrade soils within excavations.

Water control methods shall be capable of lowering and maintaining the free water and piezometric levels to an elevation at least 2 feet below excavation bottoms regardless of the water volume. The methods shall have sufficient capacity to accomplish this desired result allowing for normal variations in precipitation and soil and aquifer properties.

Control groundwater and surface water such that the construction of, trenches and other structures can be performed without adverse effects of water on the facilities being constructed, including prevention of hydrostatic uplift pressures on the new facilities until construction has been adequately completed. If the water level cannot be maintained at the specified levels, contractor shall, at no additional cost to the department, control seepage of groundwater by whatever means are necessary to assure that there is no loss of ground by erosion or piping of fines with seepage through shoring or lagging into excavated areas and no instability of slopes due to seepage. Control water during periods when excavating, installing ground support systems, installing subgrade protection measures, placing concrete (except tremie concrete), placing pipe, and at such other times as is necessary for efficient and safe execution of the work.

If water enters the excavation in volumes that could adversely affect the performance of the work or has the potential to cause loss or damage to adjacent property or structures, take immediate steps to reduce or mitigate the water inflow.

Provide standby pumps and standby power supply where disruption of water control systems could allow water inflows to threaten the work or the safety of personnel.

C.6 Monitoring of Groundwater Levels

Monitor groundwater levels as necessary to evaluate the sufficiency of the water control system. A system of construction piezometers is required to evaluate the effectiveness of the water control system in fulfilling the requirements specified herein. Piezometers shall be of adequate numbers and in suitable arrangements and depths for determining the free water surface elevations and piezometric elevation over the area. A minimum of one piezometer per four dewatering wells or one piezometer per excavation location shall be installed with the dewatering system at locations and depths proposed by the contractor.

Piezometers shall be installed using direct rotary drilling methods with drilling fluid that does not impact the development of the piezometer and conforms to ASTM D5783. During drilling, soil samples shall be obtained at intervals of 2.5 feet or less using standard penetration tests according to ASTM D1586. Piezometers shall be constructed

and developed according to ASTM D5092, with development a minimum of 24 hours after completion. The contractor's engineer shall determine the depth of the sensing zone for each piezometer based on observations of retained soil samples.

Make a minimum of one reading at each piezometer, per 24-hour period, 5 days per week during the period of dewatering activities (including dewatering by pumping seepage from sumps within shafts or other excavation areas) and one reading at each piezometer per week until the end of construction during periods of no dewatering.

C.7 Dewatering Wells

Obtain a site-specific dewatering discharge or construction site storm water discharge permit if the WDNR has specific concerns that are not addressed by other permits that might otherwise apply.

Obtain a WDNR permit for operation of any well or well system that has a combined pumping capacity of 70 gallons per minute or more (a high capacity extraction system). For purposes of permitting, a well is defined as any opening made in the ground where the depth of the opening is greater than its largest surface dimension and extends more than 10 feet below ground surface. The permit will require that wells be constructed, operated, and abandoned according to Chapter NR 812, Wisconsin Administrative Code.

Keep dewatering influence zone to the minimum necessary for execution of the work. Obtain any additional geotechnical information necessary for design of a dewatering well system, including performing pump tests, grain size analyses, groundwater chemical analyses, and subsurface investigations. Design and operate wells so as to prevent removal of fine soils with seepage through backpack material and screens. Provide means by which water discharge from each well can be measured and flow rates adjusted. Construct and operate wells according to WDNR requirements. Monitor the rate of discharge from each well on a daily basis with an accuracy of at least 2 percent of the flow.

Wells shall be designed, installed and operated in a manner that will preclude removal of materials by the pumping operation (hereafter referred to as "piping of fines"). After installation, each well shall be individually pump-tested at maximum design flow to verify acceptability with respect to piping of fines (sediment mostly consisting of silt and sand) as measured using a centrifugal tester. Any well or wellpoint segment found to be causing piping of fines at a rate exceeding 2 parts per million (ppm) by volume during the individual pump-test at the maximum design flow shall be replaced in a manner acceptable to the engineer, and at no additional cost to the department. Each well shall be checked for sediment piping using a centrifugal tester immediately after installation and at least once per month during operation. Measure the sediment content of the total dewatering effluent using a centrifugal tester at least once every 30 days. If the sediment content of the total effluent is greater than 1 ppm, contractor shall identify and abandon wells that are producing excessive sediments and replace them. All sediment content tests shall be performed in the presence of the engineer.

C.8 Ground Loss from Dewatering Operations

Support any structure including, but not limited to, buildings, bridges, freeway surfaces, streets, and utilities, or portions of such structure, including footings, foundations, basements, walls or concrete driveways that become unstable or vulnerable to settlement due to removal or disturbance of groundwater. Cease excavation and other construction operations that result or have the potential to result in further settlement until corrective measures are implemented. Support shall include but not be limited to shoring; sheeting; bracing; underpinning; compaction grouting; driving piles; excavating, backfilling, and placing new structural concrete beneath or adjacent to the unstable structure; or other means necessary to rectify the particular problem involved.

The contractor shall bear the costs of all loss or damage arising from removal or disturbance of groundwater including, but not limited to claims for subsidence and loss of structure support that may occur in the prosecution of the work. If the contractor fails to correct the damage resulting from his operations, the engineer may deem the work to be unacceptable work as defined in standard spec 105.3.2.2.

C.9 Treatment and Disposal of Water

Discharge all water removed from the construction site through pipes or hoses. Do not convey water in open ditches or trenches. Discharge water in a manner that will not cause soil erosion at the discharge point. Discharge shall not cause sediment accumulation or flooding in any stream, storm sewer, or on adjacent properties.

Treat all water to remove suspended solids, oils, cement, bentonite, and other contaminants by use of settling basins, on-site treatment plant, or other means selected by the contractor. Design the treatment systems for the maximum discharge rates. Treatment systems shall be capable of expansion if greater capacity becomes necessary during the course of the work. The contractor shall provide copies of all records required by the WDNR.

Obtain permission to use storm sewers or drains for water disposal purposes from the authority having jurisdiction. Protection of storm sewers and drains shall be in conformance with the Wisconsin Construction Site Best Management Practices Handbook, latest revision and the requirements by authority having jurisdiction. Any requirements and costs for such use shall be the responsibility of the contractor. Do not cause flooding by overloading or blocking the flow in the drainage facilities, and leave the facilities unrestricted and as clean as originally found. Document the condition of the drainage facilities prior to and subsequent to their use. The engineer may independently verify the condition of such facilities. Repair or restore any damage to facilities as a result of the contractor's operations as directed by the authority having jurisdiction, at the contractor's expense.

Should requirements of any permit be different than requirements herein, the more stringent requirements shall control.

Ventilate enclosures around wells and water discharge points to prevent the accumulation of combustible gas that may escape from solution in groundwater.

On completing the work, clean out and dispose of all sediments and residues in settling basins, treatment facilities, and the like. Dispose of sediments and residues according to applicable regulations.

C.10 Abandonment of Piezometers and Dewatering Wells
Abandon the design phase piezometers and all piezometers and dewatering wells installed during construction according to standard spec 204.3.3.3 and according to NR 812 Wisconsin Administrative Code, whichever is more stringent.

D Measurement
The department will measure Control of Water 1060-34-84 as a lump sum unit of work, acceptably completed. The contractor is responsible for removing all surface and ground water regardless of the quantity during construction to accomplish the work.

E Payment
The department will pay for Control of Water at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.0005	Control of Water 1060-34-84	LS

Payment for Control of Water shall be full compensation for, but not limited to complete dewatering system design, installation, monitoring, discharge, and all necessary incidental work as specified in this special provision.

118. Vibration Monitoring, Item SPV.0135.0001.

A Description
This special provision describes developing a vibration monitoring plan, deploying seismographs for continuous monitoring and recording, documentation, and reporting.

B (Vacant)

C Construction
C.1 General
Vibration Monitoring establishes vibration recordings at the closest affected locations beginning the first day of operations for various vibration inducing activities identified herein and lasting the entire duration of said activities unless monitored readings are sufficiently below nuisance limits in Figure 1 and engineer determines that continued monitoring will be at the contractor's discretion without further payment.

C.2 Equipment
Utilize a seismograph meeting the requirements of Wisconsin Department of Safety and Professional Services SPS307.43. Utilize monitoring equipment with an instantaneous

alert notification system that consists of a text message or an e-mail alert message automatically sent anytime the nuisance limits in Figure 1 are exceeded.

C.3 Preconstruction Survey
The engineer will conduct preconstruction surveys of structures that may be potentially affected by vibration prior to any work. The engineer will visually inspect and record all existing defects in the structures before construction. Photographs or video may be used to assist in documentation.

The contractor may conduct and document pre-construction surveys of any additional nearby buildings or structures not identified by the engineer at no additional cost. Provide results to engineer prior to construction. Any damage resulting from excessive vibration-causing operations or claims of damage during construction is the responsibility of the contractor to resolve.

C.4 Monitoring Plan
Submit a monitoring plan that includes the following:

- Location of each vibration-inducing activity to be monitored.
- Locations at which the approved seismographs will be placed.
- Anticipated vibration levels at the closest building(s) or other sensitive facility during the various activities.
- Anticipated monitoring duration for each monitoring location.
- Maximum allowable vibration limits.
- Mitigation plan to reduce potentially excessive vibration levels to acceptable limits.

Obtain the engineer's acceptance seven calendar days before any vibration-inducing activity for the project.

C.5 Monitoring and Recording
Monitor the following operations:

- Bridge and sign bridge pile driving or bridge demolition.
- Sheet pile installation and removal.
- MSE wall compaction.
- Asphalt compaction.
- Pavement breaking.
- All compaction activities utilizing large vibratory rollers.
- Any other activities that may cause vibration damage to adjacent buildings, structures, or utilities.

Ensure that a qualified person operates and continuously monitors the vibration monitoring equipment. If any vibration levels exceed the nuisance levels shown, immediately halt the vibration-inducing work, and notify the engineer.

Monitor between the construction vibration source and the closest structure or other sensitive facility subject to vibration damage, and as close as practical to the subject structure or facility. Monitor vibration levels according to Figure 1 and SPS 307.43.

Compare the measured peak particle velocity and frequency data to the nuisance limits specified in Figure 1. Record peak particle velocity and frequency in three mutually perpendicular directions.

