

HIGHWAY WORK PROPOSAL

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

Proposal Number:

Ø 4

COUNTY	STATE PROJECT ID	FEDERAL PROJECT ID	PROJECT DESCRIPTION	HIGHWAY
Racine	1030-11-70	WISC 2013 043	N-S Fwy CTH K Interchng E Frontage Rd/Local Rds	IH 94
Racine	1030-11-74	WISC 2013 044	N-S Fwy CTH K Interchng W Frontage Rd/Local Rds	IH 94
Racine	1030-11-77	WISC 2013 045	N-S Fwy STH 20 to CTH K East Frontage Rd	IH 94
Racine	1030-11-78	WISC 2013 046	N-S Fwy STH 20 to CTH K West Frontage Road	IH 94
Racine	1030-25-77	WISC 2013 047	N-S Fwy CTH K to CTH G East Frontage Road	IH 94
Racine	1030-25-78	WISC 2013 048	N-S Fwy CTH K to CTH G West Frontage Road	IH 94

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, \$ 430,000.00 Payable to: Wisconsin Department of Transportation	Attach Proposal Guaranty on back of this PAGE.
Bid Submittal Due Date: February 12, 2013 Time (Local Time): 9:00 AM	Firm Name, Address, City, State, Zip Code
Contract Completion Time November 22, 2013	SAMPLE NOT FOR BIDDING PURPOSES
Assigned Disadvantaged Business Enterprise Goal 12%	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, grading, select subbase, base agg, HMA & concrete pavement, storm sewer, culverts, erosion control, concrete curb and gutter, beam guard, concrete barrier, permanent signing, traffic control, pavement marking, fencing, restoration, and incidental items.	Notice of Award Dated	Date Guaranty Returned
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**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.

BID PREPARATION

Preparing the Proposal Schedule of Items

A General

- (1) Obtain bidding proposals as specified in **section 102** of the standard specifications prior to 11:45 AM of the last business day preceding the letting. Submit bidding proposals using one of the following methods:
 1. Electronic bid on the internet.
 2. Electronic bid on a printout with accompanying diskette or CD ROM.
 3. Paper bid under a waiver of the electronic submittal requirements.
- (2) Bids submitted on a printout with accompanying diskette or CD ROM or paper bids submitted under a waiver of the electronic submittal requirements govern over bids submitted on the internet.
- (3) The department will provide bidding information through the department's web site at <http://www.dot.wisconsin.gov/business/engrserv/bid-letting-information.htm>. The contractor is responsible for reviewing this web site for general notices as well as information regarding proposals in each letting. The department will also post special notices of all addenda to each proposal through this web site no later than 4:00 P.M. local time on the Thursday before the letting. Check the department's web site after 5:00 P.M. local time on the Thursday before the letting to ensure all addenda have been accounted for before preparing the bid. When bidding using methods 1 and 2 above, check the Bid Express™ on-line bidding exchange at <http://www.bidx.com/> after 5:00 P.M. local time on the Thursday before the letting to ensure that the latest schedule of items Expedite file (*.ebs or *.00x) is used to submit the final bid.
- (4) Interested parties can subscribe to the Bid Express™ on-line bidding exchange by following the instructions provided at the www.bidx.com web site or by contacting:

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

- (5) The department will address equipment and process failures, if the bidder can demonstrate that those failures were beyond their control.
- (6) Contractors are responsible for checking on the issuance of addenda and for obtaining the addenda. Notice of issuance of addenda is posted on the department's web site at <http://www.dot.wisconsin.gov/business/engrserv/bid-letting-information.htm> or by calling the department at (608) 266-1631. Addenda can ONLY be obtained from the departments web site listed above or by picking up the addenda at the Bureau of Highway Construction, Room 601, 4802 Sheboygan Avenue, Madison, WI, during regular business hours.

B Submitting Electronic Bids

B.1 On the Internet

- (1) Do the following before submitting the bid:
 1. Have a properly executed annual bid bond on file with the department.
 2. Have a digital ID on file with and enabled by Info Tech Inc. Using this digital ID will constitute the bidder's signature for proper execution of the bidding proposal.
- (2) In lieu of preparing, delivering, and submitting the proposal as specified in **102.6** and **102.9** of the standard specifications, submit the proposal on the internet as follows:

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

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

- (1) Download the latest schedule of items from the Wisconsin pages of the Bid Express™ web site reflecting the latest addenda posted on the department's web site at <http://www.dot.wisconsin.gov/business/engrserv/bid-letting-information.htm>. Use Expedite™ software to prepare and print the schedule of items. Provide a valid amount for all price fields. Follow instructions and review the help screens provided on the Bid Express™ web site to assure that the schedule of items is prepared properly.
- (2) Staple an 8 1/2 by 11 inch printout of the Expedite™ generated schedule of items to the other proposal documents submitted to the department as a part of the bidder's sealed bid. As a separate submittal not in the sealed bid envelop but due at the same time and place as the sealed bid, also provide the Expedite™ generated schedule of items on a 3 1/2 inch computer diskette or CD ROM. Label each diskette or CD ROM with the bidder's name, the 4 character department-assigned bidder identification code from the top of the bidding proposal, and a list of the proposal numbers included on that diskette or CD ROM as indicated in the following example:

Bidder Name

BN00

Proposals: 1, 12, 14, & 22

- (3) If bidding on more than one proposal in the letting, the bidder may include all proposals for that letting on one diskette or CD ROM. Include only submitted proposals with no incomplete or other files on the diskette or CD ROM.
- (4) The bidder-submitted printout of the Expedite™ generated schedule of items is the governing contract document and must conform to the requirements of section 102 of the standard specifications. If a printout needs to be altered, cross out the printed information with ink or typewriter and enter the new information and initial it in ink. If there is a discrepancy between the printout and the diskette or CD ROM, the department will analyze the bid using the printout information.
- (5) In addition to the reasons specified in section 102 of the standard specifications, proposals are irregular and the department may reject them for one or more of the following:
 1. The check code printed on the bottom of the printout of the Expedite™ generated schedule of items is not the same on each page.
 2. The check code printed on the printout of the Expedite™ generated schedule of items is not the same as the check code for that proposal provided on the diskette or CD ROM.

3. The diskette or CD ROM is not submitted at the time and place the department designates.

C Waiver of Electronic Submittal

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

PROPOSAL BID BOND

DT1303 1/2006

Wisconsin Department of Transportation

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

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

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

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

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

PRINCIPAL

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

(Signature and Title)

(Company Name)

(Signature and Title)

(Company Name)

(Signature and Title)

(Company Name)

(Signature and Title)

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

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

(Signature of Attorney-in-Fact)

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

DT1305 8/2003

Wisconsin Department of Transportation

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

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

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

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

(Signature of Authorized Contractor Representative)

(Date)

FEBRUARY 1999

LIST OF SUBCONTRACTORS

Section 66.29(7), Wisconsin Statutes, provides that a bidder, as a part of his proposal, shall submit a list of the subcontractors he proposes to contract with and the class of work to be performed by each, provided that to qualify for such listing each subcontractor must first submit his bid in writing to the general contractor at least 48 hours prior to the time of bid closing. It further provides that a proposal of a bidder shall not be invalid if any subcontractor, and the class of work to be performed by such subcontractor, has been omitted from a proposal.

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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93.	Flashing Solar Beacon Assembly Station 24+00 RT, Item SPV.0105.096; Station 24+00 LT, Item SPV.0105.097; Station 57+75 RT, Item SPV.0105.601; Station 57+75 LT, Item SPV.0105.602.	216
94.	Freeway Lighting Integrator ID 1030-11-70, Item SPV.0105.111; ID 1030-11-74, Item SPV.0105.112.	218
95.	Geogrid Reinforcement, Item SPV.0180.001.	220
96.	Geotextile Fabric Type FF, Item SPV.0180.002.	222
97.	Removing Rumble Strips, Item SPV.0180.004.	223
98.	Rootstock Protection, Item SPV.0180.005.	223
99.	Mulching Special, Item SPV.0180.006.	224
100.	Base Aggregate Dense 1 ¼-Inch Special, Item SPV.0195.002.	225
101.	Select Subbase, Item SPV.0195.006.	226
102.	Manholes 4-FT Diameter Special, Item SPV.0200.001.	227

SPECIAL PROVISIONS

1. General.

Perform the work under this construction contract for Projects:

- 1030-11-70, IH 94 N-S Freeway, CTH K Interchange, East Frontage Rd and Local Roads;
- 1030-11-74, IH 94 N-S Freeway, CTH K Interchange, West Frontage Rd and Local Roads;
- 1030-11-77, IH 94 N-S Freeway, STH 20 to CTH K, East Frontage Road;
- 1030-11-78, IH 94 N-S Freeway, STH 20 to CTH K, West Frontage Road;
- 1030-25-77, IH 94 N-S Freeway, CTH K to CTH G, East Frontage Road;
- 1030-25-78, IH 94 N-S Freeway, CTH K to CTH G, West Frontage Road;

All located in Racine 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, 2013 Edition, as published by the department, and these special provisions.

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

100-005 (20120615)

2. Scope of Work.

The work under this contract shall consist of removals, grading, select subbase, base aggregate, HMA pavement, concrete pavement, storm sewer, culverts, erosion control, concrete curb and gutter, beam guard, concrete barrier, permanent signing, traffic control, pavement marking, fencing, restoration, and all incidental items necessary to complete the work as shown on the plans and included in the proposal and contract.

104-005 (20090901)

3. OCIP Information.

The Owner Controlled Insurance Program (OCIP)

The I-94 North/South Corridor 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. The OCIP requires submitted bids to exclude the cost of the OCIP provided coverage. Additional

information regarding OCIP can be found at <http://roadwaystandards.dot.wi.gov/hcci/index.shtm>.

If you have any questions regarding the OCIP, including questions on if your company needs to be enrolled into the OCIP, please contact Kevin Gehrmann at 608-235-0622.

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

Supplement standard spec 108.11 as follows:

Project 1030-11-70: If the contractor fails to complete all work in Stage 1A and open the CTH K Southeast Frontage Road to Michel Court prior to 12:01 AM May 1, 2013, the department will assess the contractor \$3,000 in interim liquidated damages for each calendar day contract work remains incomplete beyond 12:01 AM May 1, 2013. An entire calendar day will be charged for any period of time within a calendar day that the road remains closed beyond 12:01 AM.

Project 1030-11-70: If the contractor fails to complete all work on the IH 94 northbound off ramp (Ramp SE) to CTH K to through traffic within 14 calendar days or prior to 12:01 AM May 24, 2013, whichever occurs first, the department will assess the contractor \$5,000 in interim liquidated damages for each calendar day contract work remains incomplete beyond 14 calendar days or beyond 12:01 AM May 24, 2013, whichever occurs first. An entire calendar day will be charged for any period of time within a calendar day that the road remains closed beyond 12:01 AM.

Projects 1030-11-70, 1030-11-77, 1030-25-77: If the contractor fails to complete construction operations on the East Frontage Road and reopen the East Frontage Road and all side roads to through traffic prior to 12:01 AM July 12, 2013, the department will assess the contractor \$3,000 in interim liquidated damages for each calendar day contract work remains incomplete beyond 12:01 AM July 12, 2013. An entire calendar day will be charged for any period of time within a calendar day that the road remains closed beyond 12:01 AM.

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

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

The department will administer contract time as specified in standard spec 108.9 for each project in the contract. If contract time expires before completing all work on all contract projects, additional liquidated damages will be affixed in accordance to standard spec 108.11.

The contractor is advised that there may be multiple mobilizations for such items as clearing and grubbing, traffic control, temporary pavement marking, pavement marking, erosion control, salvaged topsoil, asphaltic surface temporary, seeding/sodding, mulching, fertilizer, temporary seeding, drainage items and other incidental items related to staging required to complete the work under this contract. No additional payment will be made by the department for said mobilizations.

Provide an individual that shall serve as the contractor's sole point of contact for field utility coordination and communication for the duration of the project.

Fish Spawning

Projects 1030-11-77 and 1030-11-78:

There shall be no instream disturbance of the unnamed tributary to East Branch Root River, located at West Frontage Road Station 2026+90 and East Frontage Road Station 3028+66, as a result of construction activity under or for this contract, from March 1 to June 15, both dates inclusive, in order to avoid adverse impacts upon the spawning of fish.

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

A Schedule of Operations

One Frontage Road along IH 94 Mainline shall remain open throughout this contract. Do not close the West Frontage Road at the same time as the East Frontage Road.

Do not begin Stage 2 work on the West Frontage Road until the East Frontage Road work is complete and the East Frontage Road is open to through traffic. Do not close the West Frontage Road north of CTH K before July 8, 2013.

Under Project 1030-11-70, do not close the northbound IH 94 off ramp (Ramp SE) until work is completed on the Southeast Frontage Road from Station 3044+00 to 3056+18.38, Michel Court and the Drainage Swale. Access is to remain open to properties along the

existing frontage road until Michel Court is opened. The Ramp SE work must be completed and the ramp must be open to traffic no later than May 24, 2013.

Under project 1030-11-70, IH 94 northbound Mainline traffic shall be reduced to two lanes during Stage 1B operations. Follow the Standard Detail Drawings and traffic control details for closures.

Under Project 1030-11-74, do not restrict two way traffic on the existing West Frontage Road/Southbound IH 94 on ramp (Ramp SW) to the A&W business until September 30, 2013.

Under Projects 1030-11-77, 1030-11-78, 1030-25-77, and 1030-25-78, close the IH 94 outside shoulder adjacent to the work area only when needed and only while work operations are actively proceeding, as approved by the engineer.

Provide gaps in the work zone as needed to maintain local traffic to adjacent properties.

The department anticipates that the schedule for each stage shall be as follows below, unless modifications are approved in writing by the engineer.

Stage 1A and 1B under Project 1030-11-70 run concurrently with Stage 1 under Projects 1030-11-77 and 1030-25-77. Stage 2 under Project 1030-11-74 runs concurrently with Stage 2 under Projects 1030-11-78 and 1030-25-78.

Project 1030-11-70

Stage 1A activities shall include:

- Construct portions of the East Frontage Road realigned section that do not interfere with traffic on the existing East Frontage Road.
- Pavement widening of CTH K.
- Construct Michel Court.
- Construct Drainage.
- West Frontage Road realigned section that does not interfere with traffic on the existing West Frontage Road (optional).

Work requiring flagging operations or work that interrupts traffic flow on CTH K shall occur during off peak hours only.

Stage 1B activities shall include:

- East Frontage Road remainder of work.
- Water Quality Pond northeast.
- IH 94 northbound off ramp realignment.
- West Frontage Road realigned section that does not interfere with traffic on the existing West Frontage Road (optional).

- Water Quality Pond southwest.
- Fuhrman Drive
- Javco Drive

Close the East Frontage Road to through traffic as shown in the plans under Projects 1030-11-70. Detour the East Frontage Road as shown in the Project 1030-11-70 plans. Keep the West Frontage Road open to traffic.

Closure of IH 94 northbound Off-Ramp to CTH K will be allowed for a maximum of 14 consecutive calendar days to complete construction of Ramp southeast. Detour ramp traffic to STH 20, as shown in plans under Project 1030-11-70. Construct Ramp southeast adjacent to IH 94 travel lanes during night time lane closures of IH 94 northbound.

Access from the following properties to the existing east frontage must be removed prior to removal of the IH 94 northbound Off- Ramp detour and opening Ramp southeast to traffic:

- Funk property
- Behrens property
- P. Michel property
- J. Michel property
- Michels Garage property

Project 1030-11-74

Stage 2 activities shall include:

- West Frontage Road remainder of work
- Fuhrman Drive
- Javco Drive
- Water Quality Pond SW

Close the West Frontage Road to through traffic as shown in the plans under Project 1030-11-74. Detour the West Frontage Road as shown in the Project 1030-11-74 plans. Keep the East Frontage Road open to traffic.

Provide a gap in construction activities near Station 2046+00 to allow for the movement of trucks to and from the west part of the property. Upon completion of the base aggregate layer being placed on the new access point, the gap in construction may be removed.

Access from the following properties to the IH 94 southbound on ramp must be removed after September 30, 2013:

- Franklin and Sharon Welch

Projects 1030-11-77, 1030-11-78, 1030-25-77, and 1030-25-78

Stage 1 activities shall include:

- East Frontage Road work on Project 1030-11-77.
- Microtunneling 54" SSPRC under IH 94 mainline at East Frontage Road Station 6000+30 on Project 1030-11-77.
- East Frontage Rd work on Project 1030-25-77.

Close the East Frontage Road to through traffic as shown in the plans under Projects 1030-11-77 and 1030-25-77. Detour the East Frontage Road as shown in the Project 1030-11-70 plans. Keep the West Frontage Road open to traffic.

Provide a shoulder closure on mainline IH 94 under Project 1030-11-77 to allow for monitoring of surface settlement markers during microtunneling operations. Open the mainline IH 94 shoulders at the end of each work day immediately after the settlement monitoring has been completed for the day.

Stage 2 activities shall include:

- West Frontage Rd work on Project 1030-11-78.
- Abandoning existing pipes under IH 94 mainline and East Frontage Road at East Frontage Road Station 6000+14 on Project 1030-11-78.
- West Frontage Rd work on Project 1030-25-78.

Close the West Frontage Road to through traffic as shown in the plans under Projects 1030-11-78 and 1030-25-78. Detour the West Frontage Road as shown in the Project 1030-11-74 plans. Keep the East Frontage Road open to traffic.

Provide a shoulder closure on the East Frontage Road only as needed in order to abandon the pipes at East Frontage Road Station 6000+14 as shown in the plans.

B Definitions

The following definitions shall apply to this contract:

Peak Travel Periods:

- 5:30 AM to 9:00 AM Monday, Tuesday, Wednesday, Thursday, and Friday
- 2:00 PM to 7:00 PM Monday, Tuesday, Wednesday, and Thursday
- 12:00 PM to 7:00 PM Friday
- 10:00 AM to 7:00 PM Saturday and Sunday

Off-Peak Hours:

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

Night-time Work Hours:

- 9:30 PM to 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)
- 9:30 PM to 8:00 AM (Friday PM to Saturday AM, Saturday PM to Sunday AM)

Full Freeway Closure Work Hours

- 11:00 PM to 5:00 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)

Lane:

A lane is defined as 11-feet wide unless otherwise shown on the plans.

Freeway:

Traveled lanes of IH 94.

Local Street:

Traveled lanes of the East and West Frontage Roads.

Closure:

Closure is disruption of the flow of traffic in a basic lane or ramp, including any obstruction and erection/removal of lane closure traffic control. When referring to shoulders, it is the narrowing of a usable freeway shoulder to a dimension less than 8-foot clear width.

Short Term Closure:

A roadway closure that is a maximum of 3 calendar days

C Work Restrictions

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

Park equipment and store material only at work sites approved by the engineer.

Maintain pedestrian and vehicular access including semi access to all commercial and private properties along the existing and proposed West Frontage Road and East Frontage Road at all times unless otherwise noted in the plan and except during construction of the driveways. During driveway construction, do not close any driveway approach or remove from service without providing five days notice to the occupants of the premises to remove their vehicles prior to driveway removal or closing of the driveway approach access. When necessary, provide alternate access during driveway construction. Replace the driveway as

expeditiously as possible to minimize the inconvenience to the occupants whose driveway has been removed or closed.

Submit all traffic control change requests to the engineer at least 48 hours prior to an actual traffic control change. A request does not constitute approval.

D Winter Maintenance

Racine County will perform snow removal operations for freeway and ramp lanes that are open to traffic. The Village of Mount Pleasant, Town of Yorkville, Village of Caledonia, and Town of Raymond 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 Racine County Highway Maintenance, Racine County Sheriff's Department, and the Wisconsin State Patrol with a 24-hour emergency contact number for when maintenance is required.

Traffic Control Deficiency Response Time Penalty

Supplement standard spec 643.3.1 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.

5. Traffic.

General

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

Utilize flaggers, signs, barricades, and drums as may be necessary to safeguard and direct traffic at all locations where construction operations may interfere with or restrict the smooth flow of traffic.

Use drums and barricades to direct vehicular and pedestrian traffic in the work zone and to protect and delineate hazards such as open excavations, abrupt drop-offs, and exposed manholes, inlets, and hydrants.

Coordinate traffic requirements under this contract with other adjacent and concurrent Department of Transportation or local municipality projects. Implement and coordinate with other contractors all traffic control as shown on the plans. Modifications to the traffic control plan may be required by the engineer to be safe and consistent with adjacent work by others.

Unless detailed in the plans, do not begin or continue any work that closes traffic lanes outside the allowed time periods specified in this article.

Emergency Vehicle Access

Maintain emergency vehicular access at all times to all through roadways located along the West Frontage Road and the East Frontage Road.

Local Vehicle Access

Maintain local vehicular access at all times to all driveways located along the IH 94 frontage roads, and all the other side roads within the project limits unless otherwise noted in the plans. Notify the property occupant 5 days in advance of the driveway reconstruction to verify closure or staged driveway construction methods. Construct driveway approaches to commercial businesses in stages or provide temporary access such that access to commercial property is provided at all times during the life of the project. Temporary access may be constructed with base course at the contract unit price for Base Aggregate Dense 1¼-inch, Special. Maintain at least one access to businesses at all times.

Contractor Coordination

Hold 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.

Advanced Notification

Provide the following minimum advance notification to the engineer for incorporation into the Wisconsin Lane Closure System.

IH 94 Shoulder closures	3 business days
Service Ramp closures	3 business days
Local Street openings/closings	7 calendar days
Project Start	14 calendar days
Construction stage changes	14 calendar days
Detours	14 calendar days

Notify the engineer and WisDOT Statewide Traffic Operations Center, (414) 227-2142, if there are any changes in the schedule, early completions, or cancellations of scheduled work.

Notify and request assistance 14 days in advance from the Racine County Sheriff's department for freeway or ramp closures.

Staging

Perform construction operations on the East and West Frontage Roads in stages as shown in the traffic control/construction staging plan. The construction stages are:

Project 1030-11-70**Stage 1A**

IH 94, CTH K, and the IH 94 ramps will be open to through traffic. The East Frontage Road closed to through traffic. Keep the West Frontage Road open to through traffic.

Stage 1B

The work zone for Stage 1B includes constructing the IH 94 northbound off ramp (Ramp SE). Appropriate traffic control measures as detailed in the plans and as shown on standard detail drawing "Traffic Control, Exit Ramp Closure" are to be used during ramp closures. Notify the engineer a minimum of two weeks prior to any ramp closures. A detour utilizing STH 20 and the West Frontage Road will be required as shown on the plans. The remaining IH 94 ramps and CTH K will remain open to traffic. The East Frontage Road will be closed to through traffic. A detour utilizing the West Frontage Road will be required as shown in the plans.

Project 1030-11-74**Stage 2**

IH 94, CTH K, and the IH 94 ramps will be open to through traffic. The West Frontage Road will be closed to through traffic. A detour utilizing the East Frontage Road will be required as shown in the plans.

Projects 1030-11-77, 1030-11-78, 1030-25-77, and 1030-25-78**Stage 1**

Close the East Frontage Road to through traffic as shown in the plans under Projects 1030-11-77 and 1030-25-77. Detour the East Frontage Road as shown in the Project 1030-11-70 plans. Keep the West Frontage Road open to traffic.

Provide a shoulder closure on mainline IH 94 under Project 1030-11-77 to allow for monitoring of surface settlement markers during microtunneling operations. Open the mainline IH 94 shoulders at the end of each work day immediately after the settlement monitoring has been completed for the day.

Stage 2

Close the West Frontage Road to through traffic as shown in the plans under Projects 1030-11-78 and 1030-25-78. Detour the West Frontage Road as shown in the Project 1030-11-74 plans. Keep the East Frontage Road open to traffic.

Provide a shoulder closure on the East Frontage Road only as needed in order to abandon the pipes at East Frontage Road Station 6000+14 as shown in the plans.

Detours

Prior to beginning work on the East Frontage Road, close the East Frontage Road to through traffic and detour the traffic via the West Frontage Road as shown in the Project 1030-11-70 plans. Do not reopen the East Frontage Road to through traffic until all items of work through upper HMA layers, pavement marking, and signing have been completed.

Prior to beginning work on the West Frontage Road, close the West Frontage Road to through traffic and detour the traffic via the East Frontage Road as shown in the Project 1030-11-74 plans. Do not reopen the West Frontage Road to through traffic until all items of work through upper HMA layers, pavement marking, and signing have been completed.

Prior to beginning work on the IH 94 northbound off ramp (Ramp SE), close the ramp to through traffic and detour the traffic via IH 94 to STH 20 and the West Frontage Road as shown in the plans. Do not reopen the Ramp SE to through traffic until all items of work through upper HMA layers, pavement marking, and signing have been completed.

6. Holiday Work Restrictions.

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

- From noon Friday, May 24, 2013 to 6:00 AM Tuesday, May 28, 2013 for Memorial Day;
- From noon Wednesday, July 3, 2013 to 6:00 AM Friday, July 5, 2013 for Independence Day;
- From noon Friday, August 30, 2013 to 6:00 AM Tuesday, September 3, 2013 for Labor Day;
- From noon Wednesday, November 27, 2013 to 6:00 AM Monday, December 2, 2013 for Thanksgiving.

107-005 (20050502)

Holiday work restrictions do not apply to the East Frontage Road, West Frontage Road, or other side roads that are closed during construction as shown on the plans.

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 Maria Rojas 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 may be performing utility work and adjustments within the limits and throughout the life of the project. 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.

Known utilities in the projects are as follows:

1030-11-70:

AT&T Long Distance does not have facilities east of I-94. They have underground communication duct running north-south on the west side of IH 94.

The AT&T field contact is Richard Meyers, (630) 215-7567, the AT&T regional contact is Carl Donahue, (847) 420-9115, (cdonahue@ems.att.com), and the JMC Engineering (AT&T consultant) contact is William Koenig, (608) 628-0575.

AT&T Wisconsin has aerial telephone facilities on the east side of the existing East Frontage Road for the entire length of the project from Station 3034+24 to Station 5078+50. The aerial facilities are in conflict and will be removed. New overhead cable

will be placed from Station 3034+24, north to Station 3041+51, along the east side of the proposed East Frontage Road on WE-Energies poles. The cable will then continue from Station 3041+51, north to Station 3056+18, along the west side of the proposed East Frontage Road on WE-Energies poles. The cable will cross CTH K and continue north from Station 5051+93, north to Station 5078+50, along the east side of the East Frontage Road on WE Energies poles. AT&T will abandon in place 615' of existing buried cable running east from an existing WE-Energies pole at Station 1057NE+55, 8'LT, into the Pilot Corporation at 13712 Northwestern Avenue. At Station 3038+81 AT&T will reroute service to 4125 East Frontage Road.

AT&T Wisconsin will remove overhead cable and associated facilities south of CTH K running east from an existing WE-Energies pole at Station 1053SE+65, 5'LT, to Station 55+20. AT&T will reroute service to 10501, 13515, 13629 Northwestern Avenue.

New overhead cable will be placed along the west side of Michel Court from Station 3044+33, north to Station 17+48, on WE-Energies poles. AT&T Wisconsin will also reroute service to several customers.

The AT&T Wisconsin design contact is Kay Christensen, (262) 636-0568, and the field contact is Keith Rosenberg, (262) 636-0787.

Level 3 does not have facilities along the project. They have communications facilities in the previously described AT&T Long Distance duct along IH 94.

The Level 3 Communications contact is Marsha Kidd, (918) 547-0029.

Time Warner Cable has aerial facilities on WE-Energies poles along the east side of the East Frontage Road the entire length of the project and on WE-Energies poles along the south side of the existing CTH K from Station 45+26 to Station 57+14. The aerial facilities are in conflict and will be relocated in conjunction with the adjusting of WE-Energies poles prior to and during construction. Time Warner Cable has 339' of buried cable running east from the WE-Energies pole at Station 1057NE+55, 8' LT, into the Pilot Corporation at 13712 Northwestern Avenue.

Time Warner Cable will relocate these facilities as necessary prior to construction.

The Time Warner Cable contact is Steve Cramer, (414) 277-4045, (steve.cramer@twcable.com).