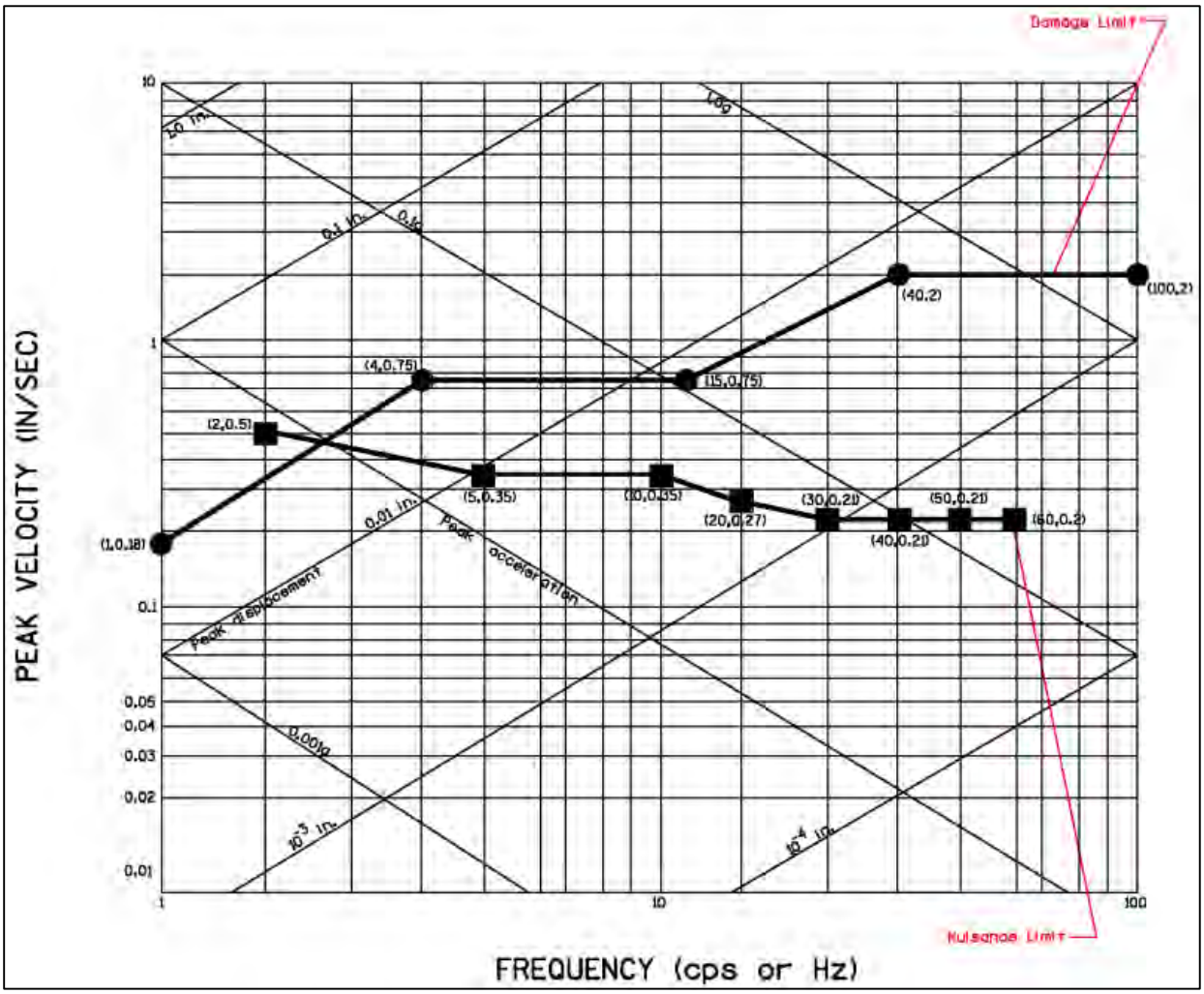

Figure 1: Amplitude of Vertical Vibrations

C.6 Reporting

Furnish a weekly bound report of data recorded at each location to the engineer by 4:00 PM CST every Friday. Additionally, provide a separate daily report documenting any work that was halted prior to the next vibration-causing workday. Include the following in both reports:

- Date vibration monitoring operations began for each location with an associated compilation of total days currently monitored at each site.
- Identification of vibration inducing activities monitored each day at each location.
- Serial number of vibration monitoring instrument used and record of latest calibration.
- Description of contractor's equipment.
- Name of qualified observer and interpreter.
- Distance and direction of recording station from vibration source.
- Surficial material type at recording station.
- Principal frequency and particle velocity in each component direction.
- Copy of records of seismograph readings, dated and signed by the person qualified to perform vibration monitoring.
- Contractor documentation of any operational changes necessary to reduce vibration levels below nuisance levels.

D Measurement

The department will measure Vibration Monitoring by months, or partial months where applicable, for each seismograph monitoring site, 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. 0135.0001	Vibration Monitoring	MON

Payment of the item Vibration Monitoring is full compensation for providing, setting up and removal of recording unit, an approved vibration monitoring plan, continuous monitoring and recording vibrations, and reporting. No payment for Vibration Monitoring will be paid for without agreement on recommended locations.

119. Mulch Shredded Bark, Item SPV. 0165.0001.

A Description

This work consists of installing a weed barrier and shredded bark mulch in planting beds around evergreen trees as indicated in the plans.

B Materials

Weed barrier shall be nonwoven polypropylene geotextile fabric, Type DF as described in Section 645.2.4 of the Standard Specifications.

Shredded bark mulch shall be hardwood bark with no pieces being larger than 2” X 5” X 1”.

C Construction
Place weed barrier in tree planting areas only as indicated in the plans. Any overlap of weed barrier shall be a minimum of 3 inches. Do not place weed barrier in perennial areas.

Place shredded bark mulch in planting areas and tamp gently to a finished depth of 2 inches. Take care in placing mulch to avoid damaging plant material.

D Measurement
The department will measure Mulch Shredded Bark 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. 0165.0001	Mulch Shredded Bark	SF

Payment is full compensation for furnishing all materials, labor, tools, equipment and incidentals; for removing excess materials as required for the installation of Mulch Shredded Bark.

120. Sidewalk Brick Salvaged, Item SPV.0165.0002.

A Description
This special provision describes salvaging, stockpiling, and replacing sidewalk brick in locations as shown and directed by the engineer and as hereinafter provided.

B (Vacant)

C Construction
Salvage existing sidewalk brick in a way that minimizes damage to the brick. Stockpile the sidewalk brick at a location that will prevent theft and/or damage. Place bedding and edging material in-kind to match existing sidewalk brick limits as shown on plans. Contractor is responsible for any damaged sidewalk brick that need to be replaced. Replace sidewalk brick with similar size and color of the original sidewalk brick.

D Measurement
The department will measure Sidewalk Brick Salvaged in area by the square foot, acceptably installed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.0002	Sidewalk Brick Salvaged	SF

Payment is full compensation for salvaging existing sidewalk brick and brick sidewalk edging material; providing and placing bedding material, placing existing sidewalk brick edging material, and placing sidewalk brick.

121. Wall Concrete Panel Mechanically Stabilized Earth LRFD/QMP, Item SPV.0165.4005.

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 mechanically stabilized earth (MSE) wall and all wall components shall be 75 years minimum.

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

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

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

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

B Materials

B.1 Proprietary Mechanically Stabilized Earth Concrete Panel Wall Systems

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

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

To receive pre-approval, the retaining wall system must comply with all pertinent requirements of this provision. Applications for pre-approval may be submitted at any time. Applications must be prepared according to the requirements of Chapter 14 of the

department's LRFD Bridge Manual. Information and assistance with the pre-approval process can be obtained by contacting the Structures Design Section in Room 601 of the Hill Farms State Transportation Building in Madison or by calling (608) 266-8494.

B.2 Design Requirements

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

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

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

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

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

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

An external stability check at critical wall stations showing Capacity Demand Ratios (CDR) for sliding, eccentricity, and bearing checks is performed by the department and are provided on the wall plans. If the contractor utilizes an angle of internal friction greater than 30 degrees for the design, external stability checks at critical wall stations showing Capacity Demand Ratios (CDR) for sliding, eccentricity, and bearing checks are required to be analyzed by the contractor.

The design of the Concrete Panel Mechanically Stabilized Earth Wall by the contractor shall consider the internal and compound stability of the wall mass according to AASHTO LRFD 11.10.6. The internal stability shall include soil reinforcement pullout, soil reinforcement rupture, and panel-reinforcement connection failure at each soil reinforcement level. The design shall be performed using the Simplified Method or Coherent Gravity Method. Calculations for factored stresses and resistances shall be based upon assumed conditions at the end of the design life. Compound stability shall be computed for the applicable strength limits.

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

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

All soil reinforcement steel required for the reinforced soil zone shall be connected to the face panels. The reinforcement and the reinforcement/facing connection strength shall be designed to resist maximum factored reinforcement loads according to AASHTO LRFD Section 11.10.6. Facing connection strength shall be defined as the resistance factor times

the failure load, or the load at 0.5 inch deformation times 0.9, whichever is less. The nominal long term design strength in steel reinforcement and connections shall be based upon assumed conditions at the end of the design life.

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

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

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

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

B.3 Wall System Components

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

B.3.1 General

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

Horizontal joints must be provided with a compressible bearing material to prevent concrete to concrete contact.

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

An 18-inch wide geotextile shall be used on the backface of the wall panels to cover all panel joints. The geotextile shall meet the physical requirements stated in standard spec 645.2.4 for Geotextile Fabric, Type DF, Schedule B, except that the grab tensile strength shall be a minimum of 180 pounds in both the machine and cross-machine directions. The geotextile shall be attached with a standard construction adhesive suitable for use on concrete surfaces and cold temperatures. The adhesive shall be applied to the panels, not to the geotextile.

When Alternate Wall Backfill Type B (Coarse Aggregate No.1) is used in the reinforced zone as backfill, as required for construction during freezing weather, a geotextile shall be placed to separate the Alternate Wall Backfill Type B from the retained soil. If the wall is constructed in stages where portions of wall backfill consist of Wall Backfill Type A and adjacent portions consist of Alternate Wall Backfill Type B (Coarse Aggregate No.1), a geotextile must also be placed at the interface of and between the two different backfill materials for the entire height of the backfill to prevent migration of finer soil. The geotextile shall also be placed on top of the Alternate Wall Backfill Type B to provide separation from the fill above the wall reinforced zone. Adjoining sections of geotextile should be overlapped by a minimum of 12 in. The geotextile shall meet the physical requirements stated in standard spec 645.2.4 for Geotextile Fabric, Type DF, Schedule B. Where geotextile is used it cannot be placed directly on top of wall reinforcement and it must be placed at one-half of the backfill lift thickness over the reinforcement.

Do not alternate wall backfill types along the height of the wall. Sloping of the Alternate Wall Backfill Type B from the top of the reinforced earth zone down to the leveling pad is acceptable as required for staging and as approved by the engineer. The section C.2 compaction requirements must be satisfied for this interim condition. Temporary shoring return walls, such as wire face MSE walls, are acceptable as approved by the engineer.

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

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

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

The minimum embedment to the top of the leveling pad shall be 1 foot 6 inches or as given on the plan or given in AASHTO LRFD 11.10.2.2 whichever is greater. Step the leveling pad to follow the general slope of the ground line. The leveling pad's steps shall keep the bottom of the wall within one half the panel heights of the minimum embedment i.e. the minimum embedment plus up to one half the height of one panel. Additional embedment may be detailed by the contractor, but will not be measured for payment.

B.3.2 Backfill

Furnish and place backfill for mechanically stabilized earth concrete panel walls as shown on the plans and as hereinafter provided. The same backfill material must be used for the entire wall height, from the leveling pad to top of finished reinforced earth zone, for each stage of wall construction. For the purposes of this special provision, a stage is defined as constructing a full-height portion of wall along the wall alignment, not staging wall construction up the height of the wall. Horizontal changes in backfill strata up the height of the wall will not be allowed.

In addition to gradation requirements hereinafter provided, backfill material within the reinforced zone shall meet the following requirements.

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

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

If the amount of P-4 material is less than or equal to 60%, two options are available to determine the angle of internal friction. The first method is to perform a fractured faces count, per ASTM 5821, on the R-4 material. If more than 90% of the material is fractured on one face and more than 50% is fractured on two faces,

the material meets the specifications and the angle of internal friction can be assumed to be 30 degrees. The second method allows testing all P-1" material, as per AASHTO T-236, with a large shear box. Test results of this second method may allow the use of larger angles of internal friction, up to the maximum allowed by this specification.

Prior to placement of the backfill, obtain and furnish to the engineer a certified report of test results that the backfill material complies with the requirements of this specification.

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

B.3.2.1 Wall Backfill Type A

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

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

Sieve Size	Percentage 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.

B.3.2.2 Wall Backfill Type B

If the project schedule is such that the wall must be constructed during freezing weather, the engineer may allow use of alternate wall backfill materials. The alternate wall backfill materials will only be utilized when approved by the engineer. Alternate Wall Backfill,

Type B shall comply with the requirements for Coarse Aggregate No.1 as given in standard spec 501.2.5.4.4. The alternate wall backfill must consist of crushed stone or crushed gravel.

For Alternate Wall Backfill, Type B, provide material conforming to the following gradation requirements as per WisDOT Standard Specifications for Highway and Structure Construction.

Sieve Size	Percentage by Weight Passing
	Size No. 1 Coarse Aggregate, Standard spec 501.2.5.4.4
1”	100
¾”	90-100
3/8”	20-55
#4	0-10
#8	0-5

C Construction

C.1 Excavation and Backfill

Excavation will encompass preparing the leveling pad foundation and the area below the reinforcing strips according to standard spec 206. The volume of excavation covered is limited to the width of the reinforced mass and to the depth of the leveling pad unless shown or noted otherwise on the plan. At the end of each working day, provide good temporary drainage such that the backfill shall not become contaminated with run-off soil or water if it should rain. Do not stockpile or store materials or large equipment within 10 feet of the back of the wall.

C.2 Compaction Compact all backfill behind the wall as specified in standard spec 207.3.6. Compact the backfill to 95.0% of maximum dry density as determined by AASHTO T-99 (modified to compute densities to the nearest 0.1 pcf), or as modified as follows. If the gradation of the granular backfill is such that the P-200 material is less than 7% and the P-40 is less than 30%, a one-point Proctor test can be conducted in place of the 5-point Proctor. To complete this one-point test, compact the sample at a moisture content of 6%, then compute the actual (as-tested) sample moisture after completion of the test. Use Method B or D, and perform this test without removing oversize particles and without correction for coarse particles, as per AASHTO T224. The one-point as-tested moisture content represents the optimum moisture, and the measured one-point density represents the maximum wet density of the material. From these values, the maximum dry density can be computed.

If the engineer allows and approves use of alternate wall backfill material, the compaction of Alternate Wall Backfill Type B (Coarse Aggregate No.1) should be performed with at least three passes of a vibratory compactor in two mutually perpendicular directions (at least 6 passes total), such that with additional compactive effort, no further densification is obtained as visually determined by the engineer. If additional densification is observed after three passes in the two directions, then the

material must be re-compacted until no further visual densification is observed. The initial three passes of the compactor must be in the direction parallel to the wall alignment followed by the three passes in the direction perpendicular to the wall alignment. Density testing is not required for Alternate Wall Backfill Type B.

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

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

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

C.3 Panel Tolerances

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

C4 Quality Management Program

C.4.1 Quality Control Plan

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

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

- An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of QC personnel.
- 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.
- A list of source locations, section and quarter descriptions, for all aggregate materials requiring QC testing.
- Descriptions of stockpiling and hauling methods.
- An outline for resolving a process control problem. Include responsible personnel, required documentation, and appropriate communication steps.
- Location of the QC laboratory, retained sample storage, and other documentation.
- A summary of the locations and calculated quantities to be tested under this provision.

C.4.2 Quality Control Personnel

Perform the quality control sampling, testing, and documentation required under this provision using HTCP certified technicians. Have a HTCP Level I Grading Technician, Level I Aggregate Technician, or Assistant Certified Aggregate Technician (ACT) present at the each grading site during all wall backfill placement, compaction, and nuclear testing activities. Have a HTCP Level I Nuclear Density Technician or Assistant Certified Nuclear Density Technician (ACT) perform field density and field moisture content testing. The HTCP Level I Grading Technician, Level I Aggregate Technician, or Assistant Certified Aggregate Technician (ACT) must also be present to document and confirm the required number of passes of the compaction equipment for the Alternate Wall Backfill Type B during wall backfill placement and compaction activities.

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

C.4.3 Equipment

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

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

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

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

C.4.4 Quality Control (QC) Testing

Perform compaction testing on the backfill. Conform to CMM 8.15 for testing and gauge monitoring methods. Conduct density testing at a minimum frequency of 1 test per 150 cubic yards of backfill, or major portion thereof. A minimum of one test for every lift is required. Deliver documentation of all compaction testing results to the engineer at the time of testing. Density testing is not required for Alternate Wall Backfill Type B.

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

Observe the compaction and densification process for the Alternate Wall Backfill Type B. The material must be compacted using the minimum number of passes of the compaction equipment until no further densification is obtained as visually determined. Provide documentation that the compaction met the required number of passes of the compaction equipment for the Alternate Wall Backfill Type B.

C.4.5 Department Testing

C.4.5.1 General

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

C.4.5.2 Quality Verification (QV) Testing

(1) The department will have an HTCP technician, or ACT working under a certified technician, perform QV sampling and testing. Department verification testing personnel must meet the same certification level requirements specified in C.4.2 for

contractor testing personnel for each test result being verified. The department will notify the contractor before sampling so the contractor can observe QV sampling.

(2) The department will conduct QV tests at the minimum frequency of 30% of the required contractor density, Proctor and gradation tests.

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

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

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

(6) The department will also provide personnel to be onsite and confirm the required number of passes of the compaction equipment for the Alternate Wall Backfill Type B during wall backfill placement and compaction activities on a random basis. This work does not relieve the contractor of the responsibility to observe and document fill placement and compaction as required in C.4.2 and C.4.4.

C.4.5.3 Independent Assurance (IA)

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

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

(2) If the department identifies a deficiency, and after further investigation confirms it, correct that deficiency. If the contractor does not correct or fails to cooperate in resolving identified deficiencies, the engineer may suspend placement until action is taken. Resolve disputes as specified in C.4.5.4.

C.4.5.4 Dispute Resolution

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

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

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

C.5 Geotechnical Information

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

D Measurement

The department will not measure Wall Concrete Panel Mechanically Stabilized Earth LRFD/QMP. The department will use pay plan quantity according to the Pay Plan Quantity article. No measurement of quantities shall be made in the field. Unless the engineer directs in writing, a change to the limits indicated on the contract plan, wall area constructed above or below these limits will not be measured for payment.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.4005	Wall Concrete Panel Mechanically Stabilized Earth LRFD/QMP	SF

Payment is full compensation for supplying a design and shop drawings; preparing the site, including all necessary excavation and disposal of materials; supplying all necessary wall components to produce a functional system including cap and copings; constructing the retaining system including drainage system; providing backfill (Type A or Type B), backfilling, compacting, developing/completing/documenting the quality management program, performing compaction testing/observation. Parapets, railings, abutment bodies and other items above the wall cap or coping will be paid for separately. Vehicle barrier and its support will be paid separately. Any temporary return walls, such as a wire face MSE wall, required to facilitate construction of a portion of wall with Backfill Type B is incidental to this bid item.

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

122. Topsoil Special, Item SPV.0180.0001.

A Description

This special provision section describes furnishing, placing, spreading, and finishing humus-bearing soil, adapted to sustain plant life, commonly known as topsoil, from locations the contractor furnishes beyond the limits of the right-of-way.

This special provision also describes removing topsoil from the sites of proposed roadway excavations and embankments in amounts and depths available and necessary to cover the work slopes. This work also includes reclamation, placing, spreading, and finishing of this topsoil.

B Materials

Furnish material that is relatively free from large roots, sticks, weeds, brush, stones, litter, and waste products.

Furnish material, either obtained offsite, or material obtained within project limits, consisting of loam, sandy loam, silt loam, silty clay loam, or clay loam humus-bearing soils adapted to sustain plant life. Do not use surface soils from ditch bottoms, drained ponds, and eroded areas, or soils which are supporting growth of NR 40 listed plants and noxious weeds or other undesirable vegetation. Ensure that the material conforms to the following:

Topsoil Requirements	Minimum Range	Maximum Range
Material Passing 2.00 mm (#10) Sieve*	90%	100%
PH Range	6.0	7.0
Organic Matter**	5%	20%
Clay	5%	30%
Silt	10%	70%
Sand and Gravel	10%	70%

*See standard spec 625.3.3 for sieve requirements when using either sod or seed mixture 40.
**Organic matter determined by loss on ignition test of samples oven dried to constant weight at 212 F (100 C).

C Construction

C.1 Preparing the Roadway for Topsoil

Undercut or underfill all areas designated to receive topsoil to a degree that if covered to the required depth with topsoil the finished work conforms to the required lines, grades, slopes and cross sections the plans and drawings show.

C.2 Processing Topsoil

Mow topsoil procurement areas to a height of approximately 6 inches. Remove litter such as brush, rock, and other materials that will interfere with subsequent vegetation establishment.

Strip off the humus-bearing soil. Take care to minimize removing the underlying sterile soil. Then stockpile the topsoil on the right-of-way or place it directly on the designated areas.

Obtain topsoil from embankment areas outside the roadway foundation only if that additional material is required to cover the slopes, and conforms to the requirements of section B above. Utilize excess topsoil on the project or dispose of as specified in standard spec 205.3.12.

C.3 Placing Topsoil

After preparing and finishing the areas designated for topsoil to the required lines, grades, slopes and cross section, place and spread the topsoil to a uniform depth as the plans show or the contract requires. If no depth is shown, place and spread the topsoil to a minimum depth of 4 inches in rural areas and a minimum depth of 6 inches in urban areas, or as the engineer designates.

Break down all clods and lumps using appropriate equipment to provide a uniformly textured soil.

Where using either sod or seed mixture 40 ensure that, for the upper 2 inches, 100 percent of the material passes a one-inch sieve and at least 90 percent passes the No. 10 sieve.

Remove rocks, twigs, foreign material, and clods that cannot be broken down. Dress the entire surface to present a uniform appearance. The engineer will not require rolling.

If light sandy soils are covered with heavier clay bearing loam topsoil, then mix or blend the two types of soils to a more or less homogeneous mixture by using the appropriate equipment.