WE-Energies – Electric has aerial electric distribution facilities on the south side of CTH K from Station 45+26 to Station 58+81. They have buried electric distribution facilities north of CTH K from Station 44+88 to Station 49+15. They have an aerial crossing over IH 94, south of CTH K at Station 1053+61. They have aerial electric distribution facilities on the east side of the existing East Frontage Road for the entire length of the project. Facilities in conflict are to be relocated by the utility prior to construction and as follows:

Prior to construction WE-Energies Electric will perform the following:

- Install aerial crossing over the West Frontage Road, IH 94, and the East Frontage road from Station 2030+10, 69' LT, to Station 1029+52, 146' RT, to Station 1029+35, 244' RT.
- Install poles and overhead on the east side of the East Frontage Road from Station 3036+55 RT to Station 3039+22 RT. Crossing the East Frontage Road at Station 3040+25 and continue north on the west side of the East Frontage Road from Station 3041+51 LT to Station 3053+47 LT.
- Install buried cable beneath East Frontage Road from Station 5055+69, 244' LT, to Station 5055+81, 64' RT.
- Install aerial crossing over CTH K from Station 53+28, 48' RT to Station 5053+16, 68' RT.
- Install poles and overhead on the east side of the East Frontage Road from Station 5053+16 RT to Station 5078+50 RT.
- Install aerial crossing over CTH K from Station 57+32 RT, 58' RT to Station 58+76, 48' LT.
- Install poles and overhead on the south side of CTH K from Station 46+39 LT to Station 49+48 RT and from Station 53+28 RT to Station 57+32 RT.
- Install poles and overhead on the west side of Michel Court Station 3044+33 RT to Station 17+48 LT.

The following pole locations will be installed inside of grading limits and may require the contractor to work around:

- Station 3036+55, 58' RT
- Station 3038+81, 43' RT
- Station 5058+05, 60' RT
- Station 5060+47, 60' RT
- Station 5067+66, 60' RT
- Station 5073+75, 68' RT
- Station 5076+45, 68' RT

The WE-Energies Electric contact is Dan Sande, (414) 221-4578, (dan.sande@we-energies.com).

WE-Energies – Gas There is a 6-inch steel main crossing under IH 94 just south of CTH C near Station 1055+42. There is a 6-inch steel main along the east side of the existing East Frontage Road south of CTH K from Station 1039+04 to Station 1054+88. There is a 6-inch steel main on the south side of CTH K from IH 94 to east project limits. The existing facilities will be abandoned in place.

Prior to construction WE-Energies Gas will perform the following:

- Install new 6-inch gas main 5' north of the south right-of-way line along CTH K from Station 52+75 RT to Station 76+00 RT.

- Install new 6-inch gas main 5' west of the east right-of-way line along East Frontage Road from Station 3028+00 RT to Station 5057+00 RT.
- Install new 2-inch gas main 3' behind back of proposed west curb line of Michel Court and around cul de sac to Station 16+50 RT.

The WE-Energies Gas contacts are Carl Drechsler, (262) 552-3428 and Dan Sande, (414) 221-4578.

WisDOT Traffic Operation Center (TOC) and Automatic Traffic Recording (ATR) Pull Boxes has underground communication wire in the previously described AT&T Long Distance duct along IH 94. WisDOT TOC has loop detectors on northbound and southbound IH 94 just north of the I-94 bridge over CTH K and on the southbound exit and southbound and northbound entrance ramps, and conduit, pull boxes, and wire run along IH-94. WisDOT TOC has a street light and a gate located at the beginning of the northbound entrance ramps. The existing control gate at Station 1065+94, 105' RT shall be removed and salvaged and pull boxes at Station 1065+86, 107' RT and Station 1066+01, 102' RT shall be removed by the highway contractor as part of the contract.

The WisDOT TOC contact is Donald Schell, (414) 227-2148 (donald.schell@dot.state.wi.us) and the WisDOT ATR contact is Cliff Serowski, (414) 266-1157, (clifford.serowski@dot.state.wi.us).

1030-11-74:

AT&T Long Distance has underground 9-duct communication package running north-south on the west side of IH 94. There are nine 2-inch ducts consisting of WisDOT fiber, Level 3 fiber, and AT&T Long Distance fiber cables. This duct bank is generally located along the existing west fence line between IH 94 and the existing West Frontage Road.

Conflicts are anticipated. At Station 4055+00 AT&T will bore a casing from the north side of CTH K to the south side along the west Right-of-Way boundary. AT&T will place a new hand hole west of the West Frontage Road. AT&T will then bore a casing from the west side to the east side of the West Frontage Road and tie-in to the existing splice hand hole location. AT&T will plow in the duct package 5-10 feet east of the west right-of-way boundary of the proposed West Frontage Road for approximately 8,000ft from the new splice location north of CTH K to the existing splice hand hole location south of CTH K.

JMC Engineers and Associates (AT&T consultant) will coordinate with Level 3 and WisDOT.

The AT&T field contact is Richard Meyers, (630) 215-7567, the AT&T regional contact is Carl Donahue, (847) 420-9115, (cdonahue@ems.att.com), and the JMC Engineering (AT&T consultant) contact is William Koenig, (608) 628-0575.

AT&T Wisconsin has aerial telephone facilities on the west side of the existing West Frontage Road for the entire length of the project from Station 2030+10 to Station 4084+50. The aerial facilities are in conflict and will be removed. New overhead cable will be placed from Station 31+52, 71' LT to Station 31+52, 223' RT, then from Station 31+52, 223' LT to Station 2056+99, 68' LT, and finally from Station 2056+99 86' LT south to 2030+10 69'LT, along the west side of the proposed West Frontage Road on WE-Energies poles. The cable will then continue from Station 4055+00, north to Station 4084+50, along the west side of the proposed East Frontage Road on AT&T poles.

Service to 3873 West Frontage Road will be rerouted. AT&T will abandon in place 300' of existing buried feeding the building from the existing West Frontage Road and place overhead cable from the proposed West Frontage Road on WE-Energies poles from Station 2048+75, 77' LT, east to the building.

Service to 3845 West Frontage Road will be rerouted. AT&T will place overhead cable from the west side of the West Frontage Road Station 2050+87 76' LT, along the south side of Lund Drive to Station 13+11 29'RT on WE Energies poles. WE-Energies will provide 453' of directional bores from Station 13+11, 29' RT, east to Station 1049SW+07, 72' LT. AT&T will trench from Station 1049SW+07, 72' LT, south to Station 1047SW+00, to pick up the existing service.

AT&T will abandon in place 600' of buried cable from Station 11+49, 12' LT to Station 17+50. New overhead cable will be placed on WE-Energies poles.

AT&T will abandon service to Roettgers Mobil 2803 CTH K. AT&T will abandon in place 145' of buried cable from existing pole at Station 18+14, 199' RT to the building.

AT&T will transfer overhead cable from Station 2056+99, 68' LT, east to Station 18+15, 51' LT, to poles placed by WE-Energies and reroute services as required.

AT&T will abandon in place 404' of buried cable from Station 2056+99, 68' LT, north to the south side of CTH K, then west to Station 34+00. Services will be rewired to the customers at 3001 and 3011 CTH K.

AT&T will abandon in place 555' of buried cable from Station 40+42, 90' LT, to the west property line of 2860 CTH K at Station 35+55. New overhead cable will be placed from Station 39+28, 46' LT, west to 29+87, 71' LT, on WE-Energies poles. Services to 2810, 2860, and 3030 CTH K will be rerouted.

AT&T will vacate and remove the pole at Station 18+35, 44' RT and place facilities on the proposed WE-Energies pole at Station 18+49, 119' RT. AT&T will replace poles at Station 18+49, 207' RT and Station 18+59, 362' RT and transfer or replace existing overhead facilities.

The AT&T Wisconsin design contact is Kay Christensen, (262) 636-0568, and the field contact is Keith Rosenberg, (262) 636-0787.

Level 3 has an underground communications wire in the previously described AT&T Long Distance duct along IH 94.

Conflicts are anticipated. Level 3 facilities will be relocated with the previously described AT&T Long Distance duct along IH 94.

The Level 3 Communications contact is Marsha Kidd, (918) 547-0029.

WE-Energies – Electric has aerial electric distribution facilities on the north side of CTH K from Station 11+50 to Station 35+54. They have electric distribution facilities crossing CTH K north-south at Station 31+53, running east from Station 31+53, 221' RT to Station 40+92, 212' RT. They have an aerial crossing over IH 94, south of CTH K at Station 1053+61. They have aerial electric distribution facilities on the west side of the existing West Frontage Road, south of CTH K from Station 1030+88 to Station 1056+34. Facilities in conflict are to be relocated by the utility prior to construction and as follows:

Prior to construction WE-Energies Electric will perform the following:

- Install aerial crossing over the West Frontage Road, IH 94, and the East Frontage road from Station 2030+10, 69' LT, to Station 1029+52, 146' RT, to Station 1029+35, 244' RT.
- Install poles and overhead on the west side of the West Frontage Road from Station 2030+10 LT to Station 2056+99 LT.
- Install new aerial service crossing over the West Frontage Road at Station 2048+75
- Install buried cable from Station 13+11 RT, 29' RT, east to Station 1049SW+03, 71' LT.
- Install poles and overhead on the south side of the Lund Drive from Station 2050+87 LT to Station 13+11 RT.
- Install poles and overhead on the north side of the CTH K from Station 11+49 LT to Station 39+30 LT.
- Install new aerial crossing over the West Frontage Road from Station 31+55, 21' RT, to Station 34+19, 71' LT
- Install buried cable beneath CTH K at Station 14+50.
- Install poles and overhead crossing over CTH K from Station 31+52, 71' LT, to Station 31+52, 223' RT, continuing east to Station 2057+01, 231' RT. This overhead will cross the West Frontage Road at Station 2056+99
- Install new aerial service crossing over CTH K at Station 11+49, Station 16+24, Station 18+13, Station 22+00, Station 35+52.

The following pole locations will be installed inside of grading limits and may require the contractor to work around:

- Station 2032+57, 74' LT
- Station 2042+41, 78' LT
- Station 2046+87, 77' LT
- Station 2048+75, 77' LT
- Station 2050+87, 76' LT

The WE-Energies Electric contact is Dan Sande, (414) 221-4578, (dan.sande@we-energies.com).

WE-Energies – Gas has a 2-inch plastic main along the south side of CTH K from the west project limits to the proposed West Frontage Road intersection approximately Station 32+50. They have a 6-inch steel gas main along the south side of CTH K from the West Frontage Road intersection to IH 94. There is a 6-inch steel main along the west side of the existing West Frontage Road south of CTH K. There is a 6-inch plastic main crossing under IH 94 just south of CTH K near Station 1055+42. The existing facilities will be replaced and will be abandoned in place.

Prior to construction WE-Energies Gas will perform the following:

- Install new 6-inch gas main 5' north of the south right-of-way line along CTH K from Station 11+50 to Station 32+50. A new 6-inch gas main crossing at Station 32+45 for future need for the NW frontage road.
- Install new 6-inch gas main 5' east of the west right-of-way line along West Frontage Road from Station 2034+00 to Station 5057+00.
- Install new 2-inch gas main 3' behind back of proposed east curb line of Lund Drive and around cul de sac to Station 17+25, 78' LT.

WE-Energies will adjust gas laterals as necessary during construction. Give WE-Energies Gas 48 hours notice for gas lateral adjustments.

The WE-Energies Gas contacts are Carl Drechsler, (262) 552-3428 and Dan Sande, (414) 221-4578.

WisDOT Traffic Operation Center (TOC) and Automatic Traffic Recording (ATR) Pull Boxes has underground communication wire in the previously described AT&T Long Distance duct along IH 94.

Conflicts are anticipated. WisDOT facilities will be relocated with the previously described AT&T Long Distance duct along IH94.

WisDOT TOC has loop detectors on northbound and southbound IH 94 just north of the I-94 bridge over CTH K and on the southbound exit and southbound and northbound entrance ramps, and conduit, pull boxes, and wire run along IH-94. WisDOT TOC has a

street light and a gate located at the beginning of the northbound entrance ramps. The existing control gate at Station 149+64, 88' LT shall be removed and salvaged by the highway contractor as part of the contract.

The WisDOT TOC contact is Donald Schell, (414) 227-2148, (donald.schell@dot.state.wi.us) and the WisDOT ATR contact is Cliff Serowski, (414) 266-1157, (clifford.serowski@dot.state.wi.us).

1030-11-77:

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

- An overhead communications line on We Energies poles beginning beyond the southerly project limits running north - south along the east right-of-way of the East Frontage Road to beyond the northerly project limits. AT&T Wisconsin will relocate the entire line to new We Energies poles prior to construction.
- An underground communications line beginning at a We Energies pole at Station 5900+25, 42' RT running southerly along the east side of the East Frontage Road to beyond the southerly project limits. AT&T Wisconsin will abandon this line in place from Station 5900+25, 42' RT to a pedestal at Station 5896+28, 77' RT prior to construction.
- An underground communications line beginning at a We Energies pole at Station 3004+04, 42' RT running southerly to the east right right-of-way of the East Frontage Road at Station 3003+78, 150' RT where it turns and runs southeasterly to Station 72+36, 53' LT. From there it turns and runs east along the north right-of-way of Golf Road to beyond the easterly project limits. AT&T Wisconsin will abandon this line in place from Station 3004+04, 42' RT to Station 73+84, 52' LT prior to construction.

AT&T Wisconsin will adjust, relocate, construct and reconstruct underground communications facilities in the project area at the following locations prior to construction:

- A new north - south overhead communications line on new We Energies poles throughout the project limits.
- A new underground communications line beginning at a pedestal at Station 5896+28, 77' RT running northerly along the east right-of-way of the East Frontage Road to a new We Energies pole at Station 5899+71, 69' RT.
- A new underground communications line beginning at a new We Energies pole at Station 3004+06, 63' RT running southeasterly to the north right-of-way of Golf Road at Station 72+35, 67' LT where it turns and runs east to Station 73+84, 52' LT.

Contact Mike Toyek, (262-636-0549) of AT&T Wisconsin 7 days in advance to coordinate locations and any excavation near their facilities.

Time Warner Cable has an overhead communications line on We Energies pole beginning from beyond the easterly project limits running west along the south right-of-way of Golf Road to a pole at Station 6005+14, 41' RT. From there it drops to an underground communications line running north along the east side of the East Frontage Road to Station 3003+25, 37' RT where it turns and runs west, crossing the East Frontage Road at Station 3003+26, to beyond the westerly project limits. Time Warner will relocate the overhead line from Station 6005+14, 41' RT to Station 74+32, 42' RT prior to construction. Time Warner Cable will also abandon the underground line in place prior to construction.

Time Warner Cable will reconstruct a new underground communications line beginning at a new We Energies pole at Station 6005+26, 68' RT running north along the east side of the East Frontage Road to Station 6006+01, 60' RT where it turns and runs northwesterly, crossing the East Frontage Road at Station 6006+14, to Station 70+00, 13' RT where it turns and runs west along the south side of Golf Road to beyond the westerly project limits.

Contact Robert Detert, (414) 277-4280 office / (414) 688-0348 cell, of Time Warner Cable 7 days in advance to coordinate locations and any excavation near their facilities.

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

- An overhead electric line beginning from beyond the southerly project limits running northerly along the east side of the East Frontage Roads, crossing Kraut Road at Station 51+00 and Golf Road at Station 70+97, to beyond the northerly project limits. We Energies will relocate the entire pole line prior to construction.
- An overhead electric line beginning at a pole at Station 51+02, 34' RT running east along the south right-of-way of Kraut Road to beyond the easterly project limits. We Energies will relocate portions of this line prior to construction.
- An overhead electric line beginning at a pole at Station 6005+14, 41' RT running northeasterly along the south right-of-way of Golf Road where it turns and runs east to beyond the easterly project limits. We Energies will relocate portions of this line prior to construction.
- An overhead electric line beginning at a pole along the east right-of-way of the East Frontage Road at Station 3029+37, 82' RT running west, crossing the East Frontage Road at Station 3029+40, to beyond the westerly project limits. We Energies will relocate portions of this line prior to construction.

We Energies will relocate portions of the north - south pole line to a location east of the existing pole line from Station 5898+06 RT to beyond the northerly project limits. An existing pole along Golf Road at Station 72+32, 59' RT will also be relocated. New poles will be placed at the following locations prior to construction:

- 5897+99, 82' RT	- 5964+20, 63' RT
- 5900+70, 68' RT	- 5966+00, 63' RT
- 5903+04, 68' RT	- 5967+63, 63' RT
- 5905+75, 68' RT	- 5970+18, 63' RT
- 5908+57, 68' RT	- 5972+38, 63' RT
- 5911+26, 68' RT	- 5974+94, 63' RT
- 5913+77, 68' RT	- 5977+57, 63' RT
- 5916+28, 68' RT	- 5979+52, 63' RT
- 5918+77, 68' RT	- 5981+80, 68' RT
- 5921+41, 68' RT	- 5984+54, 68' RT
- 5924+01, 68' RT	- 5986+97, 68' RT
- 5926+00, 66' RT	- 5989+41, 68' RT
- 5926+00, 38' RT	- 5991+74, 68' RT
- 5928+92, 38' RT	- 5994+11, 68' RT
- 5930+84, 38' RT	- 5996+41, 68' RT
- 5931+80, 38' RT	- 5998+55, 68' RT
- 5932+60, 38' RT	- 6000+73, 68' RT
- 5933+01, 38' RT	- 6002+90, 68' RT
- 5933+71, 63' RT	- 6005+26, 68' RT
- 5935+17, 63' RT	- 6005+56, 123' RT
- 5936+54, 63' RT	- 6005+85, 178' RT
- 5937+74, 63' RT	- 3003+51, 63' RT
- 5940+34, 63' RT	- 3004+06, 63' RT
- 5942+61, 63' RT	- 3006+69, 63' RT
- 5944+90, 63' RT	- 3009+21, 71' RT
- 5947+22, 63' RT	- 3009+23, 63' RT
- 5949+34, 63' RT	- 3012+03, 63' RT
- 5951+86, 63' RT	- 3014+83, 63' RT
- 5953+15, 63' RT	- 3017+61, 63' RT
- 5955+81, 63' RT	- 3020+44, 63' RT
- 5957+41, 63' RT	- 3022+51, 63' RT
- 5959+13, 63' RT	- 3024+68, 72' RT
- 5961+20, 63' RT	- 3027+08, 79' RT
- 5962+35, 63' RT	- 51+89, 33' RT

Contact Eugene McNew, (262) 886-7033 office / (414) 531-5286 cell, of We Energies - Electric 7 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 main beginning from beyond the southerly project limits running north along the east right-of-way of the East Frontage Road at Station 5926+45' RT where it turns and runs east along the south right-of-way of Kraut Road to beyond the easterly project limits. We Energies will abandon this main in

place from Station 5899+41, 50' RT to Station 5926+45' RT to Station 53+77, 33' RT prior to construction.

- An underground gas main beginning along the south right-of-way of Kraut Road at Station 52+13, 32' RT running north, crossing Kraut Road at Station 52+13, to Station 52+13, 27' LT where it turns and runs west along the north right-of-way of Kraut Road to Station 51+00, 37' LT. From there it turns and runs northerly along the east right-of-way of the East Frontage Road to Station 6004+43, 39' RT where it turns and runs northeasterly along the south right-of-way of Golf Road to Station 72+28, 58' RT. From there it turns and runs north, crossing Golf Road at Station 72+28, to Station 72+28, 40' LT. We Energies will abandon this main in place from Station 52+13, 32' RT to Station 6004+71, 66' RT prior to construction.
- An underground gas main beginning along the south side of Golf Road at Station 72+28, 26' RT running westerly, crossing the East Frontage Road at Station 6006+19, to Station 6006+31, 8' RT where it turns and runs west in the eastbound lane of Golf Road to beyond the westerly project limits. We Energies will abandon this line in place prior to construction.

We Energies will adjust, relocate, construct and reconstruct underground gas facilities in the project area at the following locations prior to construction:

- A new underground gas main beginning at Station 5899+41, 50' RT running north along the east right-of-way of the East Frontage Road, crossing Kraut Road at Station 50+98, to Station 5933+04, 38' RT where it turns and runs northeasterly back to the east right-of-way of the East Frontage Road at Station 5933+57, 61' RT. From there it turns and runs north approximately 4' off the east right-of-way of the East Frontage Road to connect into the existing main at Station 6004+71, 66' RT.
- A new underground gas main beginning along the east right-of-way of the East Frontage Road at Station 6004+40, 66' RT where it turns and runs west, crossing the East Frontage Road at Station 6004+40, to beyond the westerly project limits.
- A new underground gas main beginning along the east side of the East Frontage Road at Station 5926+44, 50' RT running east along the south side of Kraut Road to Station 53+75, 33' RT.
- A new underground gas main beginning beyond the northerly project limits running south along the east right-of-way of the East Frontage Road to Station 3031+00, 74' RT where it turns and runs west, crossing the East Frontage Road at Station 3031+00, to beyond the westerly project limits.

Contact Chris Degrave, (262) 886-7018 office / (262) 939-9814 cell, of We Energies – Gas 7 days in advance to coordinate locations and any excavation near their facilities.

1030-11-78:

AT&T Corporation has an underground duct package beginning beyond the southerly project limits and running northerly along the west side of the West Frontage Road, crossing Evans Lane at Station 82+53, to Station 4899+59, 51' LT where it turns and runs east, crossing the West Frontage Road at Station 4899+59, to Station 4899+59, 63' RT. From there it turns and runs north along the west side of the fence line of IH 94 / West Frontage Road to beyond the northerly project limits. This duct package consists of six 2-inch ducts that are bundled with three 2-inch ducts owned by Level 3, for a total of nine ducts.

AT&T Corporation will relocate this 9-duct package to the west side of the West Frontage Road beginning at Station 4899+59, 51' LT running west to Station 4899+59, 86' LT where it turns and runs north approximately 2' off the west right-of-way of the West Frontage Road, crossing 2 Mile Road at Station 9+39, to the north side of 2 Mile Road. From there it continues north approximately 8' off the west right-of-way of the West Frontage Road to Station 5003+00, 52' LT and continues north to Station 5008+00, 52' LT. From there it continues north approximately 8' off the west right-of-way of the West Frontage Road, crossing Nicholas Road at Station 19+49 and 3 Mile Road at Station 29+33, to beyond the northerly project limits. The existing duct package from Station 4899+59, 51' LT to Station 4899+59, 63' RT to beyond the northerly project limits will be abandoned in place prior to construction.

AT&T Corporation also has an abandoned duct package beginning along the west side of the fence line of IH 94/ West Frontage Road from beyond the southerly project limits running northerly to Station 4899+59, 63'.

Contact Rich Meyers, (630) 215-7567, of JMC Engineers and Associates 7 days in advance to coordinate locations and any excavation near AT&T Corporation facilities.

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

- An overhead communications line on We Energies poles beginning beyond the southerly project limits running north - south along the west right-of-way of the West Frontage Road to beyond the northerly project limits. AT&T Wisconsin will relocate portions of this line from Station 4900+56 LT to Station 4907+56 LT, Station 4929+69 LT to Station 4979+82 LT, and Station 5001+68 LT to Station 2030+86 LT to new We Energies poles prior to construction.
- An underground communications line beginning from beyond the southerly project limits running north along the west right-of-way of the West Frontage Road to a pole at Station 4896+87, 84' LT. AT&T Wisconsin will abandon this line in place prior to construction.

- An overhead communications line on We Energies poles beginning at Station 4896+87, 84' LT running west along the south right-of-way of Evans Lane to beyond the westerly project limits. AT&T Wisconsin will relocate this line from the pole at Station 4896+87, 84' LT to a new We Energies pole prior to construction.
- An overhead communications line on We Energies poles beginning at Station 4925+40, 35' LT running southwesterly to an AT&T Wisconsin pole at Station 45+75, 41' LT where it turns and runs west on AT&T Wisconsin poles along the north side of Kraut Road to beyond the westerly project limits. AT&T Wisconsin will relocate this line from the pole at Station 4925+40, 35' LT to a new We Energies pole prior to construction.
- An underground communications line beginning at a We Energies pole at Station 4976+16, 12' LT running westerly to a We Energies pole at Station 4976+45, 78' LT where it rises up a pole and runs west on We Energies pole to beyond the westerly project limits. AT&T Wisconsin will abandon the underground line in place as well as the overhead line to beyond the westerly project limits prior to construction.
- An underground communications line beginning from beyond the westerly project limits running east along the north side of 2 Mile Road to Station 4977+20, 45' LT where it turns and runs north along the west right-of-way of the West Frontage Road to a pole at Station 4978+05, 44' LT. AT&T Wisconsin will abandon this line in place from Station 8+28, 31' LT to Station 4977+20, 45' LT to the pole at Station 4978+05, 44' prior to construction.
- An underground communications line beginning from beyond the westerly project limits running east along the north side of 2 Mile Road to Station 8+28, 31' LT where it turns and runs northeasterly to a pole at Station 4978+05, 44' LT. AT&T Wisconsin will abandon this line in place from Station 8+28, 31' LT to the pole at Station 4978+05, 44' prior to construction.
- An underground communications line beginning at a We Energies pole at Station 4978+05, 44' LT running north along the west side of the West Frontage Road to a We Energies pole at Station 2025+01, 36' LT. AT&T Wisconsin will abandon portions of this line in place from Station 4978+05, 44' LT to Station 4979+80, 49' LT and Station 4999+88, 65' LT to Station 2025+01, 36' LT prior to construction.
- Two underground communications lines beginning at a We Energies pole at Station 2025+01, 36' LT running south along the west right-of-way of the West Frontage Road to Station 2024+09, 39' LT where they turn and run west to beyond the westerly project limits. AT&T Wisconsin will abandon these lines in place from Station 2025+01, 36' LT to Station 2024+09, 135' LT prior to construction.
- An underground communications line beginning from beyond the westerly project limits running east along the south right-of-way of 3 Mile Road to a We Energies pole at Station 2028+84, 46' LT. AT&T Wisconsin will abandon this line in place from the We Energies pole at Station 2028+84, 46' LT running west to beyond the westerly project limits prior to construction.

AT&T Wisconsin will adjust, relocate, construct and reconstruct underground communications facilities in the project area at the following locations prior to construction:

- A new overhead communications line on new We Energies poles from Station 4900+56 LT to Station 4907+56 LT, Station 4929+69 LT to Station 4979+82 LT, and Station 5001+68 LT to Station 2030+86 LT.
- A new underground communications line beginning at a new We Energies pole at Station 4970+00, 45' LT running northwesterly along the west right-of-way of the West Frontage Road to Station 4975+35, 61' LT where it turns and runs northerly to Station 8+28, 28' RT. From there it turns and runs north, crossing 2 Mile Road at Station 8+28, to a pedestal at Station 8+28, 31' LT where it turns and runs northeasterly along the west right-of-way of the West Frontage Road to Station 4978+12, 69' LT. From there it turns and runs northerly to a pedestal at Station 4979+80, 49' LT.
- A new underground communications line beginning from beyond the westerly project limits and running east along the south right-of-way of 2 Mile Road to Station 8+28, 28' RT where it turns and runs north, crossing 2 Mile Road at Station 8+28, to a pedestal at Station 8+28, 31' LT. From there it turns and runs northeasterly along the west right-of-way of the West Frontage Road to a pedestal at Station 4978+06, 74' LT where it turns and runs east to a new We Energies pole at Station 4978+06, 60' LT.
- A new underground communications line beginning at a pedestal at Station 4999+88, 65' LT running north along the west right-of-way of the West Frontage Road to Station 5003+01, 59' LT where it turns and runs northeasterly to Station 5004+11, 85' LT. From there it turns and runs north to Station 5007+38, 85' LT where it turns and runs to Station 5008+00, 58' LT. From there it turns and runs north approximately 2' east of the west right-of-way of the West Frontage Road to Station 5018+00, 59' LT where it turns and runs west to Station 5018+00, 84' LT. From there it turns and runs north, crossing Nicholas Road at Station 19+13, to a pedestal at Station 19+13, 53' LT.
- A new underground communications line beginning at a pedestal at Station 19+13, 53' LT running easterly along the north right-of-way of Nicholas Road to Station 2021+08, 56' LT where it turns and runs north approximately 2' off the west right-of-way of the West Frontage Road to Station 2026+27, 64' LT. From there it turns and runs west to Station 2026+27, 79' LT where it turns and runs north to Station 2028+50, 82' LT. From there it turns and runs northwesterly to Station 28+49, 37' RT where it turns and runs west along the south right-of-way of 3 Mile Road to beyond the westerly project limits.
- A new underground communications line beginning at a pedestal at Station 27+82, 33' RT along the south right-of-way of 3 Mile Road running north, crossing 3 Mile Road at Station 27+82, to Station 27+82, 24' LT where it turns and runs northeasterly along the west right-of-way of the West Frontage Road to Station 2031+05, 78' LT. From there it turns and runs north to a We Energies pole at Station 2032+51, 78' LT.

Contact Mike Toyek, (262) 636-0549, of AT&T Wisconsin 7 days in advance to coordinate locations and any excavation near their facilities.

Level 3 Communications has an underground duct package in the previously described AT&T Corporation duct package running throughout the project limits. This duct package consists of three 2-inch ducts that are bundled with six 2-inch ducts owned by AT&T Corporation, for a total of nine ducts. AT&T Corporation will relocate, adjust and abandon these lines on behalf of Level 3 prior to and during construction as previously described.

Contact Mark Dechant, (414) 271-1128 office / (414) 426-1857 cell, of Level 3 Communications 7 days in advance to coordinate locations and any excavation near their facilities.