D Measurement

The department will measure Topsoil Special, acceptably completed, by the square yard. The measured quantity shall equal the actual number of square yards of topsoiled area to the depth specified within the limits of construction designated on the plans, or in the contract, or as the engineer directs.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.0001	Topsoil Special	SY

Payment for Topsoil Special is full compensation for removing, stockpiling, reclaiming, providing, processing, excavating, loading, hauling, and placing this material; and for undercutting excavations, or underfilling embankments necessary to receive this material. The department will make no allowance, adjustment, or measurement for payment under the Excavation bid items for undercutting cut sections, underfilling embankments, or deductions for materials obtained from areas of cut sections.

If an area is damaged by erosion after partial acceptance, the department will pay for restoring topsoil in these areas at a unit price determined by multiplying the contract unit price bid for Topsoil multiplied by 3, the department will pay for restoration under the Restoration Post Acceptance Topsoil administrative item.

The department will not pay for removing topsoil from outside the roadway foundation in embankment areas unless that material is necessary to cover the slopes.
SEF Rev.15_0316

123. Cold Patch, Item SPV.0195.0001.

A Description

This special provision describes furnishing, stockpiling, placing, and maintaining cold patch material. Use the cold patch material for short term maintenance purposes to fill potholes/voids in the existing pavement surface that the engineer deems necessary.

B Materials

B.1 General

Furnish cold patch that is a combination of course aggregate, natural sand and bituminous material MC-250. Design the mixture to have: a workability range of 15-100º F without the addition of heat, good adhesion to wet surfaces, and resistance to damage by water, salt and deicing products. Design a uniform mixture that does not require any mixing or special handling prior to use.

B.2 Gradations
Conform to the following gradation requirements:

SIEVE SIZE	PERCENT PASSING (by weight)
1/2 Inch (12.5mm)	
3/8 Inch (9.5mm)	90 - 100
No. 4 (4.75 mm)	90 Max
No. 8 (2.38mm)	20 - 65
No. 200 (.074mm)	2 - 10
Bitumen	4.8 - 5.4

B.3 Contracts With Less Than 10 Tons of Mixture
The engineer may waive QC testing on contracts with less than 10 tons of mixture. If testing is waived, acceptance will be by visual inspection unless defined otherwise by contract change order.

B.4 Temporary Pavements
The engineer may waive all testing for temporary cold patch, defined for this purpose as cold patch that will be placed and removed before contract completion.

C Construction
C.1 General
Choose a smooth, firm, and well-drained area for an on-site stockpile that is cleared of vegetation and foreign material that may contaminate the cold patch. Make the stockpile easily accessible, maintainable and replenishable at any time during the project. The stockpile is not to exceed 10 tons on site at any given time unless approved by the engineer. Remove and dispose of any unused portions of the stockpile at the completion of the project unless otherwise directed by the engineer.

Application of the cold patch must be able to be accomplished by hand labor. Remove all ponded water and loose debris prior to filling any potholes/voids. Place material into the pothole/void and compact flush with a tamper, roller, or vehicle tire. Traffic must be able to travel over the patch immediately after installation.

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

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0195.0001	Cold Patch	TON

Payment for cold patch is full compensation for the patch; preparing the pothole/void for material furnishing and providing a stockpile of material, compacting, and maintaining.

Remove and dispose of any unused portions of the stockpile at the completion of the project at no additional cost.
SEF Rev. 14_1211

ADDITIONAL SPECIAL PROVISION 4

Payment to First-Tier Subcontractors

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

The prime contractor may also withhold routine retainage from payments due subcontractors.

Payment to Lower-Tier Subcontractors

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

Release of Routine Retainage

After granting substantial completion the department may reduce the routine retainage withheld from the prime contractor to 75 percent of the original total amount retained.

When the Department sends the semi-final estimate the department may reduce the routine retainage withheld from the prime contractor to 10 percent of the original total amount retained.

Within 30 calendar days of receiving the semi-final estimate from the department, submit written certification that subcontractors at all tiers are paid in full for acceptably completed work and that no routine retainage is being withheld. The department will pay the prime contractor in full and reduce the routine retainage withheld from the prime contractor to zero when the department approves the final estimate.

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

ADDITIONAL SPECIAL PROVISION 6
ASP 6 - Modifications to the standard specifications

Make the following revisions to the standard specifications:

550.5.2 Piling

Add the following as paragraph three effective with the December 2015 letting:

(3) The department will not entertain a change order request for a differing site condition under 104.2.2.2 or for a quantity change under 104.2.2.4.3 for the Piling bid items. Instead the department will adjust pay under the Piling Quantity Variation administrative item if the total driven length of each size is less than 85 percent of, or more than 115 percent of the contract quantity as follows:

Percent of Contract Length Driven	Pay Adjustment
< 85	(85% contract length - driven length) x 20% unit price
> 115	(driven length - 115% contract length) x 5% unit price

643.2.1 General

Replace paragraph two with the following effective with the December 2015 letting:

(2) Use reflective sheeting from the department's approved products list on barricades, drums, and flexible tubular marker posts.

Errata

Make the following corrections to the standard specifications:

641.2.9 Overhead Sign Supports

Correct errata adding back accidentally deleted paragraphs one through three.

(1) Provide commercially fabricated overhead sign supports conforming to AASHTO design and fabrication standards for structural supports for highway signs, luminaires, and traffic signals. Use a design life of 50 years with a wind importance factor of 1.00. Design to withstand a 3 second gust wind speed of 90 mph. Do not use the methods of appendix C of those AASHTO standards.

(2) Design structures, listed as applicable structure types in the AASHTO standards, to the fatigue category criteria as follows:

1. Structures carrying variable message signs:
   - Category I criteria for structures over all roadway types.
2. Structures carrying type II or III signs:
   - Category I criteria for structures used over highways and free flow ramps.
   - Category II criteria for structures with arms greater than 30 feet used over local roads and city streets.
   - Category III criteria for structures with arms 30 feet or less used over local roads and city streets.

(3) Use the posted speed limit of the roadway beneath the structure for truck-induced gusts.

(4) Submit shop drawings identified by structure number, design computations, and material specifications, to the engineer before erecting sign supports. Provide tightening procedures for mast arm or luminaire arm to pole shaft connections on the shop drawings. Have a professional engineer registered in the state of Wisconsin sign, seal, and date the shop drawings and certify that the design conforms to AASHTO standards and the contract.

(5) Provide steel pole shafts and mast arms zinc coated according to ASTM A123. Provide tapered pole and arm shafts with a minimum taper of 0.14 inch per foot for single-member vertical and single-member horizontal structure components. Provide bolts and other hardware conforming to 641.2.2.

ADDITIONAL SPECIAL PROVISION 7

A. Reporting 1st Tier and DBE Payments During Construction

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

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

ADDITIONAL SPECIAL PROVISION 9
Electronic Certified Payroll Submittal

(1) Use the department's Civil Rights Compliance System (CRCS) to submit certified payrolls electronically. Details are available online through the department's highway construction contractor information (HCCI) site on the Labor, Wages, and EEO Information page at:

http://wisconsindot.gov/Pages/doing-bus/civil-rights/labornwage/default.aspx

(2) Ensure that all tiers of subcontractors, as well as all trucking firms, submit their weekly certified payrolls electronically through CRCS. These payrolls are due within seven calendar days following the close of the payroll period. Every firm providing physical labor towards completing the project is a subcontractor under this special provision.

(3) Upon receipt of contract execution, promptly make all affected firms aware of the requirements under this special provision and arrange for them to receive CRCS training as they are about to begin payrolls. The department will provide training either in a classroom setting at one of our regional offices or by telephone. Contact Tess Mulrooney at 608-267-4489 to schedule the training.

(4) The department will reject all paper submittals of forms DT-1816 and DT-1929 for information required under this special provision. All costs for conforming to this special provision are incidental to the contract.

(5) Firms wishing to export payroll data from their computer system into CRCS should have their payroll coordinator send several sample electronic files to Tess two months before a payroll needs to be submitted. Not every contractor's payroll system is capable of producing export files. For details, see pages 17-22 of the CRCS System Background Information manual available online on the Labor, Wages, and EEO Information page at:

http://wisconsindot.gov/Documents/doing-bus/civil-rights/labornwage/crcs-payroll-manual.pdf

Effective August 2015 letting

BUY AMERICA PROVISION

All steel and iron materials permanently incorporated in this project shall be domestic products and all manufacturing and coating processes for these materials from smelting forward in the manufacturing process must have occurred within the United States. Coating includes epoxy coating, galvanizing, painting and any other coating that protects or enhances the value of a material subject to the requirements of Buy America. The exemption of this requirement is the minimal use of foreign materials if the total cost of such material permanently incorporated in the product does not exceed one-tenth of one percent (1/10 of 1%) of the total contract cost or $2,500.00, whichever is greater. For purposes of this paragraph, the cost is that shown to be the value of the subject products as they are delivered to the project. The contractor shall take actions and provide documentation conforming to CMM 2-28.5 to ensure compliance with this “Buy America” provision.

http://wisconsindot.gov/rdwy/cmm/cm-02-28.pdf

Upon completion of the project certify to the engineer, in writing using department form WS4567, that all steel, iron, and coating processes for steel or iron incorporated into the contract work conform to these "Buy America" provisions. Attach a list of exemptions and their associated costs to the certification form. Department form WS4567 is available at:

http://wisconsindot.gov/rdwy/worksheets/ws4567.doc

Effective with September 2004 Letting

WISCONSIN DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS AND TRANSPORTATION FACILITIES

SUPPLEMENTAL REQUIRED CONTRACT PROVISIONS

I. WAGE RATES, HOURS OF LABOR AND PAYMENT OF WAGES

The schedule of "Minimum Wage Rates" attached hereto and made a part hereof furnishes the prevailing wage rates that have been determined pursuant to Section 103.50 of the Wisconsin Statutes. These wage rates are the minimum required to be paid to the various laborers, workers, mechanics and truck drivers employed by contractors and subcontractors on the construction work embraced by the contract and subject to prevailing hours and wages under Section 103.50, Stats. If necessary to employ laborers, workers, mechanics or truck drivers whose classification is not listed on the schedule, they shall be paid at rates conformable to those listed for similar classifications. Apprentices shall be paid at rates not less than those prescribed in their state indenture contacts.

While the wage rates shown are the minimum rates required by the contract to be paid during its life, this in not a representation that labor can be obtained at these rates. It is the responsibility of bidders to inform themselves as to the local labor conditions and prospective changes or adjustments of wage rates. No increase in the contract price shall be allowed or authorized on account of the payment of wage rates in excess of those listed herein.

Pursuant to Section 103.50 of the Wisconsin Statutes, the prevailing hours of labor have been determined to be up to 10 hours per day and 40 hours per calendar week Monday through Friday. If any laborer, worker, mechanic or truck driver is permitted or required to work more than the prevailing number of hours per day or per calendar week on this contract, they shall be paid for all hours in excess of the prevailing hours at a rate of at least one and one-half (1 1/2) times their hourly rate of pay. All work on Saturday, Sunday and the following holidays is to be paid at time and a half: (1) January 1, (2) the last Monday in May, (3) July 4, (4) the first Monday in September, (5) the fourth Thursday in November, (6) December 25, (7) the day before if January 1, July 4 or December 25 falls on a Saturday and (8) the day following if January 1, July 4 or December 25 falls on a Sunday.

All laborers, workers, mechanics and truck drivers shall be paid unconditionally not less often than once a week. Persons who own and operate their own trucks must receive the prevailing truck driver rate for the applicable type of truck (i.e. 2 axle, 3 or more axle, articulated, eculid or dumptor) he or she operates, plus an agreed upon amount for the use of his or her truck. Every owner-operator MUST be paid separately for their driving and for the use of their truck.

For those projects subject to the requirements of the Davis-Bacon Act, the Secretary of Labor will also have determined "Minimum Wage Rates" for work to be performed under the contract. These rates are, for all or most of the labor, worker, mechanic or truck driver classifications, identical to those established under Section 103.50 of the Wisconsin Statutes. In the event the rates are not identical, the higher of the two rates will govern.

II. PAYROLL REQUIREMENTS

All contractors and subcontractors must submit weekly Certified Payrolls and Compliance Statement verifying that all laborers, workers, mechanics and truck drivers working on the project have been paid the prevailing wage rates for all work performed under the contract required by Section 103.50 of the Wisconsin Statutes.

III. POSTINGS AT THE SITE OF THE WORK

In addition to the required postings furnished by the Department, the contractor shall post the following in at least one conspicuous place at the site of work:

a. "NOTICE TO EMPLOYEES," which provides information required to be posted by the provisions of Section 103.50 of the Wisconsin Statutes.

b. A copy of the State of Wisconsin Minimum Wages Rates. (Four pages.)

c. A copy of the contractor's Equal Employment Opportunity Policy.

d. On any project involving federal aid, in addition to the furnished postings, the contractor shall post a copy of the "Davis-Bacon Act, Minimum Wage Rates". (Three pages.)

IV. WAGE RATE REDISTRIBUTION

The amount specified as the hourly basic rate of pay and the amount(s) specified as the fringe benefit contribution(s), for all classes of laborers, workers, mechanics or truck drivers may be redistributed, when necessary, to conform to those specified in any applicable collective bargaining agreement, provided that both parties to such agreement

request and receive the approval for any such redistribution from both the Department of Transportation and the Department of Workforce Development prior to the implementation of such redistribution.

V. ADDITIONAL CLASSIFICATIONS

Any unlisted laborer or mechanic classification that is needed to perform work on this project, and is not included within the scope of any of the classifications listed in the application prevailing wage rate determination, may be added after award only if all of the following criteria have been met:

1. The affected employer(s) must make a written request to WisDOT Central Office to utilize the unlisted classification on this project.

2. The request must indicate the scope of the work to be performed by the unlisted classification and must indicate the proposed wage/fringe benefit package that the unlisted classification is to receive.

3. The work to be performed by the unlisted classification must not be performed by a classification that is included in the applicable prevailing wage rate determination.

4. The unlisted classification must be commonly employed in the area where the project is located.

5. The proposed wage/fringe benefit package must bear a reasonable relationship to those set forth in the applicable prevailing wage rate determination.

6. The request should be made prior to the actual performance of the work by the unlisted classification.

7. DWD must approve the use of the unlisted classification and the proposed wage/fringe benefit package. USDOL also must approve the use of the unlisted classification and the proposed wage/fringe benefit package on federal aid projects.

8. WisDOT and DWD may amend the proposed wage/fringe benefit package, as deemed necessary, and may set forth specific employment ratios and scope of work requirements in the approval document.

The approved wage/fringe benefit package shall be paid to all laborers, workers, mechanics or truck drivers performing work within the scope of that performed by the unlisted classification, from the first day on which such work is performed. In the event that work is performed by the unlisted classification prior to approval, the wage/fringe benefit package to be paid for such work must be in conformance with the wage/fringe

benefit package approved for such work. Under this arrangement a retroactive adjustment in wages and/or fringe benefits may be required to be made to the affected laborers, workers, mechanics or truck drivers by the affected employer(s).

ANNUAL PREVAILING WAGE RATE DETERMINATION
FOR ALL STATE HIGHWAY PROJECTS
MILWAUKEE COUNTY

Compiled by the State of Wisconsin - Department of Workforce Development
for the Department of Transportation
Pursuant to s. 103.50, Stats.
Issued on May 1, 2015

CLASSIFICATION: Contractors are required to call the Department of Workforce Development if there are any questions reqarding the proper trade or classification to be used for any worker on a public works project.

OVERTIME: Time and one-half must be paid for all hours worked over 10 hours per day and 40 hours per calendar week and for all hours worked on Saturday, Sunday and the following six (6) holidays: January 1; the last Monday in May; July 4; the 1st Monday in September; the 4th Thursday in November; December 25; the day before if January 1, July 4 or December 25 falls on a Saturday; the day following if January 1, July 4 or December 25 falls on a Sunday.

FUTURE INCREASE: If indicated for a specific trade or occupation, the full amount of such increase MUST be added to the "TOTAL" indicated for such trade or occupation on the date(s) such increase(s) becomes effective.

PREMIUM PAY: If indicated for a specific trade or occupation, the full amount of such pay MUST be added to the "HOURLY BASIC RATE OF PAY" indicated for such trade or occupation, whenever such pay is applicable.

SUBJOURNEY: Wage rates may be available for some of the classifications indicated below. Any employer that desires to use any subjourney classification on a project MUST request the applicable wage rate from the Department of Workforce Development PRIOR to the date such classification is used on such project. Form ERD-10880 is available for this purpose and can be obtained by writing to the Department of Workforce Development, Equal Rights Division, P.O. Box 8928, Madison, WI 53708.

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Bricklayer, Blocklayer or Stonemason	35.37	17.99	53.36
Carpenter	33.68	19.99	53.67
Cement Finisher	32.75	19.21	51.96
Future Increase(s): Add $1.87 on 6/1/15; Add $1.75 on 6/1/16. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.40/hr when the Wisconsin Department of Transportation or responsible governing agency requires that work be performed at night under artificial illumination with traffic control and the work is completed after sunset and before sunrise.			
Electrician	33.93	22.77	56.70
Premium Pay: DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Fence Erector	23.73	19.09	42.82
Ironworker	30.77	23.97	54.74
Premium Pay: DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Line Constructor (Electrical)	37.43	18.19	55.62
Painter	29.22	16.69	45.91
Pavement Marking Operator	30.27	18.79	49.06
Piledriver	30.11	26.51	56.62
Future Increase(s): Add $1.50/hr on 6/1/2015; Add $1.60/hr on 6/1/2016. Premium Pay: Add $.65/hr for Piledriver Loftsman; Add $.75/hr for Sheet Piling Loftsman. DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Roofer or Waterproofer	29.40	17.05	46.45
Teledata Technician or Installer	24.89	17.15	42.04
Tuckpointer, Caulker or Cleaner	33.76	17.82	51.58

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Underwater Diver (Except on Great Lakes)	35.40	15.90	51.30
Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	35.55	15.57	51.12
Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY	31.60	14.64	46.24
Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	27.65	13.44	41.09
Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	25.68	12.83	38.51
Groundman - ELECTRICAL LINE CONSTRUCTION ONLY	21.75	11.63	33.38
TRUCK DRIVERS			
Single Axle or Two Axle	25.18	18.31	43.49
Future Increase(s): Add $1.15/hr on 6/1/2015. Premium Pay: DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Three or More Axle	25.28	18.31	43.59
Future Increase(s): Add $1.15/hr on 6/1/2015. Premium Pay: DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Articulated, Euclid, Dumptor, Off Road Material Hauler	30.27	21.15	51.42
Future Increase(s): Add $1.25/hr on 6/1/2015; Add $1.30/hr on 6/1/2016; Add $1.25/hr on 6/1/2017. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.			
Pavement Marking Vehicle	23.16	17.13	40.29
Shadow or Pilot Vehicle	24.37	17.77	42.14
Truck Mechanic	24.52	17.77	42.29
LABORERS			
General Laborer	27.06	20.03	47.09
Future Increase(s): Add $1.05/hr eff. 06/01/2015; Add $1.00/hr eff. 06/01/2016; Add $1.00/hr eff. 06/01/2017 Premium Pay: Add $.15/hr for air tool operator, joint sawer and filler (pavement), vibrator or tamper operator (mechanical hand operated), chain saw operator and demolition burning torch laborer; Add $.35/hr for bituminous worker (raker and luteman), formsetter (curb, sidewalk and pavement) and strike off man; Add $.50/hr for line and grade specialist; Add $.65/hr for blaster and powderman; Add $2.01/hr for topman; Add $2.46/hr for bottomman; Add $3.23/hr for pipelayer. / DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			
Asbestos Abatement Worker	22.05	18.41	40.46
Landscaper	27.06	20.03	47.09
Future Increase(s): Add $1.05/hr eff. 06/01/2015; Add $1.00/hr eff. 06/01/2016; Add $1.00/hr eff. 06/01/2017 Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			
Flagperson or Traffic Control Person	22.55	19.37	41.92

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Fiber Optic Laborer (Outside, Other Than Concrete Encased)	17.71	16.01	33.72
Railroad Track Laborer	14.50	4.39	18.89
HEAVY EQUIPMENT OPERATORS			
Crane, Tower Crane, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 176 Ft or Over; Crane, Tower Crane, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of Over 100 Tons, Self-Erecting Tower Crane With a Lifting Capacity Of Over 4,000 Lbs., Crane With Boom Dollies; Traveling Crane (Bridge Type). Future Increase(s): Add $1.25/hr on 6/1/2015; Add $1.30/hr on 6/1/2016; Add $1.25/hr on 6/1/2017. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.	37.72	21.15	58.87
Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of 130,000 Lbs. or Over; Caisson Rig; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 175 Ft or Under; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of 100 Tons or Under, Self-Erecting Tower Crane With A Lifting Capacity Of 4,000 Lbs., & Under; Dredge (NOT Performing Work on the Great Lakes); Licensed Boat Pilot (NOT Performing Work on the Great Lakes); Pile Driver. Future Increase(s): Add $1.25/hr on 6/1/2015; Add $1.30/hr on 6/1/2016; Add $1.25/hr on 6/1/2017. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.	37.22	21.15	58.37
Air Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Asphalt Heater, Planer & Scarifier; Asphalt Milling Machine; Asphalt Screed; Automatic Subgrader (Concrete); Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. & Under); Bituminous (Asphalt) Plant & Paver, Screed; Boatmen (NOT Performing Work on the Great Lakes); Boring Machine (Directional, Horizontal or Vertical); Bridge (Bidwell) Paver; Bulldozer or Endloader; Concrete Batch Plant, Batch Hopper; Concrete Breaker (Large, Auto, VIbratory/Sonic, Manual or Remote); Concrete Bump Cutter, Grinder, Planing or Grooving Machine; Concrete Conveyor System; Concrete Laser/Screed; Concrete Paver (Slipform); Concrete Pump, Concrete Conveyor (Rotec or Bidwell Type); Concrete Slipform Placer Curb & Gutter Machine; Concrete Spreader & Distributor; Crane (Carry Deck, Mini) or Truck Mounted Hydraulic Crane (10 Tons or Under); Crane WIth a Lifting Capacity of 25 Tons or Under; Forestry Equipment, Timbco, Tree Shear, Tub Grinder, Processor; Gradall (Cruz-Aire Type); Grader or Motor Patrol; Grout Pump; Hydro-Blaster (10,000 PSI or Over); Loading Machine (Conveyor); Material or Stack Hoist; Mechanic or Welder; Milling Machine; Post Hole Digger or Driver; Roller (Over 5 Ton); Scraper (Self Propelled or Tractor Drawn) 5 cu yds or More Capacity; Shoulder Widener; Sideboom; Skid Rig; Stabilizing or Concrete Mixer (Self-Propelled or 14S or Over); Straddle Carrier or Travel Lift; Tractor (Scraper, Dozer, Pusher, Loader); Tractor or Truck Mounted Hydraulic Backhoe; Trencher (Wheel Type or Chain Type);	36.72	21.15	57.87