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

- An overhead communications line on We Energies poles beginning beyond the southerly project limits running north - south along the west right-of-way of the West Frontage Road to beyond the northerly project limits. Time Warner Cable will relocate portions of this line from Station 4900+56 LT to Station 4907+56 LT, Station 4929+69, LT to Station 4979+82 LT, and Station 5001+68 LT to Station 2030+86 LT to new We Energies poles prior to construction.
- An overhead communications line on We Energies poles beginning at Station 4921+59, 38' LT running northwesterly to a pole at Station 45+55, 34' RT where it turns and runs west along the south side of Kraut Road to beyond the westerly project limits. Time Warner Cable will relocate this line from the pole at Station 4921+59, 38' LT to a new We Energies pole prior to construction.
- An underground communications line beginning at a We Energies pole at Station 4978+05, 44' LT running west to the west right-of-way of the West Frontage Road to Station 5978+05, 63' LT where it turns and runs southwest along the north right-of-way of 2 Mile Road to beyond the westerly project limits. Time Warner Cable will abandon this line between Station 4978+05, 44' and Station 4978+05, 60' prior to construction.
- An underground communications line beginning at a We Energies pole at Station 5004+04, 40' LT running southerly along the west side of the West Frontage Road to Station 5003+28, 32' LT where it turns and runs easterly, crossing the West Frontage Road at Station 5003+36, to beyond the easterly project limits. Time Warner Cable will abandon this line in place prior to construction.
- An underground communications line beginning at a We Energies pole at Station 2021+15, 30' LT running southerly along the west side of the West Frontage Road to Station 2020+75, 29' LT where it turns and runs west along the north side of Nicholas Road to beyond the westerly project limits. Time Warner Cable will abandon this line in place from Station 2021+15, 30' to Station 2020+75, 29' LT to Station 18+42, 31' LT prior to construction.

Time Warner Cable will adjust, relocate, construct and reconstruct underground communications facilities in the project area at the following locations prior to construction:

- New overhead communications line on new We Energies poles from Station 4900+56 LT to Station 4907+56 LT, Station 4929+69, LT to Station 4979+82 LT, and Station 5001+68 LT to Station 2030+86 LT.
- A new underground communications line beginning at a new We Energies pole at Station 5004+04, 56' LT running west to the west right-of-way of the West Frontage Road to Station 5004+03, 86' LT where it turns and runs south to Station 5003+11, 69' LT. From there it turns and runs southeasterly to Station 5002+85, 58' LT where it turns and runs east, crossing the West Frontage Road at Station 5002+87, to beyond the easterly project limits.
- A new underground communications line beginning at a new We Energies pole at Station 2020+95, 58' LT running southwesterly to Station 18+42, 31' LT.

Contact Robert Detert, (414) 277-4280 office / (414) 688-0348 cell, of Time Warner Cable 7 days in advance to coordinate locations and any excavation near their facilities.

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

- An overhead electric line beginning beyond the southerly project limits running north - south along the west right-of-way of the West Frontage Road to beyond the northerly project limits. We Energies will relocate portions of this line prior to construction.
- An overhead electric line beginning at a We Energies pole at Station 4896+86, 83' LT running westerly along the south side of Evans Lane to beyond the westerly project limits. This line will remain in place without adjustment.
- An overhead electric line beginning at a We Energies pole at Station 4921+59, 38' LT running westerly along the south side of Kraut Road to beyond the westerly project limits. We Energies will relocate portions of this pole line prior to construction.
- An overhead electric line beginning at a We Energies pole at Station 4976+16, 12' LT running westerly along the south side of 2 Mile Road to beyond the westerly project limits. We Energies will relocate portions of this pole line prior to construction.
- An overhead electric line beginning at a We Energies pole at Station 2028+83, 46' LT running westerly along the south side of 3 Mile Road to beyond the westerly project limits. We Energies will relocate portions of this pole line prior to construction.
- An overhead electric line beginning at a We Energies pole at Station 2028+83, 46' LT running east, crossing the West Frontage Road at Station 2028+83, to beyond the easterly project limits. We Energies will relocate portions of this pole line prior to construction.

We Energies will relocate portions of the north - south pole line to a location west of the existing pole line from Station 4900+56 LT to Station 4907+56 LT, Station 4929+69, LT to Station 4979+82 LT, and Station 5001+68 LT to Station 2030+86 LT. Existing poles along 2 Mile Road at Station 4976+45, 78' LT and 3 Mile Road at Station 28+76, 33' RT will also be relocated. New poles will be placed at the following locations prior to construction:

- 4902+55, 75' LT	- 4966+13, 49' LT
- 4905+17, 46' LT	- 4967+45, 49' LT
- 4920+30, 41' LT	- 4968+88, 44' LT
- 4921+70, 44' LT	- 4970+00, 45' LT
- 4922+80, 42' LT	- 4972+00, 47' LT
- 4925+25, 41' LT	- 4973+31, 49' LT
- 4927+80, 46' LT	- 4974+85, 54' LT
- 4928+70, 47' LT	- 4976+00, 60' LT
- 4930+30, 47' LT	- 4978+07, 60' LT
- 4931+90, 49' LT	- 5004+04, 56' LT
- 4934+35, 49' LT	- 5006+59, 56' LT
- 4936+84, 49' LT	- 5008+32, 56' LT
- 4938+48, 49' LT	- 5010+02, 56' LT
- 4940+30, 49' LT	- 5012+50, 56' LT
- 4941+95, 49' LT	- 5013+56, 56' LT
- 4943+87, 49' LT	- 5015+49, 56' LT
- 4945+92, 49' LT	- 5017+40, 56' LT
- 4948+40, 49' LT	- 5018+00, 56' LT
- 4950+03, 49' LT	- 2020+95, 58' LT
- 4952+06, 49' LT	- 2023+10, 60' LT
- 4954+38, 49' LT	- 2025+01, 63' LT
- 4956+69, 49' LT	- 2026+35, 66' LT
- 4959+02, 49' LT	- 2028+69, 74' LT
- 4961+40, 49' LT	- 2030+09, 77' LT
- 4962+85, 49' LT	- 28+50, 33' RT
- 4964+00, 49' LT	- 9+01, 57' RT

Contact Ed Herda, (262) 763-1013, of We Energies – Electric 7 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 main beginning from beyond the southerly project limits running north along the west right-of-way of the West Frontage Road, crossing Evans Lane at Station 82+11, to Station 4899+59, 88' LT. We Energies will abandon this main from Station 4896+58, 87' LT to Station 4897+86, 87' LT prior to construction.

- An underground gas main beginning along the south side of Evans Lane at Station 82+11, 22' RT running westerly to beyond the westerly project limits. We Energies will abandon this main from Station 82+11, 22' RT to Station 80+67, 21' RT prior to construction.
- An underground gas main beginning from beyond the westerly project limits running east along the south right-of-way of Kraut Road to Station 45+90, 43' RT. This line will remain in place without adjustment.
- An underground gas main beginning from the last previously described gas main at Station 45+90, 43' RT running north, crossing Kraut Road at Station 45+90, to Station 45+90, 47' LT where it turns and runs northwesterly along the west right-of-way of the West Frontage Road to Station 4925+34, 32' LT. From there it turns and runs north along the west right-of-way of the West Frontage Road to Station 4975+05, 8' LT where it turns and runs northwesterly to Station 4976+44, 161' LT and continues westerly along the south side of 2 Mile Road to beyond the westerly project limits. We Energies will abandon this main from Station 4924+43, 129' LT to Station 4975+54, 64' LT prior to construction.
- An underground gas main beginning from the last previously described gas main at Station 4976+44, 161' LT running north, crossing 2 Mile Road at Station 8+44, to Station 8+44, 32' LT where it turns and runs northeasterly along the west right-of-way of the West Frontage Road to Station 4978+05, 38' LT. From there it turns and runs north along the west right-of-way of the West Frontage Road to Station 5003+00, 35' LT. From there the line continues north to Station 5020+21, 23' LT and continues north to beyond the northerly project limits. We Energies will abandon this main from Station 8+44, 32' LT to Station 4980+47, 42' LT and from Station 5000+45, 56' LT to beyond the northerly project limits prior to construction.
- An underground gas main beginning from the last previously described gas main at Station 5003+00, 35' LT running east under Golf Road to beyond the easterly project limits. We Energies will abandon this line prior to construction.
- An underground gas main beginning at Station 5020+21, 23' LT running west along the south right-of-way of Nicholas Road to beyond the westerly project limits. We Energies will abandon this line from Station 5020+21, 23' LT to Station 18+45, 30' RT prior to construction.

We Energies will adjust, relocate, construct and reconstruct underground gas facilities in the project area at the following locations prior to construction:

- A new underground gas main beginning at Station 4896+58, 87' LT running northerly along the west right-of-way of the West Frontage Road to Station 4897+86, 87' LT.
- A new underground gas main beginning at Station 82+11, 22' RT running west along the south right-of-way of Evans Lane to Station 80+67, 21' RT.
- A new underground gas main beginning at Station 4924+43, 129' LT running northeasterly along the west right-of-way of the West Frontage Road to Station 4925+22, 38' LT where it turns and runs north along the west right-of-way of the West Frontage Road to Station 4975+54, 64' LT.

- A new underground gas main beginning at Station 8+44, 32' LT running northeasterly to Station 4978+35, 40' LT where it turns and runs north along the west right-of-way of the West Frontage Road to Station 4980+47, 42' LT.
- A new underground gas main beginning at Station 5000+45, 56' LT running north along the west right-of-way of the West Frontage Road to Station 5002+96, 41' LT where it turns and runs northwesterly to Station 5004+47, 88' LT. From there it turns and runs north to Station 5007+39, 88' LT where it turns and runs northeasterly to Station 5008+39, 45' LT. From there it turns and runs north, crossing Nicholas Road at Station 19+53 and 3 Mile Road at Station 29+44 to beyond the northerly project limits.
- A new underground gas main beginning at Station 5001+11, 53' LT running east, crossing the West Frontage Road at Station 5001+10, to beyond the easterly project limits.
- A new underground gas main beginning at Station 5020+25, 47' LT running west along the south right-of-way of Nicholas Road to Station 18+45, 30' RT.

Contact Chris Degrave, (262) 886-7018 office / (262) 939-9814 cell, of We Energies – Gas 7 days in advance to coordinate locations and any excavation near their facilities.

WisDOT STOC has underground fiber optic communications lines in the previously described AT&T Corporation duct package throughout the project limits. AT&T Corporation will relocate, adjust and abandon these lines on behalf of the STOC prior to and during construction as previously described.

Contact Jeffery Madson, (414) 225-3723, of WisDOT - STOC 7 days in advance to coordinate locations and any excavation near their facilities.

Yorkville, Town of - Sewer has sewer facilities within the project area in the following locations:

- A sanitary sewer beginning from beyond the southern project limits and running north along the west side of the West Frontage Road to an existing lift station at Station 4893+48, 43' LT and continues north to a manhole at Station 4897+10, 24' LT continuing north to a manhole at Station 4900+89, 28' LT.
- A sanitary sewer beginning at a manhole at Station 4897+10, 24' LT running west in the westbound lane of Evans Lane to beyond the westerly project limits.

These sanitary sewer mains will remain in place without adjustment. Reconstruct and adjust the manholes as shown in the plans.

The Town of Yorkville – Sewer also has an abandoned sanitary sewer force main beginning at the existing lift station at Station 4893+48, 43' LT running south along the west side of the West Frontage Road to beyond the southerly project limits.

Contact Mark Madsen, (262) 634-5588, of Town of Yorkville - Sewer 7 days in advance to coordinate locations and any excavation near their facilities.

1030-25-77:

AT&T Wisconsin has an overhead communications line on We Energies poles beginning beyond the southerly project limits and running northerly along the east right-of-way of the East Frontage Road, crossing 4 Mile Road at Station 10+75 and Bell Road at Station 20+57, and continuing northerly to beyond the northerly project limits. AT&T Wisconsin will relocate this line to new We Energies poles between the following stations prior to construction:

- Station 5080+33, 73' RT to Station 5084+85, 53' RT.
- Station 5098+47, 54' RT to Station 5104+39, 52' RT.
- Station 5107+62, 54' RT to Station 5128+91, 53' RT.

AT&T Wisconsin also has an underground communication line beginning at a We Energies pole along the north right-of-way of 4 Mile Road at Station 10+76, 24' LT and running east to beyond the easterly project limits. AT&T Wisconsin will abandon in place this line from Station 10+76, 24' LT to 13+70, 24' LT and replace it with an overhead connection on We Energies poles prior to construction.

Contact Mike Toyek, (262) 636-0549, of AT&T Wisconsin 7 days in advance to coordinate locations and any excavation near their facilities.

Time Warner Cable has an overhead communications line on We Energies poles beginning beyond the southerly project limits and running northerly along the east right-of-way of the East Frontage Road, crossing 4 Mile Road at Station 10+75 and Bell Road at Station 20+57, and continuing northerly to beyond the northerly project limits. Time Warner Cable will relocate this line to new We Energies poles between the following stations prior to construction:

- Station 5080+33, 73' RT to Station 5084+85, 53' RT.
- Station 5107+62, 54' RT to Station 5128+91, 53' RT.

Contact Robert Detert, (414) 277-4280 office / (414) 688-0348 cell, of Time Warner Cable 7 days in advance to coordinate locations and any excavation near their facilities.

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

- An overhead electric line beginning beyond the southerly project limits and running northerly along the east right-of-way of the East Frontage Road, crossing 4 Mile Road at Station 10+75 and Bell Road at Station 20+57, and continuing northerly to beyond the project limits. We Energies will relocate portions of this line prior to construction.

- An overhead electric line beginning beyond the easterly project limits and running westerly along the north right-of-way of 4 Mile Road to a pole in the previously described north-south line. We Energies will relocate portions of this line prior to construction.
- An overhead electric line beginning beyond the easterly project limits and running westerly along the north right-of-way of Bell Road to a pole in the previously described north-south line. We Energies will relocate portions of this line prior to construction.

We Energies will relocate portions of the north-south pole line to a location east of the existing pole line between Station 5080+33 RT and Station 5084+85 RT, Station 5098+47 RT and Station 5104+39 RT, and Station 5107+62 RT and Station 3128+91 RT. An existing pole along 4 Mile Road at Station 12+67, 23' LT will also be relocated. New poles will be placed at the following locations prior to construction:

- 3109+36, 67' RT	- 3126+38, 60' RT
- 3113+77, 57' RT	- 5082+80, 73' RT
- 3115+91, 52' RT	- 5100+45, 54' RT
- 3118+69, 53' RT	- 5102+25, 65' RT
- 3121+39, 53' RT	- 12+67, 34' LT (4 Mile Rd)
- 3124+11, 53' RT	- 5082+51, 53' RT (Light Pole)
- 21+96, 33' LT	- 5108+59, 47' RT (Light Pole)

It is anticipated that pole and anchor at Station 5082+80, 73' RT will be in conflict with the proposed installation of Structure 512B. We Energies will remove the anchor and support this pole during the installation of Structure 512B. Contact Mike Simmons, (262) 886-7007 office / (414) 588-0694 cell, of We Energies – Electric 5 days prior to the installation of Structure 512B.

We Energies will remove existing street lights attached to existing poles at Station 8081+80, 32' RT and Station 3108+73, 38' RT, and will attach new street lights to new poles located at Station 5082+51, 53' RT and Station 5108+59, 47' RT. Contact Mike Simmons (262-886-7007 office/ 414-588-0694 cell) of We Energies – Electric after the intersections of 4 Mile Road/East Frontage Road and Bell Road/East Frontage Road are paved so that We Energies can install proposed lights.

Contact Mike Simmons, (262) 886-7007 office / (414) 588-0694 cell, of We Energies – Electric 7 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 main beginning from beyond the easterly project limits running west along the south right-of-way of 4 Mile Road to Station 10+71, 43' RT where it turns and runs northerly, crossing 4 Mile Road at Station 10+71. From there the line continues northerly approximately 2' off the east right-of-way

of the East Frontage Road to Station 5092+25, 67' RT where it turns and runs easterly to beyond the project limits. This line will remain in place without adjustment.

- An underground gas main beginning from beyond the easterly project limits running west along the south right-of-way of Bell Road to Station 20+43, 13' RT where it turn and runs southerly along the east right-of-way of the East Frontage Road to Station 5105+60, 37' RT. We Energies will abandon this main in place from Station 22+38, 15' RT to Station 20+43, 13' RT and from Station 20+43, 13' RT to Station 5105+60, 37' RT prior to construction.
- An underground gas main beginning from Station 20+43, 13' RT where it turns and runs northerly, crossing Bell Road at Station 20+43, to Station 3109+20, 43' RT. We Energies will abandon this main in place prior to construction.

We Energies will adjust, relocate, construct and reconstruct underground gas facilities in the project area at the following locations prior to construction:

- A new underground gas main beginning at Station 22+38, 15' RT and running westerly along the south right-of-way of Bell Road to Station 20+59, 59' RT.
- A new underground gas main beginning at Station 5105+59, 61' RT and running northerly along the east right-of-way of the East Frontage Road to Station 3110+29, 67' RT.

Contact Chris Degrave, (262) 886-7018 office / (262) 939-9814 cell, of We Energies – Gas 7 days in advance to coordinate locations and any excavation near their facilities.

1030-25-78:

AT&T Corporation has an underground duct package beginning beyond the southerly project limits and running northerly along the west side of the fence line of IH 94 / West Frontage Road, crossing past the Weigh Station along the west side of IH 94, and continuing northerly to hand holes at Station 2137+56, 47' RT where it turns and runs west, crossing the West Frontage Road at Station 2137+56, to hand holes at Station 2137+56, 50' LT. From there the line turns and runs north along the west right-of-way of the West Frontage Road to beyond the project limits. This duct package consists of six 2-inch ducts that are bundled with three 2-inch ducts owned by Level 3, for a total of nine ducts.

AT&T Corporation will relocate this 9-duct package to the west side of the West Frontage Road beginning beyond the southerly project limits to Station 4106+90, 69' LT where it turns and runs northeasterly, crossing the West Frontage Road at Station 4108+84, to Station 4109+27, 23' RT. From there it turns and runs northerly along the east side of the West Frontage Road around the Weigh Station to Station 4118+15, 22' RT where it turns and runs northwesterly, crossing the West Frontage Road at Station 4119+10, to a set of hand holes at Station 4120+54, 48' LT. From there it turns northerly and runs along the west right-of-way of the West Frontage Road and ties into their

existing package at Station 2137+56, 50' LT. The existing duct package will be abandoned in place.

AT&T Corporation also has an abandoned duct package beginning at Station 2137+56, 47' RT running northerly along the west side of the fence line of IH 94 / West Frontage Road to beyond the project limits. This line will remain abandoned in place.

Contact Rich Meyers, (630) 215-7567, of JMC Engineers and Associates 7 days in advance to coordinate locations and any excavation near AT&T Corporation facilities.

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

- An overhead communications facility beginning beyond the southerly project limits running north along the west right-of-way of the West Frontage Road to Station 4103+39, 80' LT where it continues north on We Energies poles to Station 4108+80, 78' LT. This line will remain in place without adjustment.
- An underground communications facility beginning at a pole at Station 4108+80, 78' LT running northerly around the west right-of-way of the West Frontage Road to a pole at Station 4119+66, 56' LT. AT&T Wisconsin will lower in place this line from Station 4110+00, 74' LT to Station 4114+00, 66' LT prior to construction.
- An overhead communications facility on We Energies poles beginning at a pole at Station 4110+00, 74' LT running northerly along the west right-of-way of the West Frontage Road to beyond the northerly project limits. AT&T Wisconsin will relocate this line to new We Energies poles from Station 4128+42, 44' LT to Station 2138+13, 63' LT and from Station 2142+83, 58' LT prior to construction.

Contact Mike Toyek, (262) 636-0549, of AT&T Wisconsin 7 days in advance to coordinate locations and any excavation near their facilities.

Level 3 Communications has an underground duct package in the previously described AT&T Corporation duct package running throughout the project limits. This duct package consists of three 2-inch ducts that are bundled with six 2-inch ducts owned by AT&T Corporation, for a total of nine ducts. AT&T Corporation will relocate, adjust and abandon these lines on behalf of Level 3 prior to and during construction as previously described.

Contact Mark Dechant, (414) 271-1128 office / (414) 426-1857 cell, of Level 3 Communications 7 days in advance to coordinate locations and any excavation near their facilities.

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

- An overhead communications facility on We Energies poles beginning from beyond the westerly project limits running east along the south right-of-way of 5 Mile Road to a pole at Station 28+06, 32' RT where it turns and runs southeasterly to a pole at Station 4134+41, 36' LT. From there it turns and runs east, crossing the West Frontage Road and IH 94 to beyond the easterly project limits. Time Warner Cable will relocate this line to new We Energies poles from Station 28+06, 32' RT to beyond the easterly project limits prior to construction.
- An overhead communications facility on We Energies poles beginning at a pole at Station 4134+41, 36' LT running south to a pole at Station 4123+48, 43' LT. From there it drops to an underground communication line and continues south along the west right-of-way of the West Frontage Road to Station 4122+68, 54' LT where it turns and runs west to beyond the westerly project limits. Time Warner Cable will relocate this line to new We Energies poles from Station 4134+41, 36' LT to Station 4128+42, 44' LT prior to construction.

Contact Robert Detert, (414) 277-4280 office / (414) 688-0348 cell, of Time Warner Cable 7 days in advance to coordinate locations and any excavation near their facilities.

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

- An overhead electric line beginning beyond the westerly project limits running north-south outside of the west right-of-way of the West Frontage Road where it enters into the project limits at a pole at Station 4107+21, 79' LT. This line will remain in place without adjustment.
- An overhead electric line beginning at a We Energies pole at Station 4101+40, 79' LT running north along the west right-of-way of the West Frontage Road to Station 4108+84, 65' LT. This line will remain in place without adjustment.
- An underground electric line beginning at a We Energies pole at Station 4105+42, 80' LT running along the west right-of-way of the West Frontage Road to Station 4108+85, 57' LT where it turns and runs northwesterly to continue around the west right-of-way of the West Frontage Road to Station 4113+48, 37' LT. From there it turns and runs northwesterly to Station 4113+95, 65' LT where it turns and runs northerly along the west right-of-way to Station 4117+02, 50' LT. From there it continues northerly along the west right-of-way to a We Energies pole at Station 4117+87, 63' LT. We Energies will abandoned portions of this line from Station 4110+21, 67' LT to Station 4113+95, 65' LT prior to construction.
- An underground electric line beginning at a We Energies pole at Station 4108+86, 64' LT running along the west right-of-way of the West Frontage Road to Station 4108+85, 60' LT where it turns and runs northwesterly to continue around the west right-of-way of the West Frontage Road to Station 4113+48, 37' LT. From there it turns and runs northwesterly to Station 4113+95, 68' LT where it turns and runs northerly along the west right-of-way to Station 4117+02, 52' LT. From there it continues northerly along the west right-of-way to a We Energies pole at Station 4119+67, 56' LT. We Energies will abandoned portions of this line from Station 4110+21, 74' LT to Station 4113+95, 67' LT prior to construction.

- An underground electric line beginning at a pedestal at Station 4113+00, 45' LT running easterly, crossing the West Frontage Road at Station 4113+00, to beyond the easterly project limits. We Energies will abandon the pedestal and portions of this line from Station 4113+00, 45' LT to Station 4113+00, 45' RT prior to construction.
- An overhead electric line beginning at a We Energies pole at Station 4117+87, 63' LT running northeasterly along the west right-of-way of the West Frontage Road to a pole at Station 4123+50, 43' LT where it turns and runs north, crossing 5 Mile Road at Station 29+43, to beyond the northerly project limits. We Energies will relocate portions of this line prior to construction.
- An overhead electric line beginning from beyond the easterly project limits running west, crossing the West Frontage Road at Station 4134+41, to a pole at Station 4134+41, 37' LT where it turns and runs northwesterly to a pole at Station 28+06, 32' RT. From there it turns and runs westerly along the south right-of-way of 5 Mile Road to beyond the westerly project limits. We Energies will relocate portions of this line prior to construction.
- An overhead electric line beginning at a pole at Station 28+06, 32' RT running northerly, crossing 5 Mile Road at Station 28+19, to a pole at Station 28+30, 30' LT where it continues northerly to beyond the northerly project limits of 5 Mile Road. We Energies will relocate portions of this line prior to construction.

We Energies will relocate portions of the north-south pole line to a location west of the existing pole line between Station 4128+43 LT and Station 2138+14 RT. An additional pole along 5 Mile Road at Station 28+29, 30' LT and Station 4134+41, 37' LT will also be relocated and a pole at Station 4134+41, 45' RT will be removed. New poles will be placed at the following locations prior to construction:

- | | |
|-------------------|-------------------|
| - 4130+72, 53' LT | - 2136+21, 66' LT |
| - 4133+00, 62' LT | - 28+50, 44' LT |
| - 4135+28, 71' LT | |

We Energies will also install two new underground electric lines in the following locations prior to construction.

- From Station 4110+21, 67' LT to Station 4113+96, 64' LT.
- From Station 4110+21, 73' LT to Station 4113+96, 66' LT.
- From Station 4113+00, 76' LT to Station 4113+00, 45' RT.

Contact Mike Simmons, (262) 886-7007 office / (414) 588-0694 cell, of We Energies – Electric 7 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 main beginning from beyond the northerly project limits running south along the west right-of-way of the West Frontage Road, crossing 5 Mile Road at Station 29+53, to Station 4123+62, 41' LT. From there it continues south, around the weigh station along the west right-of-way of the West Frontage Road, to Station 4107+39, 70' LT. We Energies gas will abandon this line in place from Station 2136+68, 59' LT to Station 4124+80, 44' LT and Station 4114+58, 29' LT to Station 4110+00, 51' LT prior to construction.
- An underground gas main beginning from beyond the westerly project limits running east along the north right-of-way of 5 Mile Road to Station 28+32, 28' LT where it turns and runs northeast to connect into the previously described main at Station 2136+77, 63' LT. We Energies will abandon this line in place from Station 27+00, 27' LT to Station 2136+77, 63' LT prior to construction.

We Energies will adjust, relocate, construct and reconstruct underground gas facilities in the project area at the following locations prior to construction:

- A new underground gas main beginning at Station 2136+68, 59' LT running south, crossing 5 Mile Road at Station 29+25, to Station 4134+45, 66' LT and continues south approximately 5' of the west right-of-way of the West Frontage Road to Station 4124+80, 44' LT.
- A new underground gas main beginning at Station 4114+58, 29' LT running southwesterly to Station 4113+60, 68' LT where it turns and runs southeasterly approximately 13' of the west right-of-way of the West Frontage Road to Station 4110+00, 51' LT.

Contact Chris Degrave, (262) 886-7018 office / (262) 939-9814 cell, of We Energies – Gas 7 days in advance to coordinate locations and any excavation near their facilities.

WisDOT STOC has underground fiber optic communications lines in the previously described AT&T Corporation duct package throughout the project limits. AT&T Corporation will relocate, adjust and abandon these lines on behalf of the STOC prior to and during construction as previously described.

Contact Jeffery Madson, (414) 225-3723, of WisDOT - STOC 7 days in advance to coordinate locations and any excavation near their facilities.

8. Other Contracts.

Coordinate your work in accordance to standard spec 105.5.

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

It is expected that routine maintenance by the city and county personnel may be required at certain times concurrently with the work being done under this contract.

The following contracts are anticipated to be under construction within the time period of this contract, unless otherwise indicated:

IH 94 N-S Freeway miscellaneous construction contracts:

ID 1030-24-76, STH 11 Interchange – Frontage Road Grading

ID 1030-24-80, CTH KR to STH 11 – Box Culvert Extension

ID 1030-24-81, STH 11 Interchange – Access Road

9. Environmental Protection and Erosion Control.

Supplement standard spec 107.18 with the following:

Take adequate precautions to install and maintain necessary erosion and sediment control during grading and construction operations at curbs and gutters, and at other locations as determined by the engineer. Protect storm drain inlets and manholes at locations determined by the engineer with a filter fabric or equivalent barrier meeting accepted design criteria, standards, and specifications.

If dewatering is required, pump the water removed into a settling basin before it is allowed to reenter the storm/combined sewer system. The cost of settling basin(s) construction will be paid for as erosion bales and geotextile fabric Type FF. Maintenance, operation and removal of temporary settling basin(s) will be incidental to the cost of constructing the settling basin(s). It will not be paid for separately. The design of settling basin(s) shall be approved by the engineer.

Do not store equipment or material in areas that are within 10 feet of wetlands or existing waterways.

Do not use fertilizer in areas that are within 20 feet of wetlands or existing waterways.