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
Tube Finisher; Tugger (NOT Performing Work on the Great Lakes); Winches & A- Frames. Future Increase(s): Add $1.25/hr on 6/1/2015; Add $1.30/hr on 6/1/2016; Add $1.25/hr on 6/1/2017. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.			
Belting, Burlap, Texturing Machine; Broom or Sweeper; Compactor (Self-Propelled or Tractor Mounted, Towed & Light Equipment); Concrete Finishing Machine (Road Type); Environmental Burner; Farm or Industrial Type Tractor; Fireman (Asphalt Plant, Pile Driver & Derrick NOT Performing Work on the Great Lakes); Forklift; Greaser; Hoist (Tugger, Automatic); Jeep Digger; Joint Sawer (Multiple Blade); Launch (NOT Performing Work on the Great Lakes); Lift Slab Machine; Mechanical Float; Mulcher; Power Subgrader; Robotic Tool Carrier (With or Without Attachments); Roller (Rubber Tire, 5 Ton or Under); Self Propelled Chip Spreader; Shouldering Machine; Skid Steer Loader (With or WIthout Attachments); Telehandler; Tining or Curing Machine. Future Increase(s): Add $1.25/hr on 6/1/2015; Add $1.30/hr on 6/1/2016; Add $1.25/hr on 6/1/2017. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.	36.46	21.15	57.61
Air Compressor (&/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; Augers (Vertical & Horizontal); Automatic Belt Conveyor & Surge Bin; Boiler (Temporary Heat); Concrete Proportioning Plant; Crusher, Screening or Wash Plant; Generator (&/or 150 KW or Over); Heaters (Mechanical); High Pressure Utility Locating Machine (Daylighting Machine); Mudjack; Oiler; Prestress Machine; Pug Mill; Pump (3 Inch or Over) or Well Points; Rock, Stone Breaker; Screed (Milling Machine); Stump Chipper; Tank Car Heaters; Vibratory Hammer or Extractor, Power Pack. Future Increase(s): Add $1.25/hr on 6/1/2015; Add $1.30/hr on 6/1/2016; Add $1.25/hr on 6/1/2017. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.	36.17	21.15	57.32
Fiber Optic Cable Equipment.	28.89	17.95	46.84
Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer.	41.65	21.71	63.36
Work Performed on the Great Lakes Including 70 Ton & Over Tug Operator; Assistant Hydraulic Dredge Engineer; Crane or Backhoe Operator; Hydraulic Dredge Leverman or Diver's Tender; Mechanic or Welder.	41.65	21.71	63.36
Work Performed on the Great Lakes Including Deck Equipment Operator or Machineryman (Maintains Cranes Over 50 Tons or Backhoes 115,000 Lbs. or More); Tug, Launch or Loader, Dozer or Like Equipment When Operated on a Barge, Breakwater Wall, Slip, Dock or Scow, Deck Machinery.	35.72	17.85	53.57
Work Performed on the Great Lakes Including Deck Equipment Operator, Machineryman or Fireman (Operates 4 Units or More or Maintains Cranes 50 Tons or Under or Backhoes 115,000 Lbs. or Under); Deck Hand, Deck Engineer or Assistant Tug Operator; Off Road Trucks-Great Lakes ONLY.	35.46	20.40	55.86

SCHEDULE OF ITEMS REVISED:

CONTRACT: 20151208010

PROJECT(S): 1060-34-84, 1060-35-85

FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
	SECTION 0001 ROADWAY ITEMS					
0010	108.4400 CPM Progress Schedule 0001. 1060-34-84	1.000 EACH		.		.
0020	201.0105 Clearing	27.000 STA		.		.
0030	201.0120 Clearing	681.000 ID		.		.
0040	201.0205 Grubbing	26.000 STA		.		.
0050	201.0220 Grubbing	681.000 ID		.		.
0060	203.0200 Removing Old Structure (station) 0001. 20+14	LUMP	LUMP			.
0070	203.0210.S Abatement of Asbestos Containing Material (structure) 0001. B-40-284	LUMP	LUMP			.
0080	204.0100 Removing Pavement	8,216.000 SY		.		.
0090	204.0120 Removing Asphaltic Surface Milling	476.000 SY		.		.

CONTRACT: 20151208010
PROJECT(S): 1060-34-84, 1060-35-85
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0100	204.0130 Removing Curb	852.000 LF		.		.
0110	204.0150 Removing Curb & Gutter	2,025.000 LF		.		.
0120	204.0155 Removing Concrete Sidewalk	1,347.000 SY		.		.
0130	204.0157 Removing Concrete Barrier	400.000 LF		.		.
0140	204.0165 Removing Guardrail	170.000 LF		.		.
0150	204.0170 Removing Fence	1,767.000 LF		.		.
0160	204.0195 Removing Concrete Bases	3.000 EACH		.		.
0170	204.0210 Removing Manholes	2.000 EACH		.		.
0180	204.0220 Removing Inlets	13.000 EACH		.		.
0190	204.0245 Removing Storm Sewer (size) 0001. (12-INCH)	111.000 LF		.		.

CONTRACT: 20151208010
PROJECT(S): 1060-34-84, 1060-35-85
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0200	204.0245 Removing Storm Sewer (size) 0002. (15-INCH)	114.000 LF		.		.
0210	204.0245 Removing Storm Sewer (size) 0003. (18-INCH)	108.000 LF		.		.
0220	204.0280 Sealing Pipes	10.000 EACH		.		.
0230	204.9105.S Removing (item description) 0001. CRASH CUSHION	LUMP	LUMP			.
0240	205.0100 Excavation Common **P**	20,425.000 CY		.		.
0250	206.1000 Excavation for Structures Bridges (structure) 0001. B-40-880	LUMP	LUMP			.
0260	206.3000 Excavation for Structures Retaining Walls (structure) 0001. R-40-577	LUMP	LUMP			.
0270	206.3000 Excavation for Structures Retaining Walls (structure) 0002. R-40-578	LUMP	LUMP			.
0280	210.0100 Backfill Structure	533.000 CY		.		.
0290	213.0100 Finishing Roadway (project) 0001. 1060-34-84	1.000 EACH		.		.

CONTRACT: 20151208010
PROJECT(S): 1060-34-84, 1060-35-85
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0300	213.0100 Finishing Roadway (project) 0002. 1060-35-85	1.000 EACH		.		.
0310	305.0120 Base Aggregate Dense 1 1/4-Inch	9,036.000 TON		.		.
0320	312.0110 Select Crushed Material	4,621.000 TON		.		.
0330	415.0070 Concrete Pavement 7-Inch	363.000 SY		.		.
0340	415.0090 Concrete Pavement 9-Inch	141.000 SY		.		.
0350	416.0270 Concrete Driveway HES 7-Inch	1,742.000 SY		.		.
0360	416.0610 Drilled Tie Bars	276.000 EACH		.		.
0370	455.0105 Asphaltic Material PG58-28	134.000 TON		.		.
0380	455.0120 Asphaltic Material PG64-28	10.000 TON		.		.
0390	455.0140 Asphaltic Material PG64-28P	3.000 TON		.		.
0400	455.0605 Tack Coat	500.000 GAL		.		.

CONTRACT: 20151208010
PROJECT(S): 1060-34-84, 1060-35-85
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0410	460.1101 HMA Pavement Type E-1	2,431.000 TON		.		.
0420	460.1110 HMA Pavement Type E-10	211.000 TON		.		.
0430	460.2000 Incentive Density HMA Pavement	1,700.000 DOL	1.00000		1700.00	
0440	465.0105 Asphaltic Surface	207.000 TON		.		.
0450	465.0120 Asphaltic Surface Driveways and Field Entrances	10.000 TON		.		.
0460	502.0100 Concrete Masonry Bridges **P**	236.000 CY		.		.
0470	502.3200 Protective Surface Treatment **P**	1,657.000 SY		.		.
0480	502.3210 Pigmented Surface Sealer **P**	43.000 SY		.		.
0490	503.0137 Prestressed Girder Type I 36W-Inch **P**	2,397.000 LF		.		.
0500	505.0400 Bar Steel Reinforcement HS Structures	11,320.000 LB		.		.

CONTRACT: 20151208010
PROJECT(S): 1060-34-84, 1060-35-85
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0510	505.0600 Bar Steel Reinforcement HS Coated Structures	157,360.000 LB		.		.
0520	506.2605 Bearing Pads Elastomeric Non-Laminated	48.000 EACH		.		.
0530	506.4000 Steel Diaphragms (structure) 0001. B-40-880	44.000 EACH		.		.
0540	511.1200 Temporary Shoring (structure) 0001. B-40-880	1,665.000 SF		.		.
0550	511.1300 Temporary Shoring (location) 8001. 455NS+12 TO 463NS+36	23,311.000 SF		.		.
0560	511.1300 Temporary Shoring (location) 8002. 461NS+45 TO 461NS+76	272.000 SF		.		.
0570	513.2001 Railing Pipe (structure) 0001. R-40-577	465.000 LF		.		.
0580	513.2001 Railing Pipe (structure) 0002. R-40-578	634.000 LF		.		.
0590	516.0500 Rubberized Membrane Waterproofing	53.000 SY		.		.
0600	520.8000 Concrete Collars for Pipe	12.000 EACH		.		.
0610	550.0500 Pile Points	44.000 EACH		.		.

CONTRACT: 20151208010
PROJECT(S): 1060-34-84, 1060-35-85
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS		UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0620	550.1100 Piling Steel HP 10-Inch X 42 Lb	1,250.000	LF		.		.
0630	550.1120 Piling Steel HP 12-Inch X 53 Lb	960.000	LF		.		.
0640	601.0205 Concrete Gutter 24-Inch	208.000	LF		.		.
0650	601.0319 Concrete Curb & Gutter 19-Inch	1,533.000	LF		.		.
0660	601.0331 Concrete Curb & Gutter 31-Inch	3,487.000	LF		.		.
0670	601.0407 Concrete Curb & Gutter 18-Inch Type D	133.000	LF		.		.
0680	601.0409 Concrete Curb & Gutter 30-Inch Type A	16.000	LF		.		.
0690	601.0411 Concrete Curb & Gutter 30-Inch Type D	131.000	LF		.		.
0700	602.0410 Concrete Sidewalk 5-Inch	29,363.000	SF		.		.
0710	602.0505 Curb Ramp Detectable Warning Field Yellow	539.000	SF		.		.
0720	602.1500 Concrete Steps	52.000	SF		.		.