Place stockpiled spoil material on an upland site an adequate distance from the stream and any open water created by excavation. Install silt fence between the spoil pile and excavation site and between any disturbed area and the waterway. Seed and mulch, or sod all disturbed areas as designated in the plans as soon as possible following construction. Leave the silt fence in place until the seeded area has produced sufficient grass cover to stabilize the area and thereby reduce the danger of site erosion.

Store all containers (drums of concrete curing agents, petroleum storage tanks, pressurized gas cylinders, etc.) in secure locations to avoid an attractive nuisance and to prevent vandalism, spills, and unwanted dumping. If abandoned containers are found, notify Mike Thompson, DNR, (414) 263-8648, or the DNR Hotline (24hrs/day) at (800) 943-0003 to report the incident.

Supplement standard spec 107.20 with the following:

Provide the Erosion Control Implementation Plan (ECIP) 14 days prior to the pre-construction conference. Pursue operations in a timely and diligent manner, continuing all construction operations methodically from the initial removals and topsoil stripping operations through the subsequent grading, paving, and re-topsoiling to minimize the period of exposure to possible erosion.

Topsoil graded areas, as designated by the engineer, immediately after grading has been completed within those areas. Seed and mulch, and fertilize all topsoiled areas within 7 calendar days after placement of topsoil.

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

Construct temporary sediment traps at locations that do not interfere with construction operations.

Culvert pipe checks for culverts at West Frontage Road Station 2026+90 and East Frontage Road Station 3028+66 on the intermittent stream unnamed tributary to the East Branch Root River shall be removed immediately after completion of the culvert work.

Replace standard spec 107.20(3) with the following:

Prepare and submit an Erosion Control Implementation Plan (ECIP) for the project, including borrow sites and material disposal sites, in accordance to Chapter TRANS 401 requirements. The ECIP shall supplement information shown on the plans and shall not reproduce it. The erosion control implementation plan shall identify how the contractor intends to implement the project's erosion control plan. The erosion control plan shall include details for the methods of debris containment devices required.

10. Environmental Protection, Aquatic Exotic Species Control.

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

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

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

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

Complete the inspection and removal procedure before equipment is brought to the project site and before the equipment leaves the project site.
107-055 (20110615)

11. Public Convenience and Safety.

Revise standard spec 107.8(6) as follows:

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

12. Available Documents.

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

1. Design Study Report
2. Exceptions to Standards Report
3. Pavement Type Selection Report
4. Preliminary Plans
5. Environmental Impact Statement
6. As-Built Drawings

These documents are available from Joshua LeVeque, PE at 141 NW Barstow Street, Waukesha, WI 53187. He may be reached at (414) 220-5444.

The contractor shall be responsible for reproduction costs of any copies requested.

13. 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 Joshua LeVeque, 141 NW Barstow Street, Waukesha, WI 53187, (414) 220-5444.

Additional geotechnical information is available from studies and analyses that have been performed by Milwaukee Transportation Partners (MTP) for the Wisconsin Department of Transportation (WisDOT) for other aspects of this project. The contractors are responsible to review the available information to determine if it is of use to the contractors. The use or not of the geotechnical information does not relieve the contractor from performing the work in accordance to the plans and specifications.

14. Public Information Meetings.

Participate in department-sponsored public information meetings as the engineer requests. Ensure that representatives of subcontractors also participate in those meetings if the engineer requests.

15. Work Force Opportunities.

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

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

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

16. 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.

Replace standard spec 104.3.2 and 104.3.3 with the following:

104.3.2 (Vacant)

104.3.3 Contractor Initial Written Notice

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.

The contractor is encouraged to 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.

17. Contractor Document Submittals.

A Description

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

B Contractor Submittals

Provide 4 paper originals and one electronic copy of all documents requiring department review, acceptance, or approval. Attach a completed engineer-provided transmittal sheet to each paper original and email submittal. The department will reject submittals with incomplete transmittal sheets and require re-submittal.

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

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

All costs for contractor document submittals are incidental to the contract.
SEF Rev. 091120

18. Information to Bidders, Use of Recovered Material.

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

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

The department has obtained a U.S. Army Corps of Engineers Section 404 permit. Comply with the requirements of the permit in addition to requirements of the special provisions. A copy of the permit is available from the regional office by contracting Karla Leithoff at (262) 548-6709.
107-054 (20080901)

20. Payment Tracking.

A Reporting Payments During Construction

Comply with reporting requirements specified in the department's civil rights and labor compliance management system manual.

Contractor shall report payments to all first tier relationships including subcontractors, suppliers, and trucking 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 subcontractors, suppliers, and trucking firms. Report the payment as specified in A(1) for all work satisfactorily performed and for all materials furnished or stockpiled.

Require all first tier relationships including subcontractors, suppliers, and trucking firms in receipt of a progress payment by contractor to acknowledge receipt of payment as specified in A(1) and (2).

All agreements made by a contractor shall include the provisions in A(1) and (3), and shall be binding on all first tier relationships including subcontractors, suppliers, and trucking firms on the project.

B (Vacant)

C (Vacant)

D (Vacant)

E Payment

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

21. Labor Compliance Reporting – Payroll Requirements.

Submit weekly certified payrolls verifying prevailing wage rates for all work performed under the contract as directed in the civil rights and labor compliance management system manual. Submit weekly certified payrolls within 14 calendar days of the week covered by the weekly certified payroll.

22. Nighttime Work Lighting-Stationary.

A Description

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

B (Vacant)

C Construction

C.1 General

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

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

1. Layout, including location of portable lighting – lateral placement, height, and spacing. Clearly show on the layout the location of all lights necessary for every aspect of work to be done at night.
2. Specifications, brochures, and technical data of all lighting equipment to be used.
3. The details on how the luminaires will be attached.
4. Electrical power source information.
5. Details on the louvers, shields, or methods to be employed to reduce glare.

6. Lighting calculations. Provide illumination with average to minimum uniformity ratio of 5:1 or less throughout the work area.
7. Detail information on any other auxiliary equipment.

C.2 Portable Lighting

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

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

C.3 Light Level and Uniformity

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

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

C.4 Glare Control

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

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

1. Aim tower-mounted luminaires, either parallel or perpendicular to the roadway, so as to minimize light aimed toward approaching traffic.
2. Aim all luminaires such that the center of beam axis is no greater than 60 degrees above vertical (straight down).

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

C.5 Continuous Operation

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

D (Vacant)

E Payment

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

23. 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. This article also specifies contract bid items the contractor shall incorporate into their DCIP.

B (Vacant)

C Construction

C.1 General

The contractor is responsible 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. The contractor has 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 the contractor plans to employ various dust control or prevention strategies.
4. A matrix showing, for each anticipated land disturbing, dust generating activity, the following:
 - Preventive measures that will be employed.
 - The applicable contact person.
 - The contractor's timetable and/or surveillance measures used to determine when remediation is required.
 - The specific dust control and remediation measures that will be employed. List the specific contract bid items that will 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 will be disposed of.
5. A description of how off-site impacts will be monitored and dealt with.

C.3 Updating the Dust Control Implementation Plan

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

C.4 Dust Control Deficiencies

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

D Measurement

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

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

623.0200	Dust Control Surface Treatment
624.0100	Water
628.7560	Tracking Pads
SPV.0105.013	Pavement Cleanup Project 1030-11-77
SPV.0105.015	Pavement Cleanup Project 1030-11-78
SPV.0105.017	Pavement Cleanup Project 1030-11-70
SPV.0105.018	Pavement Cleanup Project 1030-11-74
SPV.0105.021	Pavement Cleanup Project 1030-25-77
SPV.0105.023	Pavement Cleanup Project 1030-25-78

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.

24. 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.

The department encourages the contractor to voluntarily establish staging zones for trucks waiting to load and unload. 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 the contractor 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.

25. Work at Waterways.

The contract requires construction in or adjacent to waterways at the following locations:

Project	Station
1030-11-77	3028+66 East Frontage Road
1030-11-78	2026+90 West Frontage Road

The Erosion Control Implementation Plan shall detail the work surrounding the waterways with every effort of keeping the flow continuous at all times during construction. Stream diversion or bypass pumping may be required for construction over or adjacent to waterways. The construction method selected is required to meet all accepted design criteria, standards, specifications, and DNR requirements.

Prepare and submit a plan detailing the construction method to be employed at each construction location in or adjacent to waterways. Pursue operations in a timely and diligent manner, continuing all construction operations methodically to minimize the impacts to the waterway.

Work at waterways shall be incidental to the applicable construction items in or adjacent to the waterway.

26. Owner Controlled Insurance Program.

Section 107.26, “Standard Insurance Requirements” of the standard specifications is deleted in its entirety and the following section 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 Services Central, Inc., (the “OCIP administrator”) for this Project to be insured under its Owner Controlled Insurance Program (“OCIP”). The OCIP is more fully described in the I-94 North-South Corridor 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 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, 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, eligible Contractors and Subcontractors who enroll in the OCIP, 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;
 - c. Contractors and each of their respective Subcontractors who do not perform any actual labor on the Project site;
 - d. Any party or entity not specifically identified in this special provision or excluded by the WisDOT as permitted by law, even if otherwise eligible.

Excluded Parties and parties no longer enrolled or covered by the OCIP shall obtain and maintain, and shall require each of its Subcontractors to obtain and maintain, the insurance coverage specified in Section 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, the contract documents, or the summary below 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. OCIP coverage's will not apply to Excluded Parties, even if erroneously enrolled in the OCIP. An Enrolled Party's operations away from

the Project site, including product manufacturing, assembling, or otherwise, will only be insured if such “off-site” operations are identified, endorsed onto the OCIP policies, and are dedicated solely to the Project. Contractor may request such “off-site” operations to be insured in writing to WisDOT; however, OCIP coverage’s will not insure “off-site” operations until the OCIP policies have been endorsed to insure such “off-site” location. The decision to insure “off-site” operations shall be determined by WisDOT and the OCIP insurer.

The OCIP coverage’s are primary insurance for all on-site operations of eligible and Enrolled Parties. The OCIP will provide only the following insurance to eligible and Enrolled Parties:

Summary Only

- a. Workers’ Compensation insurance - Statutory Limit including Jones Act and USL&H coverage, as applicable.
- b. Employer’s Liability insurance
 - i. Bodily Injury by Accident, each accident \$1,000,000
 - ii. Bodily Injury by Disease, each employee \$1,000,000
 - iii. Bodily Injury by Disease, policy limits \$1,000,000
- c. Commercial General Liability (ISO Occurrence Form – Limits Shared By All Insureds)
 - i. Each Occurrence Limit \$2,000,000 (Annual Limit)
 - ii. General Aggregate Limit for all Enrolled Parties \$4,000,000 (Annual Limit)
 - iii. 10 yr. Products and Completed Operations Extension
 - iv. Products and Completed Operations Aggregate for all Enrolled Parties \$4,000,000(Single Limit Applies to Entire 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)
 - Each Occurrence Limit \$150,000,000
 - Aggregate \$150,000,000 (Annual Limit)
 - \$150,000,000 Products and Completed Operations Aggregate Limit (Single Limit Applies to Entire Products and Completed Operations Extension).

- 6. The WisDOT’s Insurance Obligations.** The WisDOT will pay the costs of premiums for the OCIP coverage’s. The 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. Each

Contractor and each of its Subcontractors hereby assign to the WisDOT the right to receive all such adjustments. The WisDOT assumes no obligation to provide insurance other than that specified in this special provision and the OCIP insurance policies. 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, without obligation to do so, 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. Incorporate the terms of this special provision in all subcontract agreements.
- b. Enroll in the OCIP within five (5) business days of execution of the contract and maintain enrollment in the OCIP, and assure that Contractor's eligible Subcontractors enroll in the OCIP and maintain enrollment in the OCIP within five (5) business days of subcontracting and prior to the commencement of their Work at the Project site.
- c. 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 (5) 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, 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 107.26(1)(a) 8 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 107.26(1)(a) 8 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, and Illinois if applicable, 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 eligible and Enrolled Parties, the Workers' Compensation, Employer's Liability, and Commercial General Liability insurance required by this section shall only be for off-site activities or operations not insured under the OCIP coverage's. 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 Million Combined single limits per occurrence with an annual aggregate limit of not less than \$4 Million.
 - 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. Commercial General Liability insurance shall be maintained in force for two (2) years following completion and the WisDOT's acceptance of the work.
2. Workers' Compensation and Employer's Liability insurance.
 - a. Workers' Compensation limits: statutory limits
 - b. Employer's Liability limits:
 - i. Bodily injury by accident: \$100,000 each accident
 - ii. Bodily injury by disease: \$500,000 policy limit
 - iii. Bodily injury by disease: \$100,000 each employee
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.
4. For any work over water, whether deemed navigatable or otherwise, Contractors Pollution Liability insurance with \$2,000,000 per occurrence and \$2,000,000 aggregate policy limits.
5. 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 107.26(1)(a)8 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. 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.

10. 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.

- 11. 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 thirty (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.
- 12. 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.
- 13. 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. 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 Contractor together with the same parties referenced immediately above in this section. 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.

- 14. Duty of Care.** Nothing contained in this special provision or the Insurance Manual shall relieve the Contractor or any of its Subcontractors of their respective obligations to exercise due care in the performance of their duties in connection with the work and to complete the work in strict compliance with the contract documents.
- 15. 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 contract documents, then the provisions of the Insurance Manual.
- 16. 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.

107.26(1)(b) Builder's Risk

- 1. Overview.** The WisDOT will purchase a builder's risk insurance policy covering the Work, excluding road work at grade level, for "all risk" perils, including earthquake and flood, covering the interests of the WisDOT, Contractors and Subcontractors with a limit of \$350,000,000 each occurrence.
- 2. Coverage's.** The builder's risk insurance coverage will contain a sub-limit of \$100,000,000 per annum aggregate for earthquake and flood coverage. Additionally, the builder's risk insurance coverage contains the following sub-limits:
 - Inland Transit/Temporary Storage – \$10,000,000;
 - Blueprints/Drawings - \$1,000,000;
 - Trees, Shrubs - \$250,000 (not to exceed \$5,000 any one item);
 - Debris Removal – 25% of Loss;
 - Expediting Expense – \$500,000;
 - Fire Fighting Expense – \$2,500,000;
 - Claim Preparation Expense - \$250,000;
 - Pollution Cleanup – \$1,000,000;
 - Mold/Fungus: \$50,000;
 - Building Ordinance or Law –\$5,000,000 (Coverages, A, B and C, Combined);
 - Service Interruption: \$1,000,000 (excluding Overhead T&D Lines);
 - Damage to Owner's Existing Structures – \$5,000,000.
- 3. Builder's Risk Obligation.** Contractor 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").

- 4. Waiver of Subrogation.** The builder's risk insurance policy includes a waiver of subrogation in favor of the OCIP Enrolled Parties. The WisDOT and Contractor waive all rights against each other and against separate Contractors, if any, and any of their Subcontractors sub-Subcontractors, agents and employees, for damages caused by fire or other perils to the extent covered by property or Builder's Risk insurance applicable to the Work, except such rights as they may have to the proceeds of such insurance held by the WisDOT as fiduciary. This waiver applies only to the extent that proceeds are, in fact, realized as a result of a claim against the policy. Contractor shall require similar waivers in favor of the WisDOT from any of its Subcontractors, sub-Subcontractors, suppliers, and any other vendors in the procurement or construction of the Work.

27. 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 who will not be enrolled in the OCIP. The qualified subcontractor must carry Construction Pollution Liability insurance with limits of at least \$1,000,000 per Occurrence and \$2,000,000 Aggregate.

Only payroll from non-environmental work shall be reported under the OCIP. All payroll generated from environmental/abatement work should not be reported.

Questions regarding this or any other aspects of OCIP should be directed to Kevin Gehrmann at (608) 235-0622, or Kevin.Gehrmann@dot.wi.gov.

28. Notice to Contractor – Emerald Ash Borer.

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

Supplement standard spec 201.3 with the following:

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

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

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

Black ash (*F. nigra*) is distributed over the entire state but is most frequently found in northern Wisconsin. It is most common in swamps, but is also found in other wet forest types.

Blue ash (*F. quadrangulata*) is a threatened species that is currently found only at a few sites in Waukesha County. The species is at the edge of its range in Wisconsin, but is common in states farther south. The species is not of commercial importance. Blue ash twigs are 4-sided.

White ash (*F. americana*) tends to occur primarily in upland forests, often with *Acer saccharum*.

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

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

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

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

ATCP 21.17 Emerald ash borer; import controls and quarantine.

Importing or Moving Regulated Items from Infested Areas; Prohibition.

Except as provided in subparagraph (3), no person may do any of the following:

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

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

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

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

Ash trees.

Ash limbs, branches, and roots.

Ash logs, slabs or untreated lumber with bark attached.

Cut firewood of all non-coniferous species.

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

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

Regulatory Considerations

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

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

Chipped Ash Trees

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

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

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

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

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

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

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

Ash logs, Branches, and Roots

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

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

Burning is optional if in compliance with standard spec 201.3.

Ash logs, branches, and roots must be disposed of immediately and may not 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 1-800-303-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.

29. Notice to Contractor – Potential Waste Site.

Contact the property owner listed below if interested in the following potential waste site for placing fill from the project at a low spot on the property:

Contact/Owner: Judith Lange

Home phone number: (262) 835-4567

Address: 4807 S. 27th St. Franksville, WI

Location: STH 20 to CTH K West Frontage Road, just north of 2 Mile Road.

30. Notice to Contractor – Tunnel and Shaft Construction.**A General**

This article focuses on aspects of the project related to workshafts and microtunnels for manhole and storm sewer construction. The work covered include: control of water, shaft excavation and support, ground improvement, microtunneling, contact grouting, protection of property and ground movements limits. Topics related to open-cut storm sewer construction are not covered in this special provision.

Sewers shall be constructed by tunneling methods. Pipe jacking is required. Single-pass tunneling is required as shown on the plans. A slurry shield microtunnel boring machine is required.

B Definitions**B.1 General**

Definitions covered here apply to all subsections in this article.

B.1.1 Ground Improvement

Grouting, jet grouting, ground freezing, dewatering or other methods of increasing ground strength and/or reducing permeability to facilitate groundwater control and ground stability for excavations.

B.1.2 Soil Mix

The mixture created by mixing in-situ soils with a stabilizing cement grout mix

B.1.3 Dewatering

Dewatering is defined as the lowering of ground water levels of aquifers affecting an excavation to provide suitable standup time for shaft and tunnel construction, to prevent lost ground by erosion or piping of fines with seepage, and to provide dry working

conditions and stable bottom conditions that do not degrade subgrade strength and compressibility. Suitable dewatering may require lowering of phreatic surfaces to a suitable distance below excavation bottoms or pressure relief to provide adequate factors of safety for ground stability or ground support system integrity.

B.1.4 Preconstruction Survey

A preconstruction survey is a survey of adjacent structures within 200 feet of a tunnel that is used to document the condition of a structure prior to tunneling.

B.1.5 Shaft

The term "shaft" shall mean the manholes or other permanent vertical structures with a final shaft lining placed next to the initial ground support within a workshaft excavation. In conventional usage a "shaft" is a structure that is deeper than it is wide, but in the context of these specifications the term "shaft" includes miscellaneous concrete structures that may be wider than they are deep that are constructed within workshaft excavations as defined below.

B.1.6 Workshaft

The term "workshaft" shall mean the temporary excavation requiring a ground support system until the shaft structure to be constructed within the excavation is complete and the excavation around and over the structure is backfilled.

Workshafts include excavations for all shafts associated with tunneling and intermediate shafts required for manholes.

B.1.7 Portal

Portal is defined as the eye or break-in or break-out opening from a workshaft to a tunnel. Portals in soil often include a seal around the opening to prevent intrusion of water, slurry and soil into the workshaft, and may include ground improvement such as permeation or jet grouting to form a more stable soil mass that provides stability and control of water when launching a tunnel boring machine or shield.

B.1.8 Soil Excavation

Soil excavation is defined as the removal of natural soil or soil-like fill materials at the tunnel heading that does not requiring special excavation methods such as drilling and splitting, blasting or cutting with torches. Excavated material is commonly referred to as muck. In-place fill material may contain debris or abandoned foundations or structures as described in the Geotechnical Baseline Report. Cobbles and boulders may be encountered within this definition in either natural or man-made fill material. Boulder obstructions are covered separately.

B.1.9 Cobbles and Boulders

A boulder is a rock fragment that has a size (largest dimension or chord length) of 12 inches or more. Rock fragments that have a size ranging from 3 to 12 inches are cobbles.

B.1.10 Boulder Obstruction

Defined in the article Boulder Obstructions.

B.1.11 Tunnel

A tunnel is a horizontal or nearly horizontal opening that is excavated within soil or rock. Short, small diameter tunnels are called adits. Short, large diameter tunnels are called chambers.

B.1.12 Jacked Pipe Tunneling

Jacked pipe tunneling is a one-pass lining method in which both the initial support and final lining are created using a shield or tunnel boring machine for excavating and controlling ground and groundwater at the heading, followed by contiguous pipes jacked in a series from a workshaft. Requirements for jacked pipe tunneling using precast reinforced concrete pipe are specified in this article, article Micro Tunneling Storm Sewer Reinforced Concrete Pipe Class V 54-inch.

B.1.13 Controls

The system which synchronizes excavation, removal of the excavated material, and jacking of pipe to maintain overall balance to provide complete and adequate ground support at all times.

B.1.14 Microtunneling

A remotely controlled, guided, pipe-jacking process that provides continuous support to the excavation face. The guidance system for such work usually consists of a laser mounted in the jacking pit as a reference, with a target mounted inside the microtunneling machine's articulated steering head. The microtunneling process does not require routine personnel entry into the tunnel. A key element of microtunneling is the ability to control the stability of the face by applying mechanical or fluid pressure to balance the earth and groundwater pressures.

B.1.15 Microtunnel Boring Machine (MTBM)

A steerable excavating machine with face control that performs microtunneling.

B.1.16 Slurry Machine

An MTBM with a bulkhead behind the face of the machine to form a plenum chamber. Slurry or other medium is introduced into the plenum chamber under appropriate pressure to stabilize the face and to be mixed with material excavated by the rotary cutter wheel. The resultant slurry is removed by a slurry pumping system. The MTBM incorporates a crushing mechanism (a crusher cone) in the plenum chamber that reduces granular materials encountered in the excavation to sizes that can be removed through the slurry system.

B.1.17 Slurry System

The transportation of excavated material in a slurry flow matched to excavation rate. The system balances groundwater pressures and separates soil from slurry at the end of the process.

B.1.18 Lubrication Port

A port located in a jacking pipe segment, fitted with a one-way valve, for injection of lubrication material or grout into the annular space between the jacking pipe and the ground.

B.1.19 Laser

An optical system projecting a beam onto a target in the head of the MTBM to provide guidance for steering the MTBM.

B.1.20 Jacking Record

A computer-generated or hand-recorded report that contains information on pertinent microtunneling operations including rate of advance, slurry flow rates and pressures, jacking forces, face pressure, cutter-head speed and torque, steering corrections, machine inclination, roll, and position, installed tunnel length, IJS pressures, date, time, name of operator, problems with the tunneling machine and reasons for delays.

B.1.21 Excavation Support System

System provided to maintain stability of an excavation made for any purpose and to be occupied by workmen, and construction activity, until the final support system structure is complete in place, and the excavation is closed, and the structure is backfilled. A single system may be used to fulfill the requirements of both excavation support system and final support system.

B.1.22 Contact Grouting

An injection of neat cement grout into voids outside of initial support systems and final linings of workshaft and tunnel excavations to achieve continuous and permanent contact between support systems or lining and the ground. This definition includes grouting the annular space outside the casing pipe string after pipe jacking installations are complete.

B.1.23 Grout Refusal

Refusal is defined as the point at which grouting is stopped on a grout hole. It is defined as a grout injection rate of less than one-half cubic foot of grout over a 10-minute interval, at 100 percent of the required pressure.

B.1.24 Voids

Spaces within soil that filled with air, water, slurry or disturbed ground resulting in void ratios (volume of voids divided by volume of solids) greater than 2.0.

C. Submittals**C.1 Control of Water Submittals****C.1.1 Informational Submittals**

The following submittals shall be made at least 30 days prior to start of excavation, unless otherwise noted:

1. Discharge permits.
2. Water control plan.
3. Quality control.

C.1.2 Discharge Permits

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.

C.1.3 Water Control Plan

Water control plan shall be coordinated with requirements of:

1. Subsection E of this article, Shaft Excavation and Support.
2. Subsection F of this article, Ground Improvement.
3. Subsection G of this article, Microtunneling.
4. The article Geotechnical Instrumentation.

As a minimum, include:

1. 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; provisions for immediate temporary water supply as required by this section.
2. The contractor shall submit shop drawings showing locations, dimensions, and relationships of elements of each water control system. The submittal shall include design calculations demonstrating adequacy of proposed water control or isolation systems and their components. The contractor shall provide manufacturer's literature describing installation, operation, and maintenance procedures for all components of the water control system.
3. Design calculations demonstrating 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.

If system is modified during installation or operation, revise or amend and resubmit Water Control Plan.

C.1.4 Quality Control Submittals

During construction, submit pumping rate measurements, water level readings taken at design and construction phase piezometers and groundwater quality data. Contractor readings shall be performed in addition to any readings taken by the engineer. Submit the data within 24 hours of readings.

C.2 Shaft Excavation and Support Submittals

C.2.1 Ground Support System Engineer Qualifications

Submit written documentation (in addition to a certificate of design) as supporting evidence of the qualifications of the initial ground support design engineer. Drawings and calculations shall be prepared and sealed by a professional civil engineer registered in the State of Wisconsin with at least five years experience in design and construction of ground support systems similar to those planned.

C.2.2 Certificate of Design

Prior to beginning any tunnel or workshaft excavation, submit a Certificate of Design confirming responsibility for design and professional registration for design of tunnel and workshaft ground support systems in accordance to the provisions of subsection E of this article, Shaft Excavation and Support and subsection G, Microtunneling.

C.2.3 Contractor's Engineer Certification

Obtain from your engineer and submit to the department's engineer, no later than the 5th day of each month, a signed and sealed certification (letter memorandum or report) that, based on his observations, the work completed during the previous month pertaining to his (contractor's engineer) design was installed and is performing substantially in accordance to the design concepts prepared by him. The contractor's engineer shall also report any significant deviations from the submitted design concepts, any performance concerns observed and actions recommended to remediate these items. The contractor's engineer certifications shall be made monthly during a period commencing with the start of excavation and ground support system installation, continuing during portal excavation and pipe jacking operations and ending when the ground support system has been abandoned and backfilled or removed and backfilled.

C.2.4 Workshaft Plans and Shop Drawings

Submit plans and shop drawings for shaft excavations, excavation support systems, and other related information. As a minimum, the submittal shall contain the following information:

1. Name and qualifications (including evidence of professional registration in the State of Wisconsin) of person responsible for ground support system design.
2. Construction method to be used for the installation of each system, including sequence of installation and equipment description.
3. Shop drawings and design calculations showing assumed loading conditions, estimated ground movements, system component design, arrangement of supports and construction sequence for proposed support system(s). See subsection E of this article, Shaft Excavation and Support for a minimum submittal list for a particular shaft initial ground support system chosen. Show the elevation of struts, braces, or other supports as related to the depth of excavation at intermediate stages of construction. Provide details of bottom slab, drains, and sump construction. Indicate sizes, shapes, and material specifications for all support elements including lagging, if used. Calculations shall include estimates of likely deflections or deformations of the support system and maximum tolerable values. Calculations shall also show the thrust block design and an adequate structural

factor of safety for the thrust block-wall system when subjected to the anticipated maximum jacking forces during pipe jacking.

4. Plans and procedures for protecting adjacent structures, utilities and facilities including: excavation, control of water, ground improvement, underpinning, monitoring and restoration of any damage.
5. A site plan for each portal site indicating utilities, use of access roads, site grading and site development details for the excavation and all work areas, and the proposed limits of disturbance surrounding each excavation.
6. Portal plans indicating support installed to maintain ground support system integrity and stability of the excavation when commencing tunneling and when holing through. Provide details of the portal bracing, seal and ground improvement needed for face stability and tunnel launching.
7. Quality Control Procedures: address materials testing requirements and excavation monitoring provisions.

C.2.5 Ground Support System Data and Records

Submit the following data and reports during the work:

1. Any excavation monitoring analysis, including: horizontal and vertical deflections of supports, horizontal and vertical movements of adjacent ground and facilities, and measurements of strut loads being collected by the contractor as specified by the ground support design engineer, and as required by subsection I of this article, Protection of Property and Ground Movement Limits and the article Geotechnical Instrumentation.
2. Monthly reports from contractor's ground support design engineer on performance of ground support system elements and associated adjacent ground movements and protection of adjacent property, as required by subsection E of this article, Shaft Excavation and Support, subsection I of this article, Protection of Property and Ground Movement Limits, and the article Geotechnical Instrumentation.

C.3 Ground Improvement Submittals

C.3.1 Shop Drawings, Statements, and Calculations

The contractor shall submit the following shop drawings, methods statements, calculations and information:

1. List and description of locations, including a test location, where grouting is to be performed, with description of the size of the grouted zone.
2. Design calculations with clearly identified design parameters and assumptions for the grouted zones based on anticipated subsurface conditions.
3. Equipment, methods, and details of grouting operation, including arrangement of grout mixing and injection equipment, sequence and details of grout placement, and minimum set time and strength before grouting additional zones.
4. Details for identifying, protecting, and maintaining utilities in working service.
5. Means and methods for handling, containing, treating, and disposing of excess or spilled materials generated during the grouting operation.

6. Extent of, and means and methods for effecting repairs to streets, sidewalks, and other facilities damaged or disturbed during grouting operations.
7. Plans for probing entry/exit zones from shafts before cutting eyes.

C.3.2 Materials

The contractor shall submit the source of all materials to be used in the grout mix.

C.3.3 Mix Design

The contractor shall submit the proposed proportions for soil-cement mixture along with results of laboratory testing of trial mixtures using the proposed material components.

C.3.4 Quality Control

1. Qualifications: The contractor shall submit evidence for approval that the contractor or subcontractor is experienced in grouting in a variety of subsurface conditions and in conditions similar to those specific to this project. Qualifications shall be submitted for:
 - a. Grouting subcontractor.
 - b. Grouting superintendent.
2. Certifications and Permits:
 - a. Certificates of compliance for materials specified herein.
 - b. Required permits for disposing of waste materials.
3. Quality Control Plans:
 - a. Sampling and testing methods, where not otherwise specified, for determining compliance with design criteria.
 - b. Methods for controlling and verifying the limits of the grouting operation.
4. Daily Records: Shall be submitted by noon of the day following the shift to which the daily records pertain, and shall include:
 - a. Quantity and location of grout injections.
 - b. Quality control sampling, measurements, and results.
 - c. Nature, causes, duration, and impacts of interruptions and delays to the grouting operation.
5. Notifications:
 - a. Notify the engineer at least three days in advance of performing grouting at all work areas.
6. As-built drawings indicating the locations of grouted zones.

C.4 Microtunneling Submittals

C.4.1 General

The contractor shall submit to the engineer for review, plans, details and data including compliance with the requirements of the contract drawings. Such review shall not be construed to relieve the contractor in any way of responsibilities under the contract. Contractor shall not commence work on any items requiring a tunneling work plan or other submittals until the submittals have been reviewed and accepted by the engineer.

Submittals shall be made in accordance to Contract requirements. Submittals shall be made within 30 days of the date of Notice to Proceed.

C.4.2 Contractor's Qualifications

Submit contractor's qualifications in accordance to subsections Qualifications and Quality Assurance in subsection G of this article, Microtunneling.

C.4.3 Personnel Experience

Submit resumes for the superintendent(s) and microtunnel machine operator(s) that will be on-site for the duration of the microtunneling. Personnel experience records shall include project names, locations, type and diameter of pipe installed, total length, number of drives, maximum drive length, depth, ground and groundwater conditions. Owner and owner's representative shall be listed with current address and telephone number. The superintendent and microtunnel machine operator shall be on-site at all times during microtunneling operations.

C.4.4 Shop Drawings

Prepare and submit detailed shop drawings and pertinent descriptions, data and calculations for all items to be incorporated into the finished work, including, but not necessarily limited to, jacked reinforced concrete casing pipe and carrier pipe. The drawings and calculations shall show compliance to specified requirements and applicable codes and shall bear the seal, signature and date of a professional engineer registered in the State of Wisconsin. As a minimum, include the following:

1. The drawings and pipe drawings shall include reinforcement details, joint details, joint cushion materials, and fabrication tolerances.
2. Design calculations demonstrating that the pipe is capable of sustaining the maximum stresses to be imposed during jacking in accordance to ASCE 27, Standard Practice for Direct Design of Precast Concrete Pipe for Jacking in Trenchless Construction. The calculations shall take into account maximum anticipated ground loads (earth, groundwater and surcharge pressure), live loads, jacking forces, eccentric forces due to steering, external loads such as traffic, and any other loads that may be reasonably anticipated. All loads shall be shown and described. Use the maximum allowable bearing stress criteria specified in this section.
3. Calculations showing pipe resistance to damage from contact grouting.
4. Calculations showing the hydraulic pressure that is required to develop the maximum allowable jacking force for main jacks. A description of controls to ensure that the maximum allowed hydraulic pressure will not be exceeded during jacking operations. Calculations demonstrating that the soils behind the backstop (or thrust wall) will sustain the maximum forces developed by the main jacks.
5. Calculations showing anticipated face pressure and side resistance for tunnel boring machine and pipe string.

C.4.5 Work Plan

Prior to the start of work, submit a generalized work plan to the department. This submittal is in addition to the detailed schedule that is required in 108.4 of the standard specifications. The work plan shall include descriptions indicating the proposed locations

of workshafts, facilities, and equipment to be utilized and shall describe the methods of construction. The work plan shall include, but not be limited to, the following items:

1. Access, manhole and structure workshaft plans and sequencing.
2. Workspace layouts and sizes including crane locations, pipe unloading and storage areas, muck stockpiles, separation plant size and location and muck loading facilities.
3. Hoisting plant (crane) for placement of MTBM, jacking equipment and pipe, and for muck removal.
4. Dimensions of tunnel excavations, including starter and back tunnels, and enlargements along running length.
5. Methods of excavation, and equipment to be used.
6. Microtunnel boring machine (MTBM) to be used for tunnel excavation showing dimensions, cutterhead design and face control capability, amount of overcut on the cutterhead radius, propulsion system, articulation provisions, means of installing initial support system, and trailing gear.
7. Muck handling equipment and methods, including muck transfer from the heading, surface retention, and disposal.
8. Tunnel ventilation system layout and minimum capacity.
9. Capabilities of hazardous gas monitoring, alarm, and equipment shutdown system.
10. Bulkhead placement and removal.
11. Provisions for controlling line and grade, and survey frequency with respect to progress of excavation.
12. Location(s) of temporary stockpile and disposal site(s) and copy of release(s) from affected property owners.
13. Procedures for MTBM launch and reception.
14. A safety plan for personnel conducting the tunneling operations, including provisions for lighting, ventilation, and electrical system safeguards. The contractor shall provide the name and resume, with references and certifications, for the on-site safety representative.
15. Contingency Plans:
 - a. High jacking forces.
 - b. Damaged pipe.
 - c. Obstruction(s).
 - d. Settlement exceeding limits specified in subsection I of this article, Protection of Property and Ground Movement.
 - e. Loss of line or grade beyond tolerances specified herein.
 - f. Major mechanical breakdown.
 - g. Stoppage of jacking.
 - h. Leakage of groundwater into the tunnel.
 - i. Loss of cutter tools on the cutter head of the MTBM.

The work plan shall include proposed methods for support and protection of adjacent structures and other facilities that might be impacted by workshaft and tunnel construction.

C.4.6 MTBM Documentation

Prior to the use of MTBMs, submit detailed documentation to the engineer showing that the design, specification and method of operation will meet the requirements specified in this section for microtunnel boring machines. The following shall be included:

1. MTBM performance and operating specifications, manufacturer's or rebuilder's working drawings and details of accessory and monitoring equipment. Include calculations showing target range for face pressures to be maintained and provide details of how face pressures will be monitored and recorded. Also include descriptions and plans for any jetting of water or conditioners at the heading.
2. Describe the cutterhead configuration including sketches and descriptions of the cutting tools, excavation diameter, and head profile. The submitted excavation diameter shall be verified upon MTBM mobilization to site by measurement of gage cutters and cutter head diameter in the presence of the engineer. Provide manufacturer's written certification that the MTBM, cutterhead, and cutting tool configuration have been specifically designed for the soil conditions anticipated on this project, as described in the Geotechnical Baseline Report, and tunneling of the grout zones as specified in subsection F of this article, Ground Improvement.
3. Drawings and details showing excavation and mucking systems and components, trailing equipment, and muck handling and transportation equipment. Include dimensions, manufacturer's specifications, capacity, noise rating, and soundproofing details on the slurry separation and re-circulation components and system. Details shall be provided on the planned slurry composition and any slurry additives that are planned for use during the microtunneling operations. Include diagrams showing the location of all slurry delivery and return pumps. Provide written documentation signed by the site owner or manager of the disposal site(s) indicating that the site will accept the muck or slurry and the site is in compliance with all applicable local, State, and Federal regulations. Submit muck transport plans, including route to be used and measures to avoid spillage on-site or on to streets and highways.
4. Details of the methods to probe the ground in the portal zone for rate of groundwater inflow and stability, control groundwater and prevent excess loss of ground into the workshafts at portals when launching from the launching shaft and entering into the receiving shaft. Provide seal and ground improvement details to prevent intrusion of water, soil, lubrication slurry and grout into workshafts.
5. A description of the laser guidance, alignment control, and steering systems. Confirm that these systems can achieve the required pipeline line and grade within the specified tolerances. Provide manufacturer's literature for laser and show details of laser supports in launching shaft. Provide documentation that the laser has been tested and that required function, accuracy, and precision have been verified by the contractor.
6. Arrangement, position, and details of main jacks, thrust ring, jacking controls, and pressure gages.
7. Jacking operations for main jacks.
8. Thrust block and jacking frame design and details, including reaction transfer calculations.

9. Details of pipe lubrication system and description of pipe lubricants to be used during pipe jacking, including manufacturer's literature.
10. Contact grouting equipment and procedure, including grout hole pattern.
11. Provide description, including drawings of the method and special equipment and materials required for retrievability of the MTBM through the jacking shaft without the need for an intermediate rescue shaft. The description shall address resumption of the bore in the same location after the problem is corrected and grouting to fill the aborted bore and ensure stability of the excavation, if the bore cannot be resumed and completed.
12. Method of preventing inward movement of the pipe or MTBM toward the launching shaft when the main jacks are released to set a new pipe.
13. Include letter from proposed pipe manufacturer certifying their acceptability and approval of the Pipe Jacking Plan and above criteria with respect to their pipe on this project.

C.4.7 Daily Records

The following daily records shall be submitted by the contractor by noon on the day following the shift for which the data or records were taken, to the on-site engineer for review:

1. Jacking Records: The contractor shall provide complete written jacking records to the engineer. These records will include, at a minimum, date, time, name of operator, tunnel drive identification, installed pipe number and corresponding tunnel length, rate of advance, jacking forces, cutterhead speed and torque, slurry flow rates and pressures, bypass valve position, use of any cutting or high-pressure nozzles, face pressure, steering jack positions, line and grade offsets, any movement of the guidance system, machine inclination and roll, pressure, volume, and location of lubricant pumped, problems encountered with the tunneling machine or other components or equipment, and durations and reasons for delays. The operating system shall continuously provide performance data to the operator. Computer-recorded data shall be referenced to time and distance and be recorded at time intervals of one (1) minute or less. Manually recorded observations should be made at intervals of not less than three (3) times per pipe, as conditions change, and as directed by the engineer. At least seven (7) days prior to the launch of the machine, the contractor shall submit samples of the automated and manual jacking records. Samples shall include electronic data and any necessary programs to interpret data, and the manual logs or records to be used.
2. Muck Records: Provide a generalized description of the excavated soil (muck) including records of any obstructions or contaminated soil encountered (including photo-ionization detector readings) and computed muck volume and excavated soil volume records for each pipe shove or lining segment advance, including indications of lost ground at the heading.
3. Obstructions Records: Provide records of any obstructions documenting: station; time obstruction encountered and delay time; obstruction position at heading; type of obstruction; estimated size and shape, method of removal or means of advancing through obstruction; and MTBM delay time for obstruction removal.

4. **Lubrication Records:** Provide lubrication records to the engineer. These records will include the amount, in gallons, of lubrication pumped throughout a drive, reported as pumped volume per shift, and total for each drive. The records will also include the type of additive used and amount, in pounds or gallons used, and date, time, and drive distance when used.
5. **Slurry Additives:** Provide records of slurry additives to the engineer. These records will include all slurry additives, including bentonite and polymers, and will be submitted with the daily jacking record. The time and volume, or weight, of the addition to the slurry shall be noted. Measurements of mud weights, specific gravity and viscosity will be made at the beginning, middle, and end of each shift, and submitted with the daily logs. Measurements will be made on slurry mixtures in the slurry tanks and noted accordingly.
6. **Gas Monitoring Records:** Provide records of atmosphere quality monitoring, ventilation operating conditions, airflow measures, any toxic gas observations, any combustible gas measurements exceeding 10 percent of the lower explosive limit for the contaminant encountered, any alarms and MTBM and tunnel component deactivation from explosive gas infiltration.
7. Provide immediate notification to the resident engineer if monitoring in the tunnel or geotechnical instrumentation indicates that significant face instability or excess loss of ground has occurred and may cause or has caused settlement Action Limits to be exceeded.

Before each drive commences, survey the jacking frame rails to confirm design line and grade and perform probing of the ground in the portal zone. Contractor shall submit results to the engineer and obtain engineer's approval of survey of installed jacking frame rails and results of probing of the portal zone prior to launch of the MTBM.

C.4.8 Structures Assessment

Preconstruction and post-construction assessment reports shall be provided for critical structures, namely those located within the zone of active excavation from the proposed tunnel centerline. Photographs or a video of any existing damage to structures in the vicinity of the pipeline alignment shall be included in the assessment report.

C.4.9 Other Submittals

1. **Safety Procedures:** Complete information on contractor's proposed safety plan for personnel conducting the tunneling and appurtenance installation. The plan shall include provisions for lighting, ventilation, air quality monitoring, and electrical safety. All OSHA, federal, state, county, city, or local Laws and Regulations shall be followed.
2. **Power generation plant sound rating data** shall be submitted. Sound level rating data shall be based on actual tests of an identical unit or a similarly packaged unit of equal capacity with calculated corrections submitted for review. Manufacturer's test procedure, equipment, and reporting shall conform to SAEJ1074, Engine Sound Level Measurement Procedure or ANSI/ASME PTC36, measurement of industrial sound.

3. Construction schedule (updated monthly).
4. Results of any geotechnical investigation conducted by the contractor.

C.5 Contact Grouting Submittals

C.5.1 Contact Grout Mixes

1. Submit to the engineer for approval all proposed grout mixes for contact grouting. Provide the submittal a minimum of 30 days prior to start of grouting operations. Resubmit as appropriate if the mixes are modified during the course of the work.
2. Submit mix designs for each contact grout mix proposed for use. Each mix design shall show the ingredients of the mix and shall include:
 - a. Type, brand, source, and amounts of cement, admixtures, and other additives.
 - b. Source and amount of water.
 - c. Representative samples of materials for materials testing and mix proportion testing.
 - d. Combined grading of each mix design.
 - e. Specific gravity of all materials.
 - f. Results of required tests.
3. Submit a certificate of compliance signed by the supplier identifying the type of fly ash (if used) and stating that the fly ash is in accordance to ASTM C618 and these specifications. Supporting test data shall be furnished when requested by the engineer. All testing and sampling procedures shall be in accordance to ASTM C311.
4. Submit water quality test results.
5. Submit material specifications and instructions for use of any proposed concrete admixtures.

C.5.2 Contact Grouting Work Plan

Submit prior to the start of any excavation a work plan for contact grouting. The work plan for placing contact grout shall cover each type of contact grouting required and shall include:

1. Contact grouting methods, procedures and sequences for each tunnel segment.
2. Grout hole locations and depth of injection ports where the ports are not predrilled such as with one-pass jacked pipe tunneling.
3. Plans for grout port opening in advance of injection at a port and release of water disturbed soil or slurry.
4. Method of transporting grouting equipment, grout and materials into and within the tunnel.
5. Quantitative prediction of grout volumes required at each location, with consideration of volume of annular space due to difference between diameter excavated and outside diameter of initial support system or jacked pipe, ground loss volumes, soil stand-up time and diametrical closure.
6. Means for measuring grout takes (volume) per foot or segment of initial support system or pipe.

7. Means for measuring grout pressures and planned grout pressure limits for refusal criteria.
8. Timing of grout injection after completion of a drive for pipe jacking.

C.5.3 Contact Grouting Equipment

Submit prior to the start of grouting operations calibration records for all meters and gauges to be used in grouting operations.

Submit the following for each type of contact grouting proposed:

1. Manufacturer's specifications and operation instructions for grout conveyance equipment.
2. Pump specifications.
3. Grout hose, valve and port sizes and specifications.
4. Grout pressure gages and pressure gauge calibration data.

C.5.4 Contact Grouting Records

Submit prior to performing grouting for each tunnel segment:

1. Mill test reports for Portland cement.
2. Certificates of compliance for each load of Portland cement and fly ash (if used).
3. Certificates of compliance for all admixtures.
4. Proposed contact grout mix designs with mix data for all components, mix properties including admixtures, slump and wet unit weight, and testing results including cured unit weight and compressive strength tests reports from a certified testing laboratory.

Submit the following daily reports and records for jacked pipe contact grouting:

1. Daily logs of grouting operations at all contact grouting locations (station and position) of grout ports, including pressures, volumes, and grout mix pumped, times of injecting, locations where grout samples for test cylinders are taken, and grout slump results.
2. An analysis of overcut annulus volume at the time of grouting with consideration of soil stand-up time, diametrical closure and effects of injected bentonite slurry volumes. Provide a comparison of anticipated annulus volume with grout volume placed by contact grouting for each pipe.
3. Compressive strength tests reports from a certified testing laboratory.

D Control of Water

D.1 General

This section addresses the provisions for controlling, handling, disposing and treating groundwater and surface water, including contaminated groundwater that may be encountered in tunnel and workshaft excavations, as required for performance of the work; maintaining the control of water facilities, including maintenance items such as the disposal of sludge from settling basins and treatment plants; and work necessary to repair or replace property damaged due to groundwater disturbance.

General dewatering and lowering of the groundwater table for the purpose of stabilization of the tunnel face during mining will not be permitted for tunnel construction associated with the proposed 54-inch microtunnel. Localized dewatering and lowering the groundwater table outside of shafts is permitted.

The contractor is responsible for designing, furnishing, installing and maintaining dewatering system that accomplishes continuous control of water at all times during the course of construction, and shall provide adequate backup systems to accomplish control of water. The method of control, handling, and disposal of groundwater and surface water shall be by whatever means are necessary and in conformance with this section to obtain satisfactory working conditions and to maintain the progress of the work.

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 his 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.

D.2 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. Water from excavations shall be discharged into the nearest sanitary sewer, in compliance with all applicable codes and regulations. Discharge into storm sewers, open waterways, or on open ground is prohibited.

In the event that contaminated waters are encountered, the contractor is required to notify the department prior to discharging contaminated water into the sanitary sewer system. The contractor may be required to provide laboratory test results documenting contaminant concentrations.

D.3 Products

D.3.1 Materials

The contractor is responsible to determine materials required to meet these specifications.

D.3.2 Geotechnical Instrumentation

Conform to the requirements of the article Geotechnical Instrumentation.

D.4 Execution

D.4.1 General

Geotechnical settlement control instrumentation shall be installed and baseline surveyed at least two weeks prior to starting any dewatering activities.

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 section to obtain satisfactory working conditions and to maintain the progress of the work. Water to be controlled includes groundwater, contaminated groundwater; surface water (precipitation and run-off); and wastewater from combined or separated sewers or related facilities.

Obtain all permits required from Wisconsin Department of Natural Resources and any other agencies for installation and operation of water control systems and discharging of collected water into water courses, water bodies, sewers or the ground.

Perform the work 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. Modify the water control system at your 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.

D.4.2 Water Control Plan

Submit the required documents as listed in subsection C.1 of this article, Control of Water Submittals. The engineer will review the submittal. If the submittal is not accepted, the engineer will offer comments for the contractor's consideration.

Resubmit as appropriate if the system or any part thereof is modified during installation or operation. Should requirements of any permit be different than requirements herein, the more stringent requirements shall control.

Provide the submittal at least 30 days prior to installation of water control systems. Resubmit as appropriate if the system is modified during installation or operation.

D.4.3 Surface Water Control

Intercept and divert surface drainage away from the work sites by the use of dikes, curbswalls, ditches, sumps, or other means. Design surface drainage systems so that they do not cause erosion on or off the site. Control surface runoff to prevent entry of surface water into excavations and to prevent erosion on or off the site. Remove drainage systems when no longer needed.

D.4.4 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 specifications. 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 measures 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-site materials (development of lost ground), or loosening or softening of subgrade soils within excavations.

The water control methods shall be of such capacity that they will lower and maintain the free water and piezometric levels, to an elevation at least 2 feet below all earth slopes, workshaft bottoms and excavation surfaces. 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 tunnels, workshafts, open-cut excavations, 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 soil stratification is such that 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 workshafts or tunnels 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.

Should water enter the excavation in amounts that could adversely affect the performance of the work or that has the potential to cause loss or damage to adjacent property or structures, take immediate steps to control 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.

D.4.5 Monitoring of Groundwater Levels

Monitor groundwater levels as necessary to evaluate the sufficiency of the control of water system. Monitor groundwater levels in piezometers and monitoring wells that were previously installed for the department. The locations of these piezometers and monitoring wells are shown in the Geotechnical Baseline Report. A system of construction piezometers is required if dewatering is performed to monitor free water surface elevations and piezometric elevations 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 per excavation location shall be installed with the dewatering system at locations and depths proposed by the contractor and approved by the department's representative.

The contractor shall 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 workshafts and tunnels) and one reading at each piezometer per week until the end of construction during periods of no dewatering. These piezometer readings shall be recorded on an approved form and reported to the engineer within 24 hours after they are obtained.

D.4.6 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 in accordance to Chapter NR 812, Wis. Adm. Code.

Comply with WDNR regulations regarding disposal of contaminated groundwater in the event that contaminated waters are encountered. Obtain additional permits, if required. Notify the Department of Natural Resources for any discharge of contaminated water into the sewer system, and provide laboratory test results documenting contaminant concentrations.

Keep dewatering from wells 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 in accordance to WDNR requirements, including obtaining permits, as required.

The wells shall be designed, installed and operated in a manner that will preclude removal of materials from the foundation 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 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 sand and replace them if necessary. All sediment content tests shall be performed in the presence of the engineer. Sediment content test results shall be furnished to the department within 24 hours.

Monitor the rate of discharge from each well on a daily basis with an accuracy of at least 2 percent of the flow and make records available to the engineer on a weekly basis or as requested. Abandon dewatering wells as specified in 204.3.3.3 of the standard specifications and in accordance to NR 812 Wis. Adm. Code, whichever is more stringent.

D.4.7 Ground Loss From Removal or Disturbance of Groundwater

Immediately 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.

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.

D.4.8 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 anticipated based on information provided in the Geotechnical Baseline Report and rates that are consistent with the means and methods selected by the contractor. Treatment systems shall be capable of expansion if greater capacity becomes necessary during the course of the work. Provide to the engineer 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. 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.

Remove suspended solids from water discharged from excavations, sufficient to preclude sediment deposition in the receiving sewer.

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 in accordance to applicable regulations.

D.4.9 Abandonment of Piezometers

At the conclusion of all tunnel and workshaft construction, abandon the design phase piezometers and all piezometers installed during construction if needed in accordance to the article Geotechnical Instrumentation, standard spec 204.3.3.3, or in accordance to NR 812 or NR 141 of the Wis. Adm. Code, whichever is more stringent.

E Shaft Excavation and Support

E.1 General

This article addresses the provisions and responsibilities to be considered by the contractor and its ground support system design engineer in meeting requirements to design, furnish and install, and remove when applicable, the initial ground support for workshafts, and other excavations for construction of structures to meet the specified contract provisions.

E.2 Responsibility

The contractor shall be responsible for design of excavation support and excavation systems for excavations greater than 5 feet in depth and not specified herein or shown on the Plans. Contractor designed elements shall be in accordance to the contract documents, referring to all of the Plans, Specifications, Geotechnical Baseline Report and shop drawings submitted to provide details of support systems, attachments, embedments, finishes and other construction that affects the work covered under this article.

It is the contractor's responsibility and his professional engineer to review the Plans, Specifications, Geotechnical Baseline Report and existing site conditions prior to bidding to ascertain the extent of the work requiring ground support systems.

The design, furnishing of materials, installation, monitoring and removal of ground support systems is the sole responsibility of the contractor. Ground support system and safety elements necessary for protection of adjacent property, excavation stability and safety of workmen during construction are not shown on the Plans but shall be designed, furnished and installed by the contractor.

Existing utilities such as underground water and sewer lines, overhead electric lines, and utility poles will be either within or adjacent to some of the workshafts. For utilities that are shown on the Plans, the contractor is responsible for the protection and relocation of existing utilities, and the removal of abandoned utilities, as required for the construction of the workshafts. If existing utilities shown on the Plans are damaged as the result of the contractor's construction activities, the contractor is responsible for the cost of repairing damaged utilities. Unless otherwise shown, inside diameters of the utilities are shown on Plans. The contractor should field verify all utilities located at and within 15 feet of the workshafts or the tunnel prior to excavation.

E.3 Design of Excavation Support Systems

E.3.1 Designer Requirements

Employ or retain a professional engineer licensed in the State of Wisconsin to prepare the design of excavation support systems. This engineer is referred to herein as the contractor's engineer. The contractor's engineer shall have at least five years of experience with design and construction of similar types of ground support systems and excavations. The contractor's engineer shall maintain involvement and responsibility from design through installation, performance and abandonment or removal of ground support systems.

E.3.2 Design Criteria

All ground support system elements including sheeting, shoring, and bracing of trench and shaft excavations shall conform to the requirements of Subpart P, Excavations (1926.650 of 29 CFR) of the Occupational Safety and Health Administration (OSHA).

The design shall provide groundwater control or cut-off, bottom stability and system stiffness sufficient to meet the contract requirements for control of water and for protection of adjacent work and property as specified in subsection D of this article, Control of Water and subsection I of this article, Protection of Property and Ground Movement Limits. The design shall be compatible with the contractor's selected methods of excavation. The design shall provide for placement of excavation support systems and removal of the excavation support systems where required and feasible. The design shall provide for construction of the permanent work, and all other construction operations and requirements.

Design shaft excavation support systems and working slabs to withstand earth pressures, groundwater pressures, bottom heave, equipment loads, thrust block loads from pipe jacking, loads from making a portal for tunneling, applicable traffic and construction loads, and other surcharge loads to allow the safe construction of the tunnel without movement or settlement of the ground, and to prevent damage to or movement of

adjacent structures, streets, and utilities. Design excavation support systems to be compatible with the geologic conditions described in the Geotechnical Baseline Report and in accordance to AISC and ACI code provisions, as applicable.

1. Design each member or support element to support the maximum loads that can occur during construction with appropriate safety factors. Provide a minimum factor of safety of 1.5 for all structural members when subjected to the maximum combination of loads or stresses. The thrust block shall be normal (square) with the proposed pipe alignment and shall be designed to withstand the maximum jacking pressure anticipated with a factor of safety of at least 2.0, without excessive deflection or displacement.
2. Design the support system to minimize horizontal and vertical movements, and to protect adjacent utilities from damage. The type and stiffness of each ground support system and the methods of ground support installation shall be designed and constructed in order to meet the ground movement limits and adjacent property protection requirements specified.
3. Design support system to maintain the stability of the excavation against sliding or bottom heave. Provide a minimum factor of safety against sliding of 1.5. Provide a minimum factor of safety against bottom heave due to adjacent surcharge pressures and hydrostatic uplift pressures or upward seepage pressures of 1.5.
4. Employ combinations of wales, struts, tie-back anchors and beams for bracing and lateral support as required to support excavation faces and control groundwater and prevent loss of ground with soldier piles and lagging, ribs and lagging, liner plate, sheeting systems or other methods of ground support. Provide struts with intermediate vertical and horizontal supports to prevent buckling. Provide timber lagging, liner plates, or steel sheeting as required to retain soil between supports. Trench shields and/or speed shores are not allowed for workshaft construction.
5. Design a gravel pad or concrete working slab equipped with a sump to pump out construction water and storm water for shaft excavation bottoms to provide stable support for construction operations.
6. Locate workshafts as required to construct tunnels between the stations indicated on the drawings.

The support system shall be designed to ensure that no earth or other loading will be placed on the new structures prior to substantial completion of them and until design strength has been reached. The contractor shall be solely and completely responsible for any damage or loss due to premature loading of the new structures.

The design shall specify the following items as a minimum: the quality of materials to be used for excavation support systems; constraints on maximum excavation limits relative to support installation steps; tolerances for size and position of ground support elements; required preloading of excavation support elements; restrictions on surcharge loads and other loads that may act on the excavation support system such as jacking forces and grouting, ground freezing and groundwater pressures; ground support system and adjacent ground movement limits; provisions for subgrade stability and protection; and

constraints on removal of support system elements as the permanent work is constructed and backfilling is completed.