CONTRACT: 20151208010
PROJECT(S): 1060-34-84, 1060-35-85
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0730	602.2400 Concrete Safety Islands	346.000 SF		.		.
0740	603.8000 Concrete Barrier Temporary Precast Delivered	6,666.000 LF		.		.
0750	603.8125 Concrete Barrier Temporary Precast Installed	9,167.000 LF		.		.
0760	604.0400 Slope Paving Concrete	57.000 SY		.		.
0770	608.0312 Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	395.000 LF		.		.
0780	608.0315 Storm Sewer Pipe Reinforced Concrete Class III 15-Inch	216.000 LF		.		.
0790	608.0318 Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	211.000 LF		.		.
0800	608.0324 Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	769.000 LF		.		.
0810	608.0330 Storm Sewer Pipe Reinforced Concrete Class III 30-Inch	30.000 LF		.		.
0820	608.0424 Storm Sewer Pipe Reinforced Concrete Class IV 24-Inch	193.000 LF		.		.

CONTRACT: 20151208010
PROJECT(S): 1060-34-84, 1060-35-85
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0830	610.0148 Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical Class HE-III 48x76-Inch	406.000 LF		.		.
0840	611.0420 Reconstructing Manholes	2.000 EACH		.		.
0850	611.0535 Manhole Covers Type J-Special	3.000 EACH		.		.
0860	611.0624 Inlet Covers Type H	16.000 EACH		.		.
0870	611.0642 Inlet Covers Type MS	5.000 EACH		.		.
0880	611.0654 Inlet Covers Type V	2.000 EACH		.		.
0890	611.0663 Inlet Covers Type X	2.000 EACH		.		.
0900	611.2004 Manholes 4-FT Diameter	1.000 EACH		.		.
0910	611.2005 Manholes 5-FT Diameter	4.000 EACH		.		.
0920	611.2006 Manholes 6-FT Diameter	2.000 EACH		.		.

CONTRACT: 20151208010
PROJECT(S): 1060-34-84, 1060-35-85
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0930	611.2008 Manholes 8-FT Diameter	2.000 EACH		.		.
0940	611.3003 Inlets 3-FT Diameter	2.000 EACH		.		.
0950	611.3004 Inlets 4-FT Diameter	22.000 EACH		.		.
0960	611.3230 Inlets 2x3-FT	6.000 EACH		.		.
0970	611.3901 Inlets Median 1 Grate	5.000 EACH		.		.
0980	611.3902 Inlets Median 2 Grate	3.000 EACH		.		.
0990	611.8110 Adjusting Manhole Covers	4.000 EACH		.		.
1000	611.8115 Adjusting Inlet Covers	9.000 EACH		.		.
1010	612.0406 Pipe Underdrain Wrapped 6-Inch	1,310.000 LF		.		.
1020	614.0805 Crash Cushions Permanent Low Maintenance	1.000 EACH		.		.
1030	614.0905 Crash Cushions Temporary	5.000 EACH		.		.

CONTRACT: 20151208010
PROJECT(S): 1060-34-84, 1060-35-85
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1040	616.0206 Fence Chain Link 6-FT	1,641.000 LF		.		.
1050	616.0329 Gates Chain Link (width) 0001. 10-FT	4.000 EACH		.		.
1060	616.0406 Fence Chain Link Salvaged 6-FT	400.000 LF		.		.
1070	616.0700.S Fence Safety	300.000 LF		.		.
1080	619.1000 Mobilization	1.000 EACH		.		.
1090	620.0300 Concrete Median Sloped Nose	25.000 SF		.		.
1100	623.0200 Dust Control Surface Treatment	12,840.000 SY		.		.
1110	624.0100 Water	192.000 MGAL		.		.
1120	628.1504 Silt Fence	361.000 LF		.		.
1130	628.1520 Silt Fence Maintenance	361.000 LF		.		.
1140	628.1905 Mobilizations Erosion Control	7.000 EACH		.		.

CONTRACT: 20151208010
PROJECT(S): 1060-34-84, 1060-35-85
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1150	628.1910 Mobilizations Emergency Erosion Control	4.000 EACH		.		.
1160	628.2004 Erosion Mat Class I Type B	17,111.000 SY		.		.
1170	628.2008 Erosion Mat Urban Class I Type B	1,389.000 SY		.		.
1180	628.6505 Soil Stabilizer Type A	1.000 ACRE		.		.
1190	628.7005 Inlet Protection Type A	20.000 EACH		.		.
1200	628.7015 Inlet Protection Type C	21.000 EACH		.		.
1210	628.7020 Inlet Protection Type D	89.000 EACH		.		.
1220	628.7560 Tracking Pads	7.000 EACH		.		.
1230	629.0205 Fertilizer Type A	3.700 CWT		.		.
1240	629.0210 Fertilizer Type B	3.300 CWT		.		.
1250	630.0130 Seeding Mixture No. 30	333.000 LB		.		.

CONTRACT: 20151208010
PROJECT(S): 1060-34-84, 1060-35-85
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1260	630.0140 Seeding Mixture No. 40	186.000 LB		.		.
1270	630.0200 Seeding Temporary	777.000 LB		.		.
1280	631.0300 Sod Water	187.000 MGAL		.		.
1290	631.1000 Sod Lawn	10,430.000 SY		.		.
1300	632.0101 Trees (species) (size) (root) 0001. GINKGO - MALE ONLY 2 1/2 INCH CAL B&B	5.000 EACH		.		.
1310	632.0101 Trees (species) (size) (root) 0002. LONDON PLANE 2 1/2 INCH CAL B&B	5.000 EACH		.		.
1320	632.0101 Trees (species) (size) (root) 0003. TURKISH FILBERT 2 1/2 INCH CAL B&B	5.000 EACH		.		.
1330	632.9101 Landscape Planting Surveillance and Care Cycles	20.000 EACH		.		.
1340	634.0618 Posts Wood 4x6-Inch X 18-FT	6.000 EACH		.		.
1350	634.0622 Posts Wood 4x6-Inch X 22-FT	12.000 EACH		.		.

CONTRACT: 20151208010
PROJECT(S): 1060-34-84, 1060-35-85
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1360	634.0816 Posts Tubular Steel 2x2-Inch X 16-FT	59.000 EACH		.		.
1370	635.0200 Sign Supports Structural Steel HS	2,600.000 LB		.		.
1380	636.0100 Sign Supports Concrete Masonry	4.400 CY		.		.
1390	636.0500 Sign Supports Steel Reinforcement	264.000 LB		.		.
1400	637.2210 Signs Type II Reflective H	337.530 SF		.		.
1410	637.2230 Signs Type II Reflective F	158.750 SF		.		.
1420	638.2101 Moving Signs Type I	6.000 EACH		.		.
1430	638.2102 Moving Signs Type II	22.000 EACH		.		.
1440	638.2602 Removing Signs Type II	67.000 EACH		.		.
1450	638.3000 Removing Small Sign Supports	67.000 EACH		.		.

CONTRACT: 20151208010
PROJECT(S): 1060-34-84, 1060-35-85
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1460	643.0100 Traffic Control (project) 0002. 1060-35-85	1.000 EACH		.		.
1470	643.0200 Traffic Control Surveillance and Maintenance (project) 0001. 1060-34-84	200.000 DAY		.		.
1480	643.0300 Traffic Control Drums	18,447.000 DAY		.		.
1490	643.0420 Traffic Control Barricades Type III	7,354.000 DAY		.		.
1500	643.0705 Traffic Control Warning Lights Type A	14,708.000 DAY		.		.
1510	643.0715 Traffic Control Warning Lights Type C	5,063.000 DAY		.		.
1520	643.0800 Traffic Control Arrow Boards	63.000 DAY		.		.
1530	643.0900 Traffic Control Signs	24,256.000 DAY		.		.
1540	643.0920 Traffic Control Covering Signs Type II	72.000 EACH		.		.
1550	643.1050 Traffic Control Signs PCMS	516.000 DAY		.		.

CONTRACT: 20151208010
PROJECT(S): 1060-34-84, 1060-35-85
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1560	643.1055.S Truck or Trailer Mounted Attenuator	60.000 DAY		.		.
1570	643.2000 Traffic Control Detour (project) 0001. 1060-34-84	1.000 EACH		.		.
1580	643.3000 Traffic Control Detour Signs	23,356.000 DAY		.		.
1590	644.1410.S Temporary Pedestrian Surface Asphalt	296.000 SF		.		.
1600	644.1616.S Temporary Pedestrian Safety Fence	224.000 LF		.		.
1610	646.0106 Pavement Marking Epoxy 4-Inch	30,950.000 LF		.		.
1620	646.0600 Removing Pavement Markings	28,025.000 LF		.		.
1630	646.0881.S Pavement Marking Grooved Wet Reflective Tape 4-Inch	200.000 LF		.		.
1640	646.0883.S Pavement Marking Grooved Wet Reflective Tape 8-Inch	567.000 LF		.		.
1650	647.0166 Pavement Marking Arrows Epoxy Type 2	1.000 EACH		.		.

CONTRACT: 20151208010
PROJECT(S): 1060-34-84, 1060-35-85
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1660	647.0196 Pavement Marking Arrows Epoxy Type 5	6.000 EACH		.		.
1670	647.0456 Pavement Marking Curb Epoxy	30.000 LF		.		.
1680	647.0566 Pavement Marking Stop Line Epoxy 18-Inch	110.000 LF		.		.
1690	647.0606 Pavement Marking Island Nose Epoxy	7.000 EACH		.		.
1700	647.0656 Pavement Marking Parking Stall Epoxy	2,300.000 LF		.		.
1710	647.0796 Pavement Marking Crosswalk Epoxy 24-Inch	512.000 LF		.		.
1720	649.0400 Temporary Pavement Marking Removable Tape 4-Inch	2,193.000 LF		.		.
1730	649.2100 Temporary Raised Pavement Markers	144.000 EACH		.		.
1740	652.0125 Conduit Rigid Metallic 2-Inch	24.000 LF		.		.
1750	652.0210 Conduit Rigid Nonmetallic Schedule 40 1-Inch	60.000 LF		.		.

CONTRACT: 20151208010
PROJECT(S): 1060-34-84, 1060-35-85
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1760	652.0225 Conduit Rigid Nonmetallic Schedule 40 2-Inch	936.000 LF		.		.
1770	652.0235 Conduit Rigid Nonmetallic Schedule 40 3-Inch	330.000 LF		.		.
1780	652.0615 Conduit Special 3-Inch	275.000 LF		.		.
1790	652.0700.S Install Conduit into Existing Item	1.000 EACH		.		.
1800	653.0140 Pull Boxes Steel 24x42-Inch	2.000 EACH		.		.
1810	653.0222 Junction Boxes 18x12x6-Inch	4.000 EACH		.		.
1820	653.0905 Removing Pull Boxes	2.000 EACH		.		.
1830	654.0105 Concrete Bases Type 5	20.000 EACH		.		.
1840	655.0510 Electrical Wire Traffic Signals 12 AWG	410.000 LF		.		.
1850	655.0610 Electrical Wire Lighting 12 AWG	3,070.000 LF		.		.
1860	655.0620 Electrical Wire Lighting 8 AWG	3,906.000 LF		.		.