E.4 Products

E.4.1 General

The contractor's ground support system design engineer shall specify ground support system material requirements in accordance to the submitted designs. The materials, however, shall meet the minimum requirements listed below.

Incorporation of used prefabricated elements into excavation support systems is permitted, provided the strength and stability of used elements is verified prior to incorporation, and allowances made for lost strengths, if any, due to existing damage or deterioration.

E.4.2 Materials

Materials used in construction of the workshaft support systems shall meet these requirements:

1. All timber and structural steel used for the supporting systems, whether new or used, shall be sound and free from defects that may impair their strength.
2. Structural Steel: Conform to ASTM A36 unless approved otherwise.
3. Timber: All timber shall be structural grade with a minimum allowable flexural strength of 1,100 psi.
4. Grout: Conform to subsection H of this article, Contact Grouting.

E.5 Execution

E.5.1 General

Whenever necessary to prevent caving during excavation to protect adjacent structures, property, workmen, and the public, adequately sheet and brace excavations. All sheeting, shoring, and bracing of excavations shall conform to the safety requirements of the Federal, State, or local public agency having jurisdiction over such matters. The most stringent of these requirements shall apply.

Design and install workshaft and tunnel ground support systems to support all anticipated loads. Design jacking pipe to accommodate handling and jacking stresses. Contractor designed elements shall be in accordance to these contract documents and shop drawings submitted to provide details of support systems, attachments, embedments, finishes and other construction that affects the work covered under this section.

Review the plans, specifications, Geotechnical Baseline Report, and existing site conditions prior to bidding.

Control of Water: Conform to subsection D of this article, Control of Water.

Design and furnish materials for installing, monitoring, maintaining, and removing ground support systems. Design, furnish and install ground support system and safety elements necessary for protection of adjacent property, excavation stability and safety of workmen during construction. These elements are not shown on the plans.

E.5.2 Installation of Excavation Support Systems

Excavation support systems for workshafts and trench excavations shall consist of ribs and lagging, soldier piles and lagging, liner plates, interlocked steel sheeting, or comparable systems that satisfy the requirements of the Contract.

Install support systems to permit the safe execution of the work, and to ensure that no ground loading or other loading will be placed on the new work prior to completion and until design strength of the structure being constructed has been reached.

Install excavation support systems in soil in a manner to prevent groundwater inflow into the workshaft excavations; control groundwater inflow into trench excavations; minimize loss of soil into the excavations; minimize ground movements outside of the excavations; maintain stability of the excavations; and preserve the in situ strength of surrounding soils.

During periods of shutdown, fully support the roof, face and walls of excavations to prevent lost ground.

Install excavation support systems in a manner to limit vibrations on the ground adjacent the nearest structure to a peak particle velocity of 2 inches per second or less.

In workshaft excavations in soil where the excavation support system is located in an oversized excavation a bentonite or polymer slurry shall be continuously injected behind the support system to stabilize the soils surrounding the excavation.

For workshaft excavations in soil where the initial support system is located in an overcut excavation resulting in voids over 1 inch wide, promptly complete contact grouting as specified in subsection H of this article, Contact Grouting. Contact grouting shall be performed to control groundwater inflow and ground movement into the excavation, and to provide firm and uniform contact between the support system and the ground. Grout holes shall be located as necessary to accomplish the work.

E.5.3 Control of Vibrations

Control vibrations from boulder splitting or installation and removal of driven sheeting for initial support systems to prevent damage to the work and adjacent property. Monitor ground vibrations at locations of structures as necessary to control adverse effects of vibrations. Monitor ground settlements as necessary to prevent detrimental settlements due to densification of loose soils from vibrations.

E.5.4 Driven Steel Sheetpiles

If driven steel sheetpiles are selected for shaft support, the shaft support system submittal shall, as a minimum, address the following items: interference with utilities, advancement past boulder obstructions; hard driving and sheeting advancement without damage within anticipated dense or hard ground; vibrations, noise and densification impacts; provisions for maintaining horizontal and vertical alignment control; size and method of structure and manhole placement, sequence of installation, structural design of the bracing system, structural design of thrust blocks for pipe jacking, method of constructing a bottom plug, and plans for constructing portals (tunnel break-outs and break-ins) including ground stabilization if necessary to prevent lost ground and settlement risk.

E.5.5 Soldier Piles and Lagging

If soldier piles and lagging are selected for shaft support, the design and submittal of the initial support system plans shall, as a minimum, address the following items: interference with utilities; drilled hole advancement, including drilling equipment type, expected hole diameters and methods of maintaining hole stability; structural design of soldier piles, including size, weight, steel grade, depth, and backfill of hole with flowable fill; method of shaft excavating; method of removing boulder obstructions; method of lagging installation and overcut backfilling or contact grouting; design and installation of any internal bracing or tie-backs; structural design and method of constructing a bottom plug; and plans for constructing portals (tunnel break-outs and break-ins) including ground stabilization if necessary to prevent lost ground and settlement risk.

E.5.6 Removal of Excavation Support Systems

Repair any settlement or damage to the work or to adjacent property as a result of removing excavation support systems. Excavation support systems that cannot be safely removed and without causing settlement or damage to the work or adjacent property shall be left in place, at no additional cost to the department.

If backfill material is loosened to an extent that it settles more than one inch as a result of attempts to remove sheeting or other ground support members, the contractor shall be responsible for remedial measures to re-compact or consolidate the loosened backfill. The contractor's engineer shall be responsible for determining if ground support system can be safely removed. Excavation support system elements that are left in place shall be at the contractor's expense. Restoration of any damage and the cost of remediating disturbed backfill or adjacent property damage caused by removal of ground support systems shall be at the contractor's expense.

E.5.7 Workshaft Backfilling

Backfill workshafts in accordance to standard spec 206.3.13. Workshaft excavation support system removal shall be in accordance to the requirements of subsection E.5.9, which describes circumstances under which some ground support system elements must be left in place.

Before backfilling a workshaft over the tunnel, place flowable fill as specified in this article, over the tunnel to a depth of two feet to prevent damage to the tunnel lining or pipeline. Do not place backfill until all buried structural concrete has reached at least 50 percent of its design strength.

E.5.8 Intermediate Workshafts

Do not design and construct any intermediate workshafts to facilitate the tunneling operation without submitting a proposal to the engineer for review and approval that construction of proposed intermediate workshafts is acceptable to, the department. Neither the engineer, nor department is under any obligation to approve the construction of any intermediate workshaft. Such construction, if approved, shall be at no additional cost to the department. Obtain all required right-of-entry permits, easements, and utility relocations; design the workshaft, including ground support and control of water systems; make appropriate submittals; identify and relocate utilities, if necessary; install geotechnical instrumentation required for monitoring adjacent property; backfill the workshaft; and perform necessary surface restoration at the conclusion of construction.

F Ground Improvement

F.1 General

This section describes requirements for ground improvement to stabilize soils and groundwater at shaft locations to facilitate launching and retrieving the Microtunnel Boring Machine (MTBM). Ground improvement shall consist of grouting or other methods suitable to stabilize the ground, subject to the engineer's written approval.

Design, construct, and test stabilized grouted soils or other approved ground improvement for:

1. Stability of shaft excavations including walls and bases.
2. Stability of ground during exit of MTBM from jacking shaft and entry of MTBM into reception shaft where specified or found necessary.
3. Control of groundwater and inflows into shaft excavations.
4. Stability of ground and control of water when completing excavation chamber or face interventions in potentially unstable ground without use of compressed air.

The work includes mobilizing equipment for grouting or other approved method, determining suitable grouting procedures and grout mixes, installing test and production grouted zones, and control, containment, clean up, and disposal of waste materials resulting from grouting.

The contractor may propose other soil improvement procedures satisfying the performance requirements of this section, subject to engineer's written approval

F.2 Quality Control

Qualifications:

1. Grouting subcontractor shall have not less than five projects completed within the last ten years comprising the planning and execution of a grouting program of the scope and type required for this project.

2. Grouting superintendent shall be a full-time, on-site individual with responsibility for all grouting operations, and shall have at least 3 years of experience in the field application of grouting technology similar to that required for this project.

The contractor shall be responsible for all quality control testing of grouted zones. All test results shall be submitted to the engineer.

F.3 Design Criteria

Soil-Cement:

1. The 28-day compressive strength of the grouted zones shall be in the range of 200 to 500 psi.
2. The highest In-situ Permeability: 1.0×10^{-5} cm/sec measured in accordance to contractor-proposed method.
3. The grouted soilcrete mass shall extend at minimum 3 feet beyond, up, down, left and right from any point on the portal eye edge.
4. For grout used at shaft exit and entry locations, confirm the adequacy of the design criteria as related to the behavior of anticipated soils and groundwater conditions and as integrated with the contractor's means and methods for performing the work. Contractor may propose deviations, subject to engineer's written approval.

Heave and Settlement Tolerances:

1. Control settlement and heave to prevent damage to surface features and utilities.
2. Maximum allowable heave or settlement shall conform to subsection I of this article, Protection of Property and Ground Movement Limits.
3. Repair any damage to utilities or surface facilities at no cost to the department.

Select drilling and grouting based on the soil conditions described in the Geotechnical Baseline Report.

Schedule and perform the grouting work so that grouted zones have achieved adequate strength to support the ground outside shafts at entry/exit locations, or at tunnel headings, and to prevent inflows of soil or groundwater prior to excavation.

F.4 Products

Grout: Shall be a mixture of Portland cement, water, and bentonite or other non-toxic, biodegradable admixtures as needed. The grout shall be mixed in a grout plant that combines dry cement and water in predetermined proportions. Grout mixes shall have a consistency that is fluid and pumpable. Grout mixes shall be proportioned to provide the required strength and mixing consistency.

Cement: Portland cement, ASTM C150, Type I or II.

Bentonite: Premium grade Wyoming Sodium Montmorillonite, manufactured in accordance to API Standard 13A.

Water: Only fresh and potable water shall be used for mixing grout.

Admixtures: Admixtures may be used as necessary to improve pumpability, to control set time, and to prevent segregation and bleeding. Admixtures shall be nontoxic and biodegradable and conform to ASTM C494.

F.5 Execution

F.5.1 General

All ground improvement work shall be performed in accordance to all local, state, and federal safety regulations and permits required for the project.

Coordinate ground improvement work with subsection E, Shaft Excavation and Support and subsection G, Microtunneling of this article.

F.5.2 Grout Mixing

Use a mixing plant for the preparation of the grout. The mixing plant shall consist of high-speed grout mixer, grout agitator, grout pumps and control unit, as required. The plant shall be capable of supplying a uniform grout mixture in the quantities required for timely execution of the work.

Mix cement, water, and any admixtures in the proportions indicated in the approved submittals. If bentonite is used, add bentonite to water and mix thoroughly to fully hydrate prior to adding cement. Time of mixing shall be as required to fully hydrate the bentonite but not less than 5 minutes. Any grout not injected within 90 minutes shall be wasted.

F.5.3 Grout Injection Rate and Pressure

Determine the appropriate grout injection rate and pressure during the test program and maintain this injection rate and pressure during construction of the production columns.

Monitor the grout injection rate by counting the strokes of the piston pump in a fixed period of time if piston displacement calibration is available or by using a flow meter.

Monitor the grout injection pressure with calibrated pressure gauges mounted on the injection lines. Prior to the start of each column, check the pressure to verify that there is no blockage in the jet grout rods.

Note and record on the daily shift reports the grout injection rate, volumes injected, and injection pressure for each column.

F.5.4 Containment of Grout Discharge

Contain all grout, water, and other drilling/grouting waste material within the work areas with berms, hay bales, silt fences, or other measures to prevent discharge of grout into the storm drains, sewers, drainage channels, or waterways.

F.5.5 Cleanup

Complete cleanup of the work area after grouting operations as soon as possible, and remove all grout spillage and residue from the work area prior to shaft excavation

G Microtunneling

G.1 General

This section describes materials to be incorporated into the tunnel and requirements for tunnel construction and to properly complete pipeline construction as described herein and/or shown on the plans. Furnish all materials and perform all labor necessary to fulfill the requirements of these specifications.

This section includes guidelines for soil tunneling in a one-pass system using Microtunneling (MTBM) followed by a jacked casing pipe. The MTBM also must be capable of tunneling through the grout zones as specified in subsection F or this article, Ground Improvement. Remotely controlled and guided microtunneling equipment with a slurry spoil removal system capable of maintaining positive face pressure, shall be employed to directly install the pipeline at the locations indicated on the plans.

Supply all materials and perform all work in accordance to applicable American Society for Testing and Materials (ASTM), American Water Works Association (AWWA), American National Standards Institute (ANSI) or other recognized standards. If requested by the engineer, submit evidence that manufacturer has consistently produced products of satisfactory quality and performance over a period of at least two years.

The contractor should note that the contract documents assume a certain workshaft to be used as a receiving shaft and the other to be used as mining or launch shaft for a microtunneling operation. These assumptions are based on consideration of the work to be performed at certain workshaft locations and on the department's interest in reducing workshaft size at selected locations. The assumed designations are shown on the plans and are discussed in the Geotechnical Baseline Report. The contractor may also launch from a workshaft location assumed in these documents to be a receiving shaft location. However, the contractor is advised that the geotechnical instrumentation program shown on the plans and described in the article Geotechnical Instrumentation has been developed based on the stated assumptions. If, subsequent to the installation of geotechnical instrumentation, the contractor elects to mine from location assumed by these documents to be receiving shaft location, then the contractor may be required to install additional geotechnical instrumentation of the types and at locations designated by the engineer, at no additional cost to the department.

G.2 Classification of Tunnel Excavation

In lieu of the excavation classifications defined in standard spec 205.2, tunnel excavation shall be classified as soil excavation or boulder obstruction excavation, as defined previously in this article. Complete all excavation regardless of the types of materials encountered. Contractor and its engineer shall review the Geotechnical Baseline Report, make a site visit, and make independent interpretations of the kind and extent of the

various materials that will be encountered in the excavation as well as the presence or absence of water.

G.3 Tolerances

Microtunneled pipe shall be installed within tolerances not exceeding the following:

Departure From:	Not to Exceed:
established horizontal alignment -	3 inches per 100 feet or a maximum of 12 inches, except at junctions with structures where the maximum allowable shall be 3 inches
established grade -	1 inch
pipe rotation (plumbness)	1 degree

G.4 Qualifications

The contractor and his field superintendent shall demonstrate and document their qualification for this project by their experience on projects of similar type, scope, and/or complexity:

1. The contractor and field superintendent shall have completed three microtunneling projects comparable to the size and scope of this project or the installation of 1,000 feet of a 54-inch inside diameter pipe in the last 5 years using microtunneling equipment manufactured by Iseki, Soltau, Lovat, Herrenknecht, or Akkerman. A minimum of one of the projects shall have involved tunneling under freeways.
2. The MTBM operator/technician that will be utilized must show the minimum qualifications as listed herein.
3. The contractor and field superintendent may submit other information not called for that he deems pertinent in demonstrating his qualifications for review by the department and engineer.

Contractor shall provide evidence of OSHA certification for site safety representative and personnel responsible for air quality monitoring.

G.5 Quality Assurance

In addition to the provision of operational data referred to elsewhere in this specification, the contractor shall comply with the following:

1. Only qualified microtunneling contractors approved by the engineer are authorized to perform the microtunneling work. An approved microtunneling contractor will also be allowed to perform as a subcontractor.
2. The contractor shall establish and maintain quality control for operations under this section to assure compliance with the contract requirements and maintain records of quality control for materials, equipment, and construction operations.
3. The contractor shall keep and maintain at the construction site a complete set of field drawings for recording as-built conditions. It shall have marked or noted thereon all field information, properly dated, recording as-built conditions. This set of field drawings shall be kept up-to-date during the course of the project.

Provide at least 72 hours advance written notice to the engineer of the planned inception of the microtunneling. The contractor shall immediately notify the engineer, in writing, when any problems are encountered with equipment or materials, or if the contractor believes the conditions encountered are materially and significantly different than those represented within the contract documents. All work by the contractor shall be done in the presence of the engineer, unless the engineer grants prior written approval to perform such work in engineer's absence.

G.6 Storage and Protection

All materials shall be stored and protected in accordance to the manufacturer's recommendations.

G.7 Safety

All materials and methods of construction shall meet the applicable requirements of OSHA. Particular attention is called to Subpart S of the Standard (29 CFR 1926/1920, published as U.S. Department of Labor Publication 207, revised October 1, 1979, and revised again August 1, 1989. See the Federal Register dated June 2, 1989 for the revised standards and commentary).

All Work must be performed in accordance to the current applicable regulations of Federal, State, and local agencies. In the event of conflict, the more restrictive applicable requirements must be met.

No gasoline-powered equipment shall be permitted in the jacking shaft

G.8 Preconstruction Survey

After the contract is awarded and before starting the work, make a thorough examination, and a color videotape using 1/2-inch cassettes in VHS format or Digital Video Disk (DVD) format, of all existing buildings, structures including basements, freeway and road pavements, sidewalks and other improvements that are within 200 feet of the work and that might be damaged by the contractor's operations. The examination shall be made jointly by the contractor, the engineer, and the property owner. The scope of the examination, and photographs taken, shall include cracks in structures, evidence of settlement, leakage, and similar conditions.

To monitor possible settlements, mark and record the freeway pavement, sidewalk and structure surface elevations at every 50 feet interval prior to the start of construction. Monitor these surface grades in the section that is being tunneled. Submit two copies of original elevations and final elevations after the completion of the tunnel section to the engineer. Engineer will submit one copy of original and final elevations to the department.

Records in triplicate of all observations shall be prepared by the contractor. Two copies of each document and one copy of the videotape shall be provided to the engineer within 10 days prior to start of construction. Engineer will provide a copy of the videotape to the

department. Keep a copy of the videotape or DVD for your record until you receive the final payment.

The above records and photographs are intended for use as evidence in ascertaining the extent of any damage that may occur as a result of the contractor's operations and are for the protection of the adjacent property owners, the contractor, and the department. The records will provide a means of determining whether, and to what extent, damage may have occurred as a result of the contractor's operation.

The work specified under pre-construction survey are considered incidental and no separate payment will be made. Payment for the work will be included as part of the appropriate tunnel bid item.

G.9 Products

G.9.1 Jacked Reinforced Concrete Pipe

Conform to ASCE 27-00 - Standard Practice for Direct Design of Precast Concrete Pipe for Jacking in Trenchless Construction.

The minimum cement content shall be 564 pounds per cubic yard. The water/cement ratio shall not exceed 0.49. Concrete pipe shall not be coated internally or externally with any substance unless otherwise specified herein or approved by the engineer.

Prior to the manufacture of any pipe for this project, the contractor shall submit the pipe manufacturer's written in-plant quality control program which shall describe quality control procedures and materials testing to be used throughout the manufacturing process.

Reinforced concrete pipe manufactured by any method utilizing a rotating packer or platform will not be acceptable unless the manufacturer can demonstrate through physical testing that the concrete to steel bonding has not been impaired as a result of torsion induced into the steel reinforcement during casting.

Pipe shall be Class V in accordance to the plans, specifications, and per ASTM C 76 with "C" wall and have minimum concrete compressive strength of 6,000 psi. Pipe to be jacked into place shall have flush joints. No pipe to be jacked into place shall be delivered to the jobsite until the concrete strength has reached 6,000 psi as determined by core samples taken and tested in accordance to ASTM C 497. Each piece of pipe shall have one grout hole at the crown and one grout hole at each springline for pressure grouting. Grout holes shall be 2 inch minimum diameter with plugs cast into the pipe at the time of manufacturing.

A minimum of two circular rings of reinforcement positioned within both the tongue and groove of the pipe are required as well as auxiliary shear reinforcement at the joints. No quadrant reinforcing is permitted. Submit detailed design computations and pipe design including wall and reinforcement details for pipe to be jacked in accordance to Section 7.2 of ASTM C76.

Each length of pipe shall bear the name or trademark of the manufacturer, the location of the plant, the date of manufacture and the class or strength of the pipe. The markings shall be plainly visible on the exterior or interior of the pipe barrel and shall conform to the requirements of ASTM C76.

G.9.2 Slurry and Lubricant

Bentonite: Shall be high swelling montmorillonite clay or other product as approved by the engineer. High yield bentonites containing additives to artificially increase the resulting viscosity when mixed with water are not acceptable. Neat bentonite without additives shall be high quality Wyoming bentonite or similar.

Polymers: Polymers used as pipe lubricant or additive to bentonite or slurry water shall be non-toxic and compatible for use in a municipal raw water reservoir.

The use of slurry additives other than bentonite or polymer will require the approval of the engineer.

The slurry parameters shall be maintained by the contractor within those proposed and accepted in the submittals.

G.9.3 Grout

Conform to subsection H of this article, Contact Grouting.

G.9.4 Microtunnel Boring Machines

The tunnel excavation systems utilized shall be compatible with ground conditions. The microtunnel boring machine (MTBM) is required and shall include the following features, as a minimum:

1. MTBM shall be slurry shield type.
2. Capability to fully support or breast the face during periods of excavation and periods of shutdown to maintain face stability, control of groundwater and prevent uncontrolled ground loss.
3. MTBMs shall have sufficient torque and speed for efficient operation through the anticipated ground conditions and shall be capable of being rotated clockwise and counter-clockwise to adjust for rolling effects. The MTBM available torque shall be high enough to provide ability to mine through zones of cobbles and boulders.
4. The main MTBM bearing shall be in good condition and adequately sealed to resist the entry of water and fine material. Bearing lubricant shall be checked for signs of contamination or for filings indicating problem bearing wear prior to launching each tunnel drive.
5. The MTBM shall have a rock crusher that is capable of fracturing rocks up to at least 25 percent of the excavated diameter. The cutting wheel shall include a combination of disk cutters and other types of cutters that are designed for boulder fracturing and mining capability in the anticipated soil formations, and that are sufficient to prevent a stuck MTBM. The MTBM shall have interchangeable cutters. The contractor shall determine the cutter types and configuration.

6. Steerability and capability of controlling the advance of the heading to maintain line and grade within specified tolerances. MTBMs shall have a guidance system with necessary digital and graphic displays to show the MTBM position relative to its desired position at any time during tunneling. The MTBM shall include monitoring and recording equipment sufficient for documentation of thrust forces, start and stop times, rate of advance, position (heading station and MTBM pitch), line and grade deviation, cutting head torque and speed, advancement thrust, face pressure, face standup time/stability, generalized description of excavated muck, any obstruction encounters, groundwater seepage rates, computed muck volume, ventilation and atmosphere monitoring data and any other pertinent information for each pipe advance or initial support set.
7. MTBM shall be designed and constructed to withstand all loads and pressures that are likely to be encountered during tunneling operations without distress or excessive deformation. MTBM, shield, cutting wheel and other metal work in contact with moving soil or muck shall be suitably protected to minimize abrasion damage.
8. Compatibility with pipe jacking and the structural capacity of the jacked pipe support system when thrusting or reacting against it.
9. The tail of the MTBM shall have a sealing system and joint cushion that prevents ground and groundwater infiltration and pipe damage when thrusting or reacting against it.
10. Capability of handling and removing from the heading muck of high water content.
11. Total overcut around the jacked pipe, defined as the difference between the excavated diameter at the heading and the pipe, shall not be greater than 1.5 inches.
12. A gas detection and atmosphere monitoring system at the face that is capable of measuring at least oxygen, methane and volatile organic compound components of the atmosphere and of alerting the operating crew and shutting down the TBM at combustible gas levels of concern as required by OSHA and other applicable safety regulations.
13. A ventilation and atmosphere control system capable of reducing and/or eliminating dust, vapors, fumes, and other atmospheric impurities.
14. The MTBM shall be capable of exerting a controllable pressure against the face, during both excavation and shutdown periods, to support the excavation face, prevent groundwater inflows, and prevent loss of ground. Determine and submit for approval a safe range of slurry pressures at the face that are high enough to provide adequate face support and groundwater pressure resistance while low enough to prevent a slurry frac-out (hydro-fracturing) or ground heave. The cutting wheel chamber shall be equipped with at least one operating, calibrated pressure cell with an accuracy that allows face pressure to be maintained within ± 0.1 bar of the desired pressure during mining.
15. A slurry mixture or consistency shall be used that minimizes slurry migration into the ground to allow a slurry cake to develop for ground support. Slurry line density measurements and any other suitable devices shall be used to check against excess lost ground (over mining) by computing the rate of tunnel muck removed as a percentage of the theoretical excavated soil weight for each pipe jacked.

16. Pumps and intake and discharge piping that are compatible with the tunnel drive lengths, depths, soil types and MTBM advance rate anticipated. The slurry return lines shall consist of abrasion resistant hoses with high pressure rating to resist the abrasive cuttings of cobbles and boulders. The intake ports size in the crushing chamber shall be adequate to allow for passing of all material sizes produced at the face. Select a proper type and size of pump impellers to take into account the anticipated large size cobble and boulder cuttings.
17. A surface separation plant equipped with screens, centrifuges, cyclones and settling tanks for efficient removal of muck (both coarse and fine-grained fractions) from the slurry at a rate compatible with the anticipated MTBM advance rate.
18. Full capability of meeting the construction needs of the project.

G.10 Execution

G.10.1 General Excavation Requirements

The contractor shall be responsible for selecting methods of tunneling that are compatible with the ground conditions as indicated in the Geotechnical Baseline Report, with placement and performance of ground support systems, with measures for control of water, and with requirements for safety of personnel and protection of adjacent property.

Interpretation of the Geotechnical Baseline Report and data, investigating the site and determination of the site subsurface conditions prior to bidding is the sole responsibility of the contractor. Any subsurface investigation by the bidder or contractor must be approved by the appropriate authority having jurisdiction over the site.

Furnish all necessary equipment, power, water, and utilities for microtunneling, shoring, excavation, bentonite mixing and pumping, removal and disposal of spoils, and other associated work consistent with the contractor's methods of construction.

Perform tunnel construction so as not to interfere with, interrupt or endanger freeway activity thereon, and shall minimize subsidence of the ground surface and utilities above and in the vicinity of the tunnel and to meet the settlement limits specified in subsection I of this article, Protection of Property and Ground Movement Limits. Support the ground continuously in a manner that will prevent loss of ground and keep the perimeters and face of the tunnel, passages and shafts stable. Support the tunnel face by positive means during all shut down periods. The contractor shall be responsible for all settlement resulting from tunnel operations and shall repair and restore damaged property to its original or better condition.

Maintain tunnel excavation line and grade to provide for construction of final lining within specified tolerances.

Ensure that the axial forces from the main jacks shall be distributed to the pipe uniformly to prevent damage to the ends of the pipe.

Thrust Blocks: Special care shall be taken when setting the jacking frame guide rails in the jacking shaft to ensure correct alignment and grade, and to ensure stability of the frame. If a concrete thrust block is used, concrete or other materials shall have attained the required strength before jacking begins.

Control the advance rate of the machine and balance the rate of removal of excavated material with the rate of excavation and pipe installation to avoid overexcavation that can lead to subsidence, and underexcavation that can lead to high jacking forces.

Maintain clean working conditions at all times inside the tunnel and workshafts. Remove muck, ponded water, grout spills, unused timber, and any other material extraneous to advancing the excavation.

Provide access for the engineer to inspect and observe the work, to perform independent line and grade surveys, for geologic condition observations if possible, for monitoring of instrumentation, and for installation of additional instrumentation, as deemed necessary by the engineer.

In the event that excavation threatens to endanger personnel, the work, or adjacent property, cease excavation. Evaluate methods of construction and revise as necessary to ensure the safe continuation of the work.

Conditioners and lubricants used to support the face, to lower jacking pressures, or to improve spoil characteristics for transport shall be handled and disposed of in accordance to applicable health and environmental regulations.

Perform all tunnel work in accordance to applicable permit conditions.

Perform tunneling work in accordance to the working hours established for the project. Notify the engineer at least 24 hours in advance of a proposed change in working hours, except in the case of emergencies. When the tunnel advancement is suspended for more than 30 minutes, the tunnel face shall be fully supported in accordance to accepted submittals.

If the microtunneling operations should encounter a condition that impedes the forward progress of the machine, notify the engineer immediately in writing. The contractor shall remove, treat, clear, or otherwise make it possible for the microtunneling machine and jacked pipe to advance past any and all objects that impede forward progress of the machine. Upon written notification of the engineer, the contractor shall immediately proceed with removal of the object by retrieval of the MTBM or by other approved means, as submitted by the contractor in reviewed submittals.

Conduct all operations such that slurry separation, trucks, and other vehicles do not create a dust or mud nuisance or traffic hazard. Any muck spillage or slurry breakthroughs shall be promptly contained, cleaned up, removed, and properly disposed. The contractor's slurry separation plant shall discharge into a truck, tank, or container that prevents slurry

spillage onto the ground surface, or right-of-way. Discharge from the slurry separation plant onto the ground surface, or right-of-way will not be permitted.

Upon completion of microtunneling and annulus grouting, installation of valves, screens and other appurtenances, all intake pipelines, intake shafts, and appurtenances shall be thoroughly cleaned by the contractor. All slurry, oils, grease, and other materials shall be completely removed from the pipelines and appurtenances by the contractor

G.10.2 Blasting

Blasting is not allowed anywhere on the project.

G.10.3 Microtunneling

Construct the culvert by jacked pipe microtunneling method that provides precast reinforced concrete pipe final lining, subject to the restrictions on methods stated elsewhere in this article. The jacked, one-pass pipe method shall serve as both the initial ground support and final tunnel lining.

The contractor shall comply with the following:

1. Tunneling shall not begin until the contractor has completed portal zone ground probing (using the same demonstration steps as outlined for probing after ground improvement) and completed ground improvement as specified in subsection F of this article, Ground Improvement, at entry and exit portals and also behind thrust blocks (as necessary) to stabilize weak, running or flowing soils. The contractor shall confirm that the ground has been improved to the extent that ground will remain stable without movement of soil or water while the entry/exit location shoring is removed and while the machine is being launched or received into a shaft or during jacking operations. The progressive steps identified below shall be used during portal zone ground probing and to confirm suitable ground improvements for all shaft types and entry/exit portals:
 - a. After the contractor believes that he has improved the ground sufficiently outside a given shaft seal, the contractor shall demonstrate the suitability of the improvements by cutting a 2-inch diameter hole in the shoring wall and at least 12 inches beyond the wall near the center of the bore. If no soil and less than 0.1 gpm of water enter the shaft, the contractor may progress to the next demonstration step. If any soil or greater than 0.1 gpm of water enters the shaft, the contractor shall seal the demonstration hole and further improve the ground before repeating the demonstration step.
 - b. After successful completion of the first demonstration step, the contractor shall demonstrate the suitability of the ground improvements by cutting a 12-inch diameter hole in the shoring wall and at least 12 inches beyond the wall at the location of previous demonstration hole. If no soil and less than 0.5 gpm of water enter, the contractor may progress to the next demonstration step. If any soil or greater than 0.5 gpm of water enters the shaft, the contractor shall seal the demonstration hole and further improve the ground before repeating the demonstration step.

- c. After successful completion of the first two demonstration steps, and if the contractor believes the ground improvements are sufficient, the contractor may proceed with the remainder of the shaft wall penetration procedures.
2. The initial set-up of microtunneling machines prior to start of excavation shall be appropriate to the configuration of the machine and to the ground conditions. The initial set up shall permit the microtunneling machine to begin and continue the excavation within line and grade tolerances.

G.10.4 Pipe Jacking Behind MTBM

Conform to the CI/ASCE 36-01 - Standard Construction Guidelines for Microtunneling for design criteria that are specific to pipe jacking.

The pipe shall be jacked from jacking pits (launch shafts) to receiving pits (retrieval shafts) at manhole shaft locations as indicated on the drawings. When determining which shafts to use for jacking and receiving, account for schedule and sequence of construction requirements.

Provide exit seals in launch shafts and entry seals in reception shafts as necessary to minimize loss of lubricant, groundwater, or soil into the shaft at the pipe penetration. Exit seals and entrance seals shall be sufficient to prevent binding of the pipe due to loss of lubricant, lowering of groundwater pressure to unacceptable levels, or ground movement or settlement outside the shaft sufficient to damage structures. Supplement entrance seals and exit seals with ground modification measures as necessary to achieve desired results.

Set the pipe to be jacked on properly braced and supported pipe guide rails.

The axial forces from the thrust jacks shall be distributed to the pipe uniformly through cushion material to prevent damage to the ends of the pipe. Control the advance rate and the volume of material excavated to avoid over-excavation and heave.

Each pipe section shall be jacked as the excavation progresses in such a way that leaves no length of tunnel exposed at any time. Use anti-reverse thrust restraints to prevent pipe movement into launch shaft when jacking retracted for placement of a new pipe.

Pipes shall be jacked into place without damaging the pipe. In the event a section of pipe is damaged during the jacking operation, the pipe shall be jacked through to the receiving pit and removed. Other methods of repairing the damaged pipe may be used, subject to approval by the engineer.

Provide a pipe lubrication system to inject bentonite slurry and/or polymer at MTBM and pipe locations and in quantities as required to minimize pipe friction and jacking forces. Monitor and control pressures to prevent injection pressures at the pipe annulus from causing ground heave or “frac-out” (hydraulic fracturing) of the ground.

Pressure applied at the tunnel face shall be maintained at all times between a minimum equal to the sum of groundwater pressure and estimated active earth pressure and a maximum pressure that prevents ground heave and slurry frac-out as submitted and approved.

The thrust block at the jacking shaft shall be properly designed and constructed to provide a minimum factor of safety of 2.0 against the maximum possible thrust by the main jacks. The thrust block shall be normal (square) with the proposed pipe alignment and shall be designed to withstand the maximum jacking pressure to be used with a minimum factor of safety as previously specified, without excessive deflection or displacement. Where jacking in two directions from one shaft, the thrust block for the second drive from that shaft shall be designed to prevent damage to the pipe that was installed during the first drive from jacking thrust of the second drive.

Properly dispose of all excavated materials away from the construction site on a daily basis. Space for stockpiling is limited and may not be available at the jacking pit site. Excess slurry shall be pumped from separation plant tanks into tanker trucks and disposed of at acceptable facilities in accordance to current state regulations for disposal of these materials. Only use the disposal sites identified in the submittals for muck and slurry disposal.

After the each pipe jacking drive is complete, fill the annular space outside the pipe with Portland cement grout in accordance to subsection H of this article, Contact Grouting.

G.10.5 Lubrication

Apply lubrication to the external surface of the pipe to reduce skin friction and the annular space created by the overcut shall be filled with a lubricant suitable for the particular soil conditions to be tunneled.

Provide a lubrication system to inject an approved lubricant at the rear of the tunneling shield and as required along the pipe length to lower the friction developed on the sides of the pipe during jacking. The lubrication system shall be such that it can automatically be controlled from the operator's cabin and controlled volumes of lubricant can be injected by the MTBM operator at selected locations along the tunnel. Such volumes of lubricant pumped, including the location of injection, shall also be automatically recorded.

Monitor at all times both the volumes, pressures, and location of grout/lubrication injection points to ensure that the annulus around the pipe is completely filled with approved lubricant

G.10.6 Control of Line and Grade

The required tolerances are given in subsection G.3 of this article.

Should the tunnel alignment be outside the above tolerance requirements, then the MTBM shall be returned to the plane line and/or grade at a rate of not more than 1 inch per 25 feet of tunnel.

Steering corrections made to the tunnel alignment shall be carried out in such a manner that the joint angle of any two adjacent pipes or segments does not exceed allowable limits of the pipe, based on manufacturer's limits.

The laser guidance system shall be mounted in a manner that isolates it from effects of movement by the jacking forces and protects it as much as possible from accidental impacts.

Check the laser primary control for the tunneling system against an above ground undisturbed reference at least every 3 days, 3 locations per tunnel drive, or not greater than 100 feet intervals of tunnel constructed, whichever is more frequent.

Check the laser alignment for tunnel control each shift against local survey marks.

After installation of the jacked pipe, provide the engineer with access to the pipe for visual inspection of the line and grade of the completed pipe.

G.10.7 Structure Protection

Settlement limits resulting from tunneling and workshaft construction operations are specified in subsection I of this article, Structure Protection and Ground Movement Limits.

G.10.8 Detection of Movement

Install geotechnical instrumentation in accordance to the article Geotechnical Instrumentation, and the plans. The engineer will monitor these instruments and other existing instruments and monitoring points. The engineer will provide the contractor with copies of measurement data and his interpretations of the data in a timely manner. The engineer's monitoring and evaluation actions are meant to supplement the contractor's monitoring system and do not relieve the contractor of his responsibility, nor place on the engineer responsibility for control of ground movement and protection of the work and adjacent structures.

The contractor is responsible for obtaining movement measurements obtained by the engineer and for performing any additional monitoring of ground and facility movements that is necessary for making timely changes in construction methods to control ground movements and prevent damage to the work and adjacent structures. The contractor shall provide to the engineer, within a timely manner, copies of all instrumentation measurements that the contractor has made.

G.10.9 Emergency Measures

Whenever there is a condition that is likely to endanger the stability of the excavation, overlying pavement or adjacent structures, operate with a full crew for 24 hours a day,

7 days a week, including weekends and holidays without intermission, until those conditions no longer jeopardize the stability of the work and overlying and adjacent facilities.

Provide an emergency electric power supply independent of the primary electric supply. The emergency power system shall be capable of powering the excavation lighting, ventilation and water control systems and, if used, the low pressure compressed air system. The emergency electrical power system for tunnels in Hazardous Locations shall comply with Class 1, Division 2 requirements of OSHA, as previously specified.

G.10.10 Control of Water

Conform to subsection D of this article, Control of Water.

G.10.11 Air Quality

Perform all workshaft and tunnel excavation operations by methods and with equipment that will reduce or eliminate any dust, fumes, vapors, gases, fibers, fogs, mists or other atmospheric impurities. Conform to regulations promulgated by OSHA and other regulatory authorities regarding air quality and ventilation in excavations. Provide appropriate instruments for testing the quality of the tunnel atmosphere and take samples under working conditions, all in accordance to OSHA, Wisconsin Administrative Code, or other jurisdictional requirements.

Air testing shall be required for the specific conditions to ensure that the following gas concentration requirements are met:

Carbon Monoxide:	<0.005%
Methane:	<0.25% (5% of explosive limit)
Hydrogen Sulfide:	<0.001%
Oxygen:	>19.5% and <23.5%

G.10.12 Tunnel Ventilation

As a minimum, when the excavations are occupied by workmen, the main ventilation system should deliver fresh air to the face at a volumetric flow rate equal to 60 feet per minute times the full area of the excavated face. A higher volumetric flow rate should be provided if necessary to conform to OSHA requirements. Operate the tunnel main ventilation system 24 hours per day, 7 days per week, continuously, until hole-through. During extended periods of inactivity when excavations are unoccupied, such as over weekends or holidays, the volumetric flow rate may be reduced to the OSHA minimums.

G.10.13 Illumination

Light in all areas where work is in progress shall be adequate to permit proper observation of operations by the contractor and engineer at all times. Lighting intensity shall be as required by applicable regulations for tunnel and workshaft construction operations. Lighting intensity shall be increased as required by the engineer for concrete placement and inspection and for final cleanup.

Open flame lights shall not be used. Flashlights shall be explosion-proof. Both power and lighting circuits shall be separated and thoroughly insulated. The voltage shall not exceed 115 volts. All lights shall be placed in porcelain light fixtures in vapor tight enclosures and metal guards. Lighting installation shall conform to National Electric Code NFPA 70.

Maintain underground illumination in place throughout the life of the contract including the substantial completion inspection or until permission to remove illumination is received in writing from the engineer.

G.10.14 Safety

Perform all activities in accordance to the Occupational Safety and Health Act of 1970 (PL 596), as amended, applicable regulations of the Federal Government, OSHA 29CFR 1926 and applicable criteria of ANSI A10.16 81, "Safety Requirements for Construction of Tunnel Shafts and Caissons".

G.10.15 Subsurface Exploration

Notify the engineer in advance of plans to perform subsurface explorations for any purpose related to the work, including but not limited to excavating test pits, drilling test borings or probe holes, and performing pump tests. Provide the engineer the opportunity to review and comment on the exploration program, and to observe the investigation.

Provide copies of subsurface exploration records to the engineer on request.

H Contact Grouting

H.1 Description

This article covers the work necessary for contact grouting including utilization of existing grout holes; furnishing, mixing and placing grout; furnishing all labor, materials, equipment, and incidentals; and all other related work necessary for grouting, complete.

The amount of grouting to be performed will depend upon the nature of the soil encountered as the work proceeds, and on the method of construction. Grouting shall be performed at such locations, at such times, and in such quantities as determined and or approved by the or as necessary to conform to the requirements of this article.

H.2 Quality Assurance

Furnish one set of calibrated pressure gauges to be used as a master to check pressure gauges in the field. Provide proper certifications attesting the same to the engineer. Provide proper fittings for connection of calibrated pressure gauges parallel to field gauges, for periodic checking of field gauges. Furnish suitable devices for determining the accuracy of all volumetric and flow rate measuring devices, as required.

H.3 Products

H.3.1 Constituents of Portland Cement Grout

Portland cement, water and fly ash shall conform to the requirements of standard spec 501.2. Use Type I Portland cement. Do not use Bentonite or other clay-like materials as an admixture.

H.3.2 Sand

Sand shall conform to the requirements for concrete aggregates specified in standard spec 501.2.5, except that it shall have a finess modulus between 1.5 and 2.0 and be graded as specified in the following table.

Sieve Size	Percent Passing Minimum
No. 8	100
No. 16	95 – 100
No. 30	60 – 85
No. 50	20 – 50
No. 100	10 – 30
No. 200	0 – 5

H.3.3 Fluidifier

Fluidifier shall be a compound with characteristics that will hold the solid constituents of the grout in colloidal suspension, be compatible with the cement and water used in the grout mix, and contain a shrinkage compensator. Fluidifier shall not contaminate the groundwater.

Fluidifier shall be furnished in moisture resistant paper sacks shipped in sealed containers and shall be handled and stored so as to avoid absorption of moisture, damage or waste. Material which has become caked due to moisture absorption will be rejected.

H.3.4 Contact Grout

Contact grout shall consist of a mixture of water, sand and Portland cement, with mineral fillers or admixtures as necessary to achieve a non-shrink, non-bleed, flowable grout. The grout shall have a minimum 24-hour compressive strength of 75 and a minimum 28-day compressive strength of 250 psi.

H.3.5 Grout Holes

Holes for injecting grout or to allow air release or drainage during grouting shall be pre-installed in the casing pipe. Drilling additional grout holes in addition to those pre-installed will be allowed only upon approval by the engineer.

Grout pipes shall be fixed in the holes in the lining, to prevent grout return around the perimeter of the pipe. Grout pipes and fittings shall be thoroughly cleaned before embedment. Grout pipes shall be set so that grout can flow freely to voids behind the lining.

Suitable stop valves shall be provided at the collar of the grout hole for use in maintaining pressure as required until the grout has set

H.3.6 Contact Grouting Equipment

Mixers shall be colloidal type capable of providing a homogenized mix and shall be capable of an impeller speed of not less than 1500 RPM. The grout mixer shall pump the grout into a mechanically agitated holding tank. Mixer and mechanical agitator tanks shall be of sufficient capacity to ensure an uninterrupted supply of grout to the grout pump. Provide means of accurately measuring the separate grout ingredients at the mixer. Provide means for increasing or decreasing the water-cement ratio, as required by the ground conditions encountered.

Pumping equipment shall deliver grout from the holding tank to the point of injection at a steady pressure without pulsation. Grout pumps shall be capable of delivering grout to the point of injection at a pressure equal to 3.0 psi for every foot of overburden. Pumping equipment shall be capable of handling water-cement ratios varying between 25 to 1 and 0.6 to 1 by weight.

Provide means for accurately determining the amount of grout injected. The flow meter shall be accurate within 10 percent at a flow rate of 2.5 gpm.

The grout plant shall be equipped with reliable pressure gauges at the point of injection and at the pump. The pressure gauges shall have a range such that the maximum pressure specified shall be approximately two thirds of the capacity of the gauge. The gauges shall be protected from grout contamination by an oil or air buffer, and shall be easily cleaned in the field.

Flexible hose for pressure grouting shall have an inside diameter not less than 1 inch and shall be capable of withstanding the maximum water and grout pressures to be used. Grout pipes shall have an inside diameter of 1-1/2 inches or larger. A diaphragm valve shall be provided on each grout hose and a straightway valve at each grout pipe to regulate flow. Packers for grouting shall be pneumatic, hydraulic, or mechanical expandable rubber packers.

At the point of injection, suitable valves and pressure gauge shall be provided so that the pressure may be monitored and the grout flow regulated by increasing or decreasing the flow in the grout return line. Suitable stop valves shall be provided at the collar of the hole for use in maintaining pressure as required until the grout has set.

Grouting equipment shall be of such configuration that flushing can be accomplished with the grout injection valve closed, with the water supply valve open, and with the grout pump running at full speed.

All metal pipe, standard plugs and fittings required for grouting operations shall be minimum Schedule 40 pipe conforming to ASTM Designation A53.

H.4 Execution

H.4.1 General

Notify the engineer at least 24 hours in advance of the start of grouting operations.

If out of visible contact, continuous telephonic communication shall be maintained between the grout plant and the injection point.

Continuously agitate grout in the mixer and holding tanks. Remove Portland cement grout from the mixer, holding tank and supply line that is not injected into the hole within 2 hours after mixing and waste it.

Maintain grout at temperatures above 50 degrees F until injected. The temperatures of mixing water shall range from 50 degrees F to 100 degrees F when added to the grout mixer. Store grout materials at temperatures above freezing. Grouted ground shall be no colder than 40 degrees F when grout is injected and for a period of 5 days thereafter.

Protect grout holes from becoming clogged or obstructed prior to grouting by means of a cap or other suitable device on the collar of the hole. Clean out in a satisfactory manner or replace any hole that becomes blocked or otherwise unsuitable for its intended purpose at the expense of the contractor.

Flag and protect all grout hole locations. Clearly label grout locations for easy identification.

H.4.2 Contact Grout Injection

H.4.2.1 General

Perform contact grouting to reduce groundwater inflow, to fill voids, to minimize ground movement into the excavation, and to provide firm and uniform contact between the support system and the ground.

Equipment and lines shall be kept clean by constant circulation of grout and periodic flushing with water. Leakage from connections shall not be permitted. Plugs on ends of nearby grout holes or pipes shall be removed to permit escape of air and water and the filling of spaces with grout.

Once started, grouting of a hole shall not be interrupted. Grouting of a hole shall not be considered complete until that hole refuses to take grout as defined under article Refusal. After grouting of a hole or any stage of a hole has reached refusal, the pressure on the hole shall be maintained by means of a stopcock or other suitable device until the grout has set.

Grout progressively from pipe to pipe in the sequence submitted by the contractor or approved by the engineer. If necessary to relieve premature stoppage, periodic applications of water under pressure shall be considered. Grout that cannot be placed prior to initial set shall be discarded. Check operating gauges daily to determine that they

are in working order. Do not grout without appropriate gauges in place and in working order.

Inject grout in continuous progression of the grout holes along the length of the tunnel or perimeter of the shaft. Where grout holes extend around the tunnel periphery, connections to higher grout holes shall not be made until the grout has completely filled the void space below as indicated by escape of grout of normal consistency from the higher holes. Exercise particular care to completely fill the voids on each side of any obstruction which interferes with the passage of grout. Vent holes for the release of air and water during grouting of crown or invert cavities shall be provided as necessary.

Where grouting in soil, the grouting pressure at the injection point shall not exceed 0.6 psi per foot of depth of soil overburden, unless otherwise proposed by the contractor, with the engineer's concurrence. In all cases, the grouting pressures shall be limited as necessary to avoid damage to the final lining.

The grouting of any hole shall not be considered complete until all voids have been filled to the maximum extent practicable. After the grouting of any hole is finished, the pressure shall be maintained by means of the stop valve until the grout has set to the extent that it will be retained in the hole.

H.4.2.2 Contact Grouting for Workshafts

Perform contact grouting outside of initial support system where overcutting results in a 1-inch or wider void space between the ground and the excavation support system.

Locate grout holes as necessary to accomplish the work and to thoroughly fill the voids outside of the initial support system. Drill grout holes for contact grouting of initial supports through the initial supports and into the annular space between the initial support and surrounding ground.

Perform contact grouting at least once per day after the excavation support system has been advanced on that day.

Perform contact grouting to reduce groundwater inflow, to fill voids, to minimize ground movement into the excavation, and to provide firm and uniform contact between the support system and the ground. The contractor's ground support design engineer shall determine a refusal criteria and the maximum grout pressure that is consistent with the design of the ground support system. The engineer may periodically request that check holes be drilled to determine if unacceptable voids exist outside of the ground support system. Additional contact grouting shall be completed at no additional cost to the department where checking indicates the presence of unacceptable voids.

H.4.2.3 Contact Grouting after Pipe Jacking

For pipe jacking, commence contact grouting promptly (within 24 hours) following completion of each pipe jacking drive. Once started for a tunnel drive, perform continuous contact grouting until contact grouting for the entire drive has been completed.

Grout holes for contact grouting of jacked pipe shall be pre-installed pipe nipples. New grout holes shall not be drilled through pipe walls unless specifically approved by the engineer.

Inject grout in continuous progression of the grout holes along the length of the tunnel. At any time during the grouting operations, sufficient contact grout holes ahead of the hole to be grouted shall be opened, plugs removed, holes cleaned and valves attached for controlled discharge (venting) of lubrication slurry, disturbed soil and groundwater within the overcut annulus. Keep grout port valves in a fully open position within a maximum safe grout communication distance, as determined by the contractor and accepted by the engineer in the grouting submittal. This distance may vary along the tunnel with variations in adjacent soil and groundwater conditions. Close or regulate discharge at ports opened for venting, as necessary to prevent lost ground from squeezing, a blow-in or excessive groundwater seepage. Continue venting from each opened port until grout of normal consistency (not mixed with slurry, soil or water) is discharged from the vent holes. After an acceptable grout discharge is observed at a port, close the valve until a hook-up is made at the port for injection of grout.

Attempt to hook-up and pump grout at every port unless approval is granted by the engineer to skip selected holes. In general, contact grouting at a port will be considered completed when less than one cubic foot of grout of the accepted mix and consistency can be pumped in 5 minutes under the specified maximum pressure. After the grouting is finished, the valve shall be closed until grout has set. After a valve is closed following injection, the grout header and hoses shall be moved to the next port in progression.

Volume of contact grout injected shall be measured, recorded and compared with the anticipated volume per foot of pipe grouted with compensation for grout wasted in lines and vented through ports.

At the completion of grouting, remove valves after grout has set and replace valves with screw type grout plugs.

H.4.3 Cleanup

Minimize spilling and prevent the setting of any grout that may escape upon finished pipe or structure surfaces. Remove any spilled grout and restore the pipe or structure surface to its original condition. Properly dispose of all waste materials. Remove all grouting equipment and accessories from the tunnel.

I Protection of Property and Ground Movement Limits

I.1 General

Use whatever means and methods are necessary to limit ground movements, settlements, and damage of utilities, structures and other facilities. These means and methods include, but are not limited to excavation support systems, tunneling methods, underpinning of vulnerable facilities, grouting and other forms of ground improvement.

I.2 Ground Movement Limits

The ground movement limits for all instruments are established as follows:

Facility	Action Limit	Displacement Limit
Bridge structures, abutments and foundations	0.3 inch	0.5 inch
I-94 roadway and ramp pavements	0.7 inch	1.0 inch
Retaining walls	0.7 inch	1.0 inch
Water mains and hydrants	0.7 inch	1.0 inch
Street and general roadway pavement	1.0 inch	1.3 inches
Storm and sanitary sewers	0.7 inch	1.0 inches
General utilities and facilities	1.0 inch	1.3 inches

I.3 Movement/Settlement Monitoring

Develop and implement a settlement control plan to protect existing facilities, utilities, structures, roads, streets, and other improvements from damage due to settlement resulting from tunnel construction. The plan shall include the specific tunneling methods that will be used to minimize loss of ground, procedures for monitoring for loss of ground as specified herein, and ground improvement plans.

If necessary, obtain the permission of engineer, in advance, to work outside of the work hours established for the project. Monitor force mains at existing crossings and repair immediately if damaged due to tunneling. The contractor shall be responsible for making any necessary changes in construction methods to control loss of ground and minimize settlement to prevent damage to adjacent facilities, existing utilities, and adjacent structures.

I.4 Actions to Mitigate Excess Ground Movements

If displacement limit of a settlement marker reaches an action limit, the likely cause of the displacement shall be promptly discussed with the engineer. The engineer may increase the monitoring frequency for all settlement markers within 100 feet of the location where the displacement action limit was exceeded. Review excavation and ground support operations and make operational changes or implement ground improvement or underpinning measures as appropriate to limit further displacements and to prevent displacement limits from being exceeded. Actions to be taken in response to action limits being exceeded shall be reported to the engineer before being taken, except in emergency situations.

If displacement of a settlement marker reaches a displacement limit, cease excavation or other construction operations that result in further displacement until additional operational changes are made to reduce ground loss around excavation. The likely cause of the displacement shall be immediately discussed with the engineer. The engineer may further increase the monitoring frequency for all settlement markers within 100 feet of the location where the displacement limit was exceeded and may add additional settlement markers. Review excavation and ground support operations and make operational changes or implement ground improvement or underpinning measures as appropriate to limit further displacements and to prevent displacement limits from being exceeded. Actions to be taken in response to displacement limits being exceeded shall be discussed with and approved by the engineer before being taken, except in emergency situations.

The cost of actions required for complying with displacement limits and to repair any damage to adjacent facilities shall be borne by the contractor with no additional cost to the department.

31. Coordination with Businesses.

The contractor shall arrange and conduct a meeting 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. Hold the first meeting prior to the start of work under this contract and hold two meetings per month thereafter.

108-060 (20030820)

32. Mandatory Subcontracting.

A Description

A.1 Subletting the Contract

Add the following to standard spec 108.1.1:

Enter all subcontractors into the department's web-based civil rights and labor compliance management system and submit department form DT1925 at least 14 calendar days before the pre-construction conference. Update all subsequent subcontractor changes in the civil rights and labor compliance management system as soon as that information becomes available. Contractors can access this system through the following department website:

<http://www.dot.wisconsin.gov/business/engrserv/bid-letting-information.htm>

A.2 Prime Contractor Participation

Replace standard spec 108.1.2 (1) with the following:

Perform at least 30 percent of the original contract amount with the contractor's own organization. The contractor's own organization is defined as workers the contractor employs and pays directly as well as equipment the contractor owns or rents, either with or without operators. Submit documentation using CMM 2-10-20 WS 1081 to indicate what work the contractor's own organization is performing and the dollar value of that work before contract execution as specified in standard spec 103.6. Include a detailed computation showing the contractor's share of work calculated as follows:

Contractor's share = $P / (C - S)$

Where:

P = Prime contractor performed bid items. Do not include materials the prime purchases for subcontractor installation, or equipment and associated operators the prime leases to a subcontractor.

C = Total contract amount.

S = Specialty work others perform. Work on sanitary sewers and water-main systems is specialty work. Specialty work also includes work performed under any bid item in the designated sections or under special provision bid items for similar work as follows:

Contractor staking work under standard spec 650.

Electrical work under standard spec 651 - 678.

Landscaping and erosion control work under standard spec 626 - 632.

Traffic control work under standard spec 643.

Signing work under standard spec 633 - 638 and standard spec 641.

Pavement marking work under standard spec 646 - 649.

Fencing work under standard spec 616.

A.3 Mandatory Subcontracting

Add the following as a new standard spec 108.1.3:

The following items are considered mandatory subcontract items for this contract, and as such shall be performed by subcontractors to the prime contractor.

The items designated as "Mandatory Sub" in the bid item title listed in the Estimate of Quantities (found in the plan) and Schedule of Items (found in the proposal) are considered mandatory subcontract items for this contract, and as such shall be performed by subcontractors to the prime contractor.

Identify the subcontractor for each specified bid item on department form DT1925.

33. CPM Progress Schedule.

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

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

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

Designate a Project Scheduler who will be responsible for scheduling the Work and submit for approval 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.

With each Monthly CPM Progress Schedule Update also include:

1. Activities underway and as-built dates for the past month.
2. On a monthly basis, the department and the contractor shall agree on the as-built dates 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.
3. Provide actual as-built dates for completed activities through final acceptance of the project.

34. Pay Plan Quantity.

A Bid Items Designated as Pay Plan Quantity

Replace standard spec 109.1.1.2 with the following:

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

If the engineer revises the contract under standard spec 104.2, the department will adjust the quantity of designated items that are affected by the revised work. The engineer will adjust the affected quantity, with a contract modification as defined in standard spec 101.3, regardless of the magnitude of the revised work, which may result in either an increase or a decrease from the quantity shown on the schedule of items. The department will measure revised work as specified in standard spec 109.1.1.1. If the engineer revises

the contract to eliminate a designated item, the engineer will not pay for the designated item, except as specified in standard spec 109.5.

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

35. Right-of-Way Fencing.

Remove existing right-of-way woven wire fencing between the IH 94 mainline and frontage roads, as shown in the plans to allow for construction operations. Install new woven wire fence within 30 calendar days of the removal of the existing fence. If work operations do not allow the new woven wire fence to be installed within 30 days, install and maintain orange safety fence (4-ft height) until the new woven wire fence can be installed. A quantity of the Fence Safety item has been included in the contract for this purpose. Where buried facilities or subsurface conditions do not permit driving posts for the safety fence, support posts by other means that will provide stability comparable to driven posts.