CONTRACT: 20151208010
PROJECT(S): 1060-34-84, 1060-35-85
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1870	655.0625 Electrical Wire Lighting 6 AWG	210.000 LF		.		.
1880	655.0630 Electrical Wire Lighting 4 AWG	7,812.000 LF		.		.
1890	656.0200 Electrical Service Meter Breaker Pedestal (location) 2001. MB22CE	LUMP	LUMP			.
1900	656.0500 Electrical Service Breaker Disconnect Box (location) 2001. CB-CCTV-40-0040	LUMP	LUMP			.
1910	657.0322 Poles Type 5-Aluminum	16.000 EACH		.		.
1920	657.0610 Luminaire Arms Single Member 4 1/2-Inch Clamp 6-FT	26.000 EACH		.		.
1930	657.6005.S Anchor Assemblies Light Poles on Structures	4.000 EACH		.		.
1940	659.1115 Luminaires Utility LED A	7.000 EACH		.		.
1950	659.1125 Luminaires Utility LED C	20.000 EACH		.		.
1960	659.1210 Luminaires Underdeck LED B	2.000 EACH		.		.

CONTRACT: 20151208010
PROJECT(S): 1060-34-84, 1060-35-85
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1970	670.0100 Field System Integrator 2001. FTMS	LUMP	LUMP			.
1980	670.0200 ITS Documentation 2001. FTMS	LUMP	LUMP			.
1990	671.0132 Conduit HDPE 3-Duct 2-Inch	330.000 LF		.		.
2000	672.0280 Base Camera Pole 80-FT	1.000 EACH		.		.
2010	673.0105 Communication Vault Type 1	2.000 EACH		.		.
2020	673.0225.S Install Pole Mounted Cabinet	1.000 EACH		.		.
2030	675.0300 Install Mounted Controller Microwave Detector Assembly	2.000 EACH		.		.
2040	675.0400.S Install Ethernet Switch	1.000 EACH		.		.
2050	677.0100 Install Camera Pole	1.000 EACH		.		.
2060	677.0200 Install Camera Assembly	1.000 EACH		.		.

CONTRACT: 20151208010
PROJECT(S): 1060-34-84, 1060-35-85
FEDERAL ID(S): N/A, N/A

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2070	678.0500 Communication System Testing 2001. FTMS	LUMP	LUMP			.
2080	690.0150 Sawing Asphalt	1,225.000 LF		.		.
2090	690.0250 Sawing Concrete	1,949.000 LF		.		.
2100	715.0415 Incentive Strength Concrete Pavement	500.000 DOL	1.00000		500.00	
2110	715.0502 Incentive Strength Concrete Structures	1,416.000 DOL	1.00000		1416.00	
2120	SPV.0035 Special 0001. EBS EXCAVATION	400.000 CY		.		.
2130	SPV.0035 Special 0002. EBS BACKFILL	400.000 CY		.		.
2140	SPV.0035 Special 4000. HPC MASONARY STRUCTURES **P**	669.000 CY		.		.
2150	SPV.0045 Special 0001. PORTABLE SPEED TRAILER	400.000 DAY		.		.
2160	SPV.0060 Special 0001. CRASH CUSION TEMPORARY LEFT IN PLACE	1.000 EACH		.		.

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PROJECT(S): 1060-34-84, 1060-35-85
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CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
	SPV.0060 Special 0002.					
2170	TRAFFIC CONTROL FULL FREEWAY CLOSURE	14.000 EACH		.		.
	SPV.0060 Special 0003.					
2180	TRAFFIC CONTROL CLOSE-OPEN FREEWAY ENTRANCE RAMP	160.000 EACH		.		.
	SPV.0060 Special 0004.					
2190	TRAFFIC CONTROL INTERIM FREEWAY LANE CLOSURE	40.000 EACH		.		.
	SPV.0060 Special 0005.					
2200	TRAFFIC CONTROL INTERIM FREEWAY TWO LANE CLOSURE	120.000 EACH		.		.
	SPV.0060 Special 0006.					
2210	TRAFFIC CONTROL LOCAL ROAD LANE CLOSURES	21.000 EACH		.		.
	SPV.0060 Special 1001.					
2220	REMOVING LIGHTING UNITS	26.000 EACH		.		.
	SPV.0060 Special 1002.					
2230	REMOVING LUMINAIRES UNDERDECK	2.000 EACH		.		.
	SPV.0060 Special 1003.					
2240	REMOVING UNDERDECK LIGHTING	1.000 EACH		.		.
	SPV.0060 Special 1004.					
2250	LAMP DISPOSAL HID	30.000 EACH		.		.
	SPV.0060 Special 1005.					
2260	LIGHTING PULL BOXES WAUWATOSA	8.000 EACH		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2270	SPV.0060 Special 1006. CONCRETE BASES TYPE 5 SPECIAL	2.000 EACH		.		.
2280	SPV.0060 Special 1007. POLES TYPE 5 ALUMINUM 25-FT	9.000 EACH		.		.
2290	SPV.0060 Special 2012. INSTALL 5.8 GHZ ETHERNET BRIDGE	1.000 EACH		.		.
2300	SPV.0060 Special 2013. GROUND ROD	1.000 EACH		.		.
2310	SPV.0060 Special 4001. PILE DYNAMIC ANALYZER (PDA) TESTING	6.000 EACH		.		.
2320	SPV.0060 Special 4002. PILE DYN AMIC ANALYZER (PDA) RESTRIKES	6.000 EACH		.		.
2330	SPV.0060 Special 4003. CASE PILE WAVE ANALY. PROGRAM (CAP WAP) EVALUATION	3.000 EACH		.		.
2340	SPV.0060 Special 5010. SANITARY MANHOLE TYPE A	1.000 EACH		.		.
2350	SPV.0060 Special 5020. SANITARY MANHOLE TYPE D	1.000 EACH		.		.
2360	SPV.0060 Special 5030. REMOVING SANITARY MANHOLE WAUWTOSA	1.000 EACH		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2370	SPV.0060 Special 5040. WATER MAIN VERTICAL OFFSET	1.000 EACH		.		.
2380	SPV.0060 Special 5050. ADJUSTING WATER VALVES	14.000 EACH		.		.
2390	SPV.0060 Special 5060. ADJUSTING WATER MANHOLE	3.000 EACH		.		.
2400	SPV.0060 Special 5070. ABANDONING WATER MANHOLE	2.000 EACH		.		.
2410	SPV.0060 Special 5080. ADJUSTING SANITARY MANHOLE	1.000 EACH		.		.
2420	SPV.0060 Special 5090. RECONSTRUCT SANITARY MANHOLE	2.000 EACH		.		.
2430	SPV.0060 Special 5100. ABANDON WATER SERVICE	3.000 EACH		.		.
2440	SPV.0060 Special 5110. ABANDON SANITARY SEWER SERVICE	3.000 EACH		.		.
2450	SPV.0060 Special 5120. HYDRANT ASSEMBLY RELOCATION	2.000 EACH		.		.
2460	SPV.0060 Special 8005. COVER PLATES LEFT IN PLACE	22.000 EACH		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2470	SPV.0060 Special 8006. INLET COVERS TYPE R-SPECIAL	2.000 EACH		.		.
2480	SPV.0060 Special 8012. MANHOLES 9-FT SPECIAL	4.000 EACH		.		.
2490	SPV.0060 Special 8015. PIPE CONNECTION TO EXISTING STRUCTURE	1.000 EACH		.		.
2500	SPV.0090 Special 0001. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE 18-INCH WHITE	55.000 LF		.		.
2510	SPV.0090 Special 0002. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK 24-INCH WHITE	766.000 LF		.		.
2520	SPV.0090 Special 0003. PAVEMENT MARKING GROOVED PREFORMED PLASTIC TAPE 4-INCH YELLOW	2,040.000 LF		.		.
2530	SPV.0090 Special 0004. CONCRETE BARRIER TEMPORARY PRECAST DELIVERED SPECIAL	2,263.000 LF		.		.
2540	SPV.0090 Special 0005. MAINTAIN CONCRETE BARRIER TEMPORARY PRECAST	1,813.000 LF		.		.
2550	SPV.0090 Special 0006. GALVANIZED PIPE RAILING	36.000 LF		.		.

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2560	SPV.0090 Special 0007. PIPE UNDERDRAIN 6-INCH SPECIAL	1,285.000 LF		.		.
2570	SPV.0090 Special 0008. FENCE TEMPORARY 6-FT	1,500.000 LF		.		.
2580	SPV.0090 Special 1001. POLYETHYLENE DUCT 1 1/4-INCH	3,540.000 LF		.		.
2590	SPV.0090 Special 4004. FENCE DECORATIVE BRIDGE B-40-880	402.000 LF		.		.
2600	SPV.0090 Special 5010. SANITARY SEWER 12-INCH PVC	276.000 LF		.		.
2610	SPV.0090 Special 5020. ABANDONING SANITARY SEWER 12-INCH	90.000 LF		.		.
2620	SPV.0090 Special 5030. REMOVING SANITARY SEWER PIPE	183.000 LF		.		.
2630	SPV.0090 Special 8010. SS PIPE RF CONC HORIZ ELLIP 48X76"	400.000 LF		.		.
2640	SPV.0105 Special 0001. SURVEY PROJECT 1060-34-84	LUMP	LUMP			.
2650	SPV.0105 Special 0002. SURVEY PROJECT 1060-35-85	LUMP	LUMP			.

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PROJECT(S): 1060-34-84, 1060-35-85
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2660	SPV.0105 Special 0003. PAVEMENT CLEANUP PROJECT 1060-34-84	LUMP	LUMP			.
2670	SPV.0105 Special 0004. PAVEMENT CLEANUP PROJECT 1060-35-85	LUMP	LUMP			.
2680	SPV.0105 Special 0005. CONTROL OF WATER 1060-34-84	LUMP	LUMP			.
2690	SPV.0135 Special 0001. VIBRATION MONITORING	6.000 MON	.			.
2700	SPV.0165 Special 0001. MULCH SHREDDED BARK	150.000 SF	.			.
2710	SPV.0165 Special 0002. SIDEWALK BRICK SALVAGED	48.000 SF	.			.
2720	SPV.0165 Special 4005. WALL CONC PANEL MSE LRFD/QMP **P**	15,760.000 SF	.			.
2730	SPV.0180 Special 0001. TOPSOIL SPECIAL	28,930.000 SY	.			.
2740	SPV.0195 Special 0001. COLD PATCH	10.000 TON	.			.
	SECTION 0001 TOTAL					.
	TOTAL BID					.

PLEASE ATTACH SCHEDULE OF ITEMS HERE