At no time leave a site where the fencing is inadequate to protect the general public.

36. Removing Pavement.

Perform this work in accordance to standard spec 204, as shown on the plans, and as hereinafter provided.

Remove existing concrete pavement in a manner that causes minimal disturbance to the underlying base material.

Use material removed under this item as aggregates or crushed materials, and recycle and use in the construction of work under this contract to the maximum extent feasible.

Any surplus salvaged material or unusable material shall become the property of the contractor and shall be disposed of by the contractor in an environmentally acceptable manner. The cost to dispose of all excess materials, including steel reinforcement, shall be included in the item of Removing Pavement.

The crushing, screening, and processing of the removed concrete pavement shall not be measured and paid for separately, but shall be considered as included in the cost of the item into which the produced aggregates are incorporated.

37. Removing Gate, Item 204.9060.S.001.

A Description

This special provision describes removing gates in accordance to the pertinent provisions of standard spec 204 and as hereinafter provided.

B (Vacant)

C (Vacant)

D Measurement

The department will measure Removing Gate as each individual unit acceptably completed.

E Payment

Supplement standard spec 204.5 to include the following:

ITEM NUMBER	DESCRIPTION	UNIT
204.9060.S.001	Removing Gate	Each

204-025 (20041005)

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

A Description

A.1 General

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

Veolia's Emerald Park Landfill
W124 S10629 124th Street
Muskego, WI 53150

Waste Management's Metro Recycling and Disposal Facility
10712 South 124th Street
Franklin, WI 53132

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

A.2 Notice to the Contractor – Contaminated Soil Location

The department completed testing for soil and groundwater contamination at locations within this project where excavation is required. Results indicate that petroleum-contaminated soil is present at the following location as shown on the plans:

1. Project 1030-11-77: Station 5931+30 to 5931+70 from reference line to construction limits right from approximately 2 to 7 feet below grade. The estimated volume of contaminated soil to be excavated at this location is 260 cubic yards (estimated 425 tons using a 1.7 tons per cubic yard conversion).

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

The excavation management plan for this project has been designed to minimize the off-site disposal of contaminated material. The excavation management plan, including these special provisions, has been developed in cooperation with the WDNR. The WDNR concurrence letter is on file at the Wisconsin Department of Transportation. For further information regarding previous investigation and remediation activities at these sites contact:

Name: Mike Cape, P.G.
Address: 141 NW Barstow Street, Waukesha, WI 53187-0798
Phone: (262) 548-5930
Fax: (262) 548-6891
E-mail: michael.cape@dot.wi.gov

A.3 Coordination

Coordinate work under this contract with the environment consultant retained by the department's BEES. Determine the environmental consultant by contacting the following at least 30 days prior to the preconstruction conference:

Name: Mike Cape, P.G.
Address: 141 NW Barstow Street, Waukesha, WI 53187-0798
Phone: (262) 548-5930
Fax: (262) 548-6891
E-mail: michael.cape@dot.wi.gov

The role of the environmental consultant will be limited to:

1. Determining the location and limits of contaminated soil to be excavated based on soil analytical results from previous investigations, visual observations, and field screening of soil that is excavated;
2. Identifying contaminated soils to be hauled to the bioremediation facility;

3. Documenting that activities associated with management of contaminated soil are in conformance with the contaminated soil management methods for this project as specified herein; and
4. Obtaining the necessary approvals for disposal of contaminated soil from the bioremediation facility.

The contractor shall provide at least a 14-calendar day notice of the preconstruction conference date to the environmental consultant. At the preconstruction conference, provide a schedule for all excavation activities in the contaminated area specified above to the environmental consultant. Identify the DNR approved bioremediation facility that will be used for disposal of contaminated soils, and provide this information to the environmental consultant no later than 30 calendar days prior to commencement of excavation in the contaminated area or at the preconstruction conference, whichever comes first.

The contractor shall coordinate with the environmental consultant to ensure that the environmental consultant is present during excavation in the contaminated area. Notify the environmental consultant at least three working days prior to commencement of excavation activities in the contaminated area. Perform excavation work in this area on a continuous basis until excavation work is completed. The environmental consultant will be responsible for obtaining the necessary approvals for disposal of contaminated soils from the bioremediation facility. Do not transport contaminated soil offsite without prior approval from the environmental consultant.

A.4 Health and Safety Requirements

Supplement standard spec 107.1 with the following:

During excavation activities, expect to encounter soil contaminated with gasoline and/or diesel fuel. Site workers taking part in activities that will result in the reasonable probability of exposure to safety and health hazards associated with hazardous materials shall have completed health and safety training that meets the Occupational Safety and Health Administration (OSHA) requirements for Hazardous Waste Operations and Emergency Response (HAZWOPER), as provided in 29 CFR 1910.120.

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

B (Vacant)

C Construction

Supplement standard spec 205.3 with the following:

Control operations in the contaminated area to minimize the quantity of contaminated soil excavated.

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

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

D Measurement

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

E Payment

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

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

Payment is full compensation for excavating, segregating, loading, hauling, and treatment via bioremediation of contaminated soil; obtaining solid waste collection and transportation service operating licenses; assisting in the collection soil samples for field evaluation; dewatering of soils prior to transport, if necessary; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

205-003 (20080902)

39. 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:

- East and West Frontage Roads
- Evans Lane
- Kraut Road/50th Road
- 2 Mile Road
- Golf Road
- Nicholas Road
- 3 Mile Road
- CTH K
- Adams Road
- Fuhrman Drive
- Lund Drive
- Michel Court
- 4 Mile Road
- Bell Road
- 5 Mile Road

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

B Materials

B.1 Quality Control Plan

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

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

1. An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of QC personnel.
2. The process used to disseminate QC information and corrective action efforts to the appropriate persons. Include a list of recipients, the communication process that will be used, and action time frames.
3. An outline for resolving a process control problem. Include responsible personnel, required documentation, and appropriate communication steps.
4. Location of the QC laboratory, retained sample storage, and control charts and other documentation.

5. A summary of the locations and calculated quantities to be tested under this provision.
6. An explanation regarding the basis of acceptance for material that cannot be tested by nuclear methods due to a high percentage of oversized particles.

B.2 Personnel

Perform the quality control sampling, testing, and documentation required under this provision using HTCP certified technicians. Have a grading technician certified under HTCP at level I present at the site during all subgrade 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://www.dot.state.wi.us/business/engrserv/lab-qualification.htm>

B.4 Equipment

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

Furnish nuclear gauges from the department's approved product list at <http://www.atwoodsystems.com/materials>. Ensure that the gauge manufacturer or an approved calibration service calibrates the gauge within 12 months before using it on the project. Retain a copy of the calibration certificate with the gauge. Nuclear density gauge calibration verification is required daily when earthwork construction operations require testing under this special provision article. This calibration verification shall be performed using the departments "Validator" apparatus which is located at the WisDOT I-94 Construction Field Office: 5675 South 27th Street, Milwaukee, WI 53221. The contractor must 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. 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 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
935 S. 60th Street
West Allis, Wisconsin 53214
Telephone: (414) 266-1158

Retain and identify 2 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:

Embankment portions of the project, except within 200 feet of bridge abutments.

Embankment within 200 feet of bridge abutments.

Subgrade cut portions of the project.

Embankment in pipe culvert trenches.

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, 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 present during all subgrade 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.

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, 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

Perform the required tests at the following frequencies:

Test	Minimum Frequency
Field Density and Moisture (AASHTO T 310)	One per 2,000 cubic yards 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.

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 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.

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 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 or one test per day whichever yields the most tests.
One-Point Proctor (AASHTO T 272)	One per 3,000 cubic yards.

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.

B.7.5 Compaction Zones

B.7.5.1 Subgrade Embankment

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

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 272 for 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

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 30,000 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.

40. Select Borrow.

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

Material

Furnish and use material that consists of granular material meeting the requirements of granular backfill, Grade Number 2, in accordance to standard spec 209.2.
208-005 (20031103)

41. Blue Specific Service Signs.

Supplement standard spec 638.3.4 with the following:

Do not remove or move blue specific service signs or their associated posts. Specific service signs are signs with logos that identify commercial entities providing gas, food, lodging, camping, or attractions. A separate contractor, Derse, Inc., is responsible for these signs. Contact Mark Rognsvoog of the Derse Company at (800) 345-5772 a minimum of 14 calendar days in advance to coordinate removing, moving, or re-installation of these signs.

The contractor is responsible for damage done to these signs due to contractor operations.
638-010 (20120615)

42. 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, 305, and 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 subplot 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 310 for each base aggregate size, source or classification, and type. Set control and warning limits based on the standard specification gradation limits as follows:
 1. Control limits are at the upper and lower specification limits.
 2. There are no upper warning limits for sieves allowing 100 percent passing and no lower control limits for sieves allowing 0 percent passing.
 3. Dense graded warning limits, except for the No. 200 sieve, are 2 percent within the upper and lower control limits. Warning limits for the No. 200 sieve are set 0.5 percent within the upper and lower control limits.
 4. Open graded warning limits for the 1-inch, 3/8-inch, and No. 4 sieves are 2 percent within the upper and lower control limits. Upper warning limits for the No. 10, No. 40, and No. 200 sieves are 1 percent inside the upper control limit.

B.6.2 Fracture

- (1) Test fracture conforming to CMM 8.60. The engineer will waive fractured particle testing on quarried stone.
- (2) Maintain a separate fracture control chart for each base aggregate size, source or classification, and type. Set the lower control limit at the contract specification limit, either specified in another special provision or in table 301-2 of standard spec 301.2.4.5. Set the lower warning limit 2 percent above the lower control limit. There are no upper limits.

B.6.3 Liquid Limit and Plasticity

- (1) Test the liquid limit and plasticity according to AASHTO T 89 and T 90.
- (2) Ensure the material conforms to the limits specified in standard spec table 301-2.

B.7 Corrective Action

B.7.1 General

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

B.7.2 Placement Corrective Action

- (1) Do not blend additional material on the roadbed to correct gradation problems.
- (2) Notify the engineer whenever the running average exceeds a warning limit. When 2 consecutive running averages exceed a warning limit, the engineer and contractor will discuss appropriate corrective action. Perform the engineer's recommended corrective action and increase the testing frequency as follows:
 1. For gradation, increase the QC testing frequency to at least one randomly sampled test per 1000 tons placed.
 2. For fracture, increase the QC testing frequency to at least one test per gradation test.
- (3) If corrective action improves the property in question such that the running average after 4 additional tests is within the warning limits, the contractor may return to the testing frequency specified in B.5.3. If corrective action does not improve the property in question such that the running average after 4 additional individual tests is still in the warning band, repeat the steps outlined above starting with engineer notification.
- (4) If the running average exceeds a control limit, material starting from the first running average exceeding the control limit and ending at the first subsequent running average inside the control limit is nonconforming and subject to pay reduction.
- (5) For individual test results significantly outside the control limits, notify the engineer, stop placing base, and suspend other activities that may affect the area in question. The engineer and contractor will jointly review data, data reduction, and data analysis; evaluate sampling and testing procedures; and perform additional testing as required to determine the extent of potentially unacceptable material. The engineer may direct the contractor to remove and replace that material. Individual test results are significantly outside the control limits if meeting one or more of the following criteria:
 1. A gradation control limit for the No. 200 sieve is exceeded by more than 3.0 percent.
 2. A gradation control limit for any sieve, except the No. 200, is exceeded by more than 5.0 percent.
 3. The fracture control limit is exceeded by more than 10.0 percent.

B.8 Department Testing

B.8.1 General

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

B.8.2 Verification Testing

B.8.2.1 General

- (1) The department will have an HTCP technician, or ACT working under a certified technician, perform QV sampling and testing. Department verification testing personnel must meet the same certification level requirements specified in B.2 for contractor testing personnel for each test result being verified. The department will notify the contractor before sampling so the contractor can observe QV sampling.
- (2) The department will conduct QV tests of each base aggregate size, source or classification, and type during placement conforming to the following:
 1. One non-random test on the first day of placement.
 2. At least one random test per 30,000 tons, or fraction of 30,000 tons, placed.
- (3) The department will sample randomly, at locations independent of the contractor's QC work, collecting one sample at each QV location. The department will collect QV samples after the material has been bladed, mixed, and shaped but before compacting; except, for 3-inch aggregates, the department will collect samples from the stockpile at load-out. The department will split each sample, test half for QV, and retain half.
- (4) The department will conduct QV tests in a separate laboratory and with separate equipment from the contractor's QC tests. The department will use the same methods specified for QC testing.
- (5) The department will assess QV results by comparing to the appropriate specification limits. If QV test results conform to the specification, the department will take no further action. If QV test results are nonconforming, add the QV to the QC test results as if it were an additional QC test.

B.8.3 Independent Assurance

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

5. Reviewing required worksheets and control charts.
 6. Requesting that testing personnel perform additional sampling and testing.
- (2) If the department identifies a deficiency, and after further investigation confirms it, correct that deficiency. If the contractor does not correct or fails to cooperate in resolving identified deficiencies, the engineer may suspend placement until action is taken. Resolve disputes as specified in B.9.

B.9 Dispute Resolution

- (1) The engineer and contractor should make every effort to avoid conflict. If a dispute between some aspect of the contractor's and the engineer's testing program does occur, seek a solution mutually agreeable to the project personnel. The department and contractor may review the data, examine data reduction and analysis methods, evaluate sampling and testing procedures, and perform additional testing. Use ASTM E 178 to evaluate potential statistically outlying data.
- (2) Production test results, and results from other process control testing, may be considered when resolving a dispute.
- (3) If the project personnel cannot resolve a dispute, and the dispute affects payment or could result in incorporating non-conforming product, the department will use third party testing to resolve the dispute. The department's central office laboratory, or a mutually agreed on independent testing laboratory, will provide this testing. The engineer and contractor will abide by the results of the third party tests. The party in error will pay service charges incurred for testing by an independent laboratory. The department may use third party test results to evaluate the quality of questionable materials and determine the appropriate payment. The department may reject material or otherwise determine the final disposition of nonconforming material as specified in standard spec 106.5.

C (Vacant)

D (Vacant)

E Payment

- (1) Costs for all sampling, testing, and documentation required under this special provision are incidental to this work. If the contractor fails to perform the work required under this special provision, the department may reduce the contractor's pay. The department will administer pay reduction under the non-performance of QMP administrative item.
- (2) For material represented by a running average exceeding a control limit, the department will reduce pay by 10 percent of the contract price for the affected Base Aggregate bid items listed in subsection A. The department will administer pay reduction under the Nonconforming QMP Base Aggregate Gradation or

Nonconforming QMP Base Aggregate Fracture Administrative items. The department will determine the quantity of nonconforming material as specified in B.7.2.
301-010 (20100709)

43. Base Aggregate Dense.

Conform to the requirements of standard spec 305 and as hereinafter provided.

Material

Use Base Aggregate Dense 1¼-inch Special throughout the full base depth.

Use Base Aggregate Dense ¾-inch in the top 3 inches of the unpaved portion of shoulders. Use Base Aggregate Dense ¾-inch or Base Aggregate Dense 1¼-inch Special elsewhere in shoulders.

44. Protection of Concrete.

Supplement standard spec 415.3.16 as follows:

Provide for a minimum of one concrete finisher to remain on the project site after final finishing of all concrete surfaces until such time as the concrete has hardened sufficiently to resist surface scarring caused by footprints, handprints, or any other type of imprint, malicious or otherwise. Actively and continuously patrol on foot the newly placed concrete and repair any damage to the surface that might be sustained as described above.

Providing the finisher(s), the necessary equipment, and materials shall be construed to be included in the contract unit price for each concrete item.

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

A Description

- (1) This special provision describes profiling pavements with a non-contact profiler, locating areas of localized roughness, and determining the International Roughness Index (IRI) for each wheel path segment.
- (2) Profile the final riding surface of all mainline pavements, bridges, approaches, and railroad crossings. Roundabouts, and pavements within 150 feet of the points of curvature of roundabout intersections, are excluded from the testing requirements of this provision.
- (3) Pavements that are excluded from localized roughness according to C.5.2(1), bridges, and roundabout intersections are subject to engineer-directed straightedging according to the standard specifications. All other surfaces being tested under this provision are exempt from straightedging requirements.

B (Vacant)

C Construction

C.1 Quality Control Plan

- (1) Submit a written quality control plan to the engineer at or before the pre-construction conference. Ensure that the plan provides the following elements:
 1. An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of all quality control personnel.
 2. The process by which quality control information and corrective action efforts will be disseminated to the appropriate persons. Include a list of recipients, the communication means that will be used, and action time frames.
 3. The methods and timing used for monitoring and/or testing ride quality throughout the paving process.
 4. The evaluation process that will be used to make improvements to the construction operations if poor ride quality is found during the process control testing.
 5. The methods that will be used to ensure a smooth pavement transition when matching into existing surfaces such as bridges, bridge approaches, or railroad crossings.
 6. The segment locations of each profile run used for acceptance testing.
 7. The approximate timing of acceptance testing in relation to the paving operations.

C.2 Personnel

- (1) Have a profiler operator, certified under the department's highway technician certification program (HTCP), operate the equipment, collect the required data, and document the results using the methods taught in the HTCP profiling course.

C.3 Equipment

- (1) Furnish a profile-measuring device capable of measuring IRI from the list of department-approved devices published on the department's web site:
<http://roadwaystandards.dot.wi.gov/standards/qmp/index.htm>
- (2) Unless the engineer and contractor mutually agree otherwise, arrange to have a calibrated profiler available when paving the final riding surface. Calibrate the profiler according to the manufacturer's recommendations. Provide the engineer with a copy of the most recent calibration results, signed by the certified profiler operator.
- (3) Perform daily calibration verification of the profiler using test methods according to the manufacturer's recommendations. Notify the engineer prior to performing the calibration verification. If the engineer requests, arrange to have the engineer observe the calibration verification and operation. Maintain records of the calibration verification activities, and provide the records to the engineer upon request.

C.4 Testing

C.4.1 Run and Reduction Parameters

- (1) Enter the equipment-specific department-approved filter settings and parameters listed on the department's ride web site.

C.4.2 Contractor Testing

- (1) Operate profilers within the manufacturer's recommended speed tolerances. Perform all profile runs in the direction of travel. Measure the longitudinal profile of each wheel track of each lane. The wheel tracks are 6.0 feet apart and centered in the traveled way of the lane.
- (2) Coordinate with the engineer to schedule profile runs for acceptance. The department may require testing to accommodate staged construction or if corrective action may be required.
- (3) Measure the profiles of each standard or partial segment. Define primary segments starting at a project terminus and running contiguously along the mainline to the other project terminus. Field-locate the beginning and ending points for each profile run. When applicable, align segment limits with the subplot limits used for testing under the QMP Concrete Pavement specification. Define segments one wheel path wide and distinguished by length as follows:
 1. Standard segments are 500 feet long.
 2. Partial segments are less than 500 feet long.
- (4) Treat partial segments as independent segments.
- (5) The department will categorize each standard or partial segment as follows:

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

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

C.4.3 Verification Testing

- (1) The department may conduct verification testing (QV) to validate the quality of the product. A certified HTCP profiler technician will perform the QV testing. The department will provide the contractor with a listing of the names and telephone numbers of all verification personnel for the project.
- (2) The department will notify the contractor before testing so the contractor can observe the QV testing. Verification testing will be performed independent of the contractor's QC work using separate equipment from the contractor's QC tests. The department will provide test results to the contractor within 1 business day after the department completes the testing.
- (3) The engineer and contractor will jointly investigate any testing discrepancies. The investigation may include additional testing as well as review and observation of both the department's and contractor's testing procedures and equipment. Both parties will document all investigative work.
- (4) If the contractor does not respond to an engineer request to resolve a testing discrepancy, the engineer may suspend production until action is taken. Resolve disputes as specified in C.6.

C.4.4 Documenting Profile Runs

- (1) Compute the IRI for each segment and analyze areas of localized roughness using the ProVAL software. Within 5 business days after completing a final acceptance profile run, submit a copy of the ProVAL smoothness assurance report showing the IRI for each segment and the areas of localized roughness exceeding an IRI of 175 in/mile. The ProVAL software and department-specified inputs are available on the department's web site:

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

- (2) As part of the profiler software outputs and ProVAL reports, document the areas of localized roughness and the locations of individual features including construction joints, structure limits, design features, utility fixtures, and other features that might affect the department's evaluation of ride quality. Field-locate the areas of localized roughness prior to the engineer's assessment for corrective actions.
- (3) Within 5 business days after completing profiling of the pavement covered under this special provision, unless the engineer and contractor mutually agree to a different timeline, submit the electronic ProVAL project file containing the .ERD files for each profiler acceptance run. Submit profile data using the department's Materials Reporting System (MRS) software available on the department's web site:

<http://www.atwoodsystems.com/mrs>

C.5 Corrective Actions

C.5.1 General

- (1) Correct the ride as the engineer directs. The department will independently assess whether a repair will help or hurt the long-term pavement performance and/or public perception of the ride before deciding on corrective action.

C.5.2 Corrective Actions for Localized Roughness

- (1) Apply localized roughness requirements to all pavements, including HMA III, PCC III, HMA IV, and PCC IV; except localized roughness requirements will not be applied to pavements within 25 feet of the following surfaces if they are not constructed under this contract: bridges, bridge approaches, or railroad crossings. The department may direct the contractor to make corrections to the pavement within the 25-foot exclusionary zones and will compensate the contractor for the extra work.
- (2) The engineer will review each individual wheel track for areas of localized roughness. The engineer will assess areas of localized roughness that exceed an IRI of 175 in/mile and do one of the following for each location:
 1. Direct the contractor to correct the area to minimize the effect on the ride.
 2. Leave the area of localized roughness in place with no pay reduction.
 3. Except for HMA IV and PCC IV segments, assess a pay reduction as follows for each location in each wheel path:

Localized Roughness IRI (in/mile)	Pay Reduction ^[1] (dollars)
> 175	(Length in Feet) x (IRI – 175)

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

- (3) The engineer will not direct corrective action or assess a pay reduction for an area of localized roughness without independent identification of that area as determined by physically riding the pavement. For corrections, use only techniques the engineer approves.
- (4) Re-profile corrected areas to verify that the IRI is less than 140 in/mile after correction. Submit a revised ProVAL smoothness assurance report for the corrected areas to validate the results.

C.5.3 Corrective Actions for Excessive IRI

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

HMA I:	Correct to an IRI of 60 in/mile using whichever of the following methods the engineer directs: Mill and replace the full lane width of the riding surface excluding the paved shoulder. Correct the full lane width using techniques approved by the engineer.
HMA II:	Correct to an IRI of 85 in/mile using whichever of the following methods the engineer directs: Mill and replace the full lane width of the riding surface excluding the paved shoulder. Correct the full lane width using techniques approved by the engineer.
PCC II:	Correct to an IRI of 85 in/mile using whichever of the following methods the engineer directs: Continuous diamond grinding of the full lane width of the riding surface including adjustment of the paved shoulders Correct the full lane width using techniques approved by the engineer.

- (2) Re-profile corrected segments to verify that the final IRI meets the above correction limits and there are no areas of localized roughness. Submit a revised ProVAL smoothness assurance report for the corrected areas to validate the results. Segments failing these criteria after correction are subject to the engineer's right to adjust pay for non-conforming work under standard spec 105.3.

C.6 Dispute Resolution

- (1) The engineer and contractor should make every effort to avoid conflict. If a dispute between some aspect of the contractor's and the engineer's testing program does occur, seek a solution mutually agreeable to the project personnel. The department and contractor may review the data, examine data reduction and analysis methods, evaluate testing procedures, and perform additional testing.
- (2) If the project personnel cannot resolve a dispute and the dispute affects payment or could result in incorporating nonconforming pavement, the department will use third party testing to resolve the dispute. The department's Quality Assurance Unit, or a mutually agreed on independent testing company, will provide this testing. The engineer and contractor will abide by the results of the third party tests. The party in error will pay service charges incurred for testing by an independent tester. The department may use third party tests to evaluate the quality of questionable pavement and determine the appropriate payment.

D Measurement

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

E Payment

E.1 Payment for Profiling

- (1) Costs for furnishing and operating the profiler, documenting profile results, and correcting the final pavement surface are incidental to the contract.

E.2 Pay Adjustment

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

ITEM NUMBER	DESCRIPTION	UNIT
440.4410.S	Incentive IRI Ride	DOL

- (2) Incentive payment is not limited, either up or down, to the amount the schedule of items shows.
- (3) The department will administer disincentives for ride under the Disincentive IRI Ride administrative item.
- (4) The department will not assess disincentive on HMA III or PCC III segments. Incentive pay for HMA III and PCC III segments will be according to the requirements for the category of the adjoining segments.
- (5) The department will adjust pay for each segment based on the initial IRI for that segment before any corrective action is taken. The department will base disincentives on the IRI after correction for pavement meeting the following conditions:
 - All Pavement: The corrective work is performed in a contiguous, full lane width section 500 feet long, or a length as agreed with the engineer.
 - HMA Pavements: The corrective work is a mill and inlay or full depth replacement and the inlay or replacement layer thickness conforms to standard spec 460.3.2.
 - Concrete Pavements: The corrective work is a full depth replacement and conforms to standard spec 415.
- (6) The department will adjust pay for 500-foot long standard segments nominally one wheel path wide using equation “QMP 1.03” as follows:

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

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

HMA IV and PCC IV	
Initial IRI (inches/mile)	Pay Adjustment^{[1][2]} (dollars per standard segment)
< 50	250
≥ 50 to < 75	750 – (10 x IRI)
≥ 75	0

^[1] If the engineer directs placing upper layer asphaltic mixtures between October 15 and May 1 for department convenience as specified in standard spec 450.3.2.1(5), the department will not adjust pay for ride on pavement the department orders the contractor to place when the temperature, as defined in standard spec 450.3.2.1(2), is less than 36 F.

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

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

440-010 (20100709)

46. QMP HMA Pavement Nuclear Density.

A Description

Replace standard spec 460.3.3.2 (1) and 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/engrserve/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 subplot 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 subplot densities using the individual test results in each subplot.
- (2) If all subplot 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 subplot average is more than one percent below the target density, do not include the individual test results from that subplot when computing the lot average density and remove that subplot's tonnage from the daily quantity for incentive. The tonnage from any such subplot 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 subplot 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 subplot 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 subplot. Testing in a previously accepted subplot 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 subplot 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 subplot and lot densities.
- (6) If 2 consecutive subplot 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 subplot 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 subplot using the same testing requirements and frequencies as the QC tester.
- (3) If the verification subplot average is not more than one percent below the specified minimum target density, use the QC tests for acceptance.

- (4) If the verification subplot average is more than one percent below the specified target density, compare the QC and QV subplot averages. If the QV subplot average is within 1.0 lb/ft³ of the QC subplot average, use the QC tests for acceptance.
- (5) If the first QV/QC subplot average comparison shows a difference of more than 1.0 lb/ft³ each tester will perform an additional set of tests within that subplot. Combine the additional tests with the original set of tests to compute a new subplot average for each tester. If the new QV and QC subplot averages compare to within 1.0 lb/ft³, use the original QC tests for acceptance.
- (6) If the QV and QC subplot averages differ by more than 1.0 lb/ft³ 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 subplot density test results or retesting of the subplot 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)

47. Culvert Pipe.

Amend standard spec 521.5 and 522.5 as follows:

Granular backfill is incidental to the culvert pipe item.

48. Pipe Grates, Item 611.9800.S.

A Description

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

B Materials

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

Furnish pipe grates galvanized in accordance to ASTM A123.

Furnish angles and brackets galvanized in accordance to ASTM A123.

Furnish required hardware galvanized in accordance to ASTM A153.

C Construction

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

D Measurement

The department will measure Pipe Grates in units of work, where one unit is one grate, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
611.9800.S	Pipe Grates	Each

Payment is full compensation for furnishing and installing all materials; drilling and connecting grates to pipes; and for furnishing all labor, tools, equipment and incidentals necessary to complete the contract work.

611-010 (20030820)

49. 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.

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; removing and disposing of fence and posts at project completion; and for furnishing all labor, tools, equipment and incidentals necessary to complete the work.

616-030 (20070510)

50. Salvaged Rail.

Give two days advance notice to Racine County before starting the guardrail salvaging work to coordinate pickup arrangements. Contact Mike Kirschling, Racine County Public Works, 14200 Washington Avenue, Sturtevant, WI, 53177, at (800) 522-6240.

51. Fence Woven Wire 4-FT.

A Description

This special provision describes construction of woven wire fence that does not include barbed wire.

B Materials

Delete standard spec 616.2.2.2.

C Construction

Replace standard spec 616.3.2.1 with the following:

Erect woven wire fencing fabric on preservative treated wood posts. Place all end, corner, pull, and vertical angle posts at the locations staked or where the engineer designates.

Replace standard spec 616.3.2.3 (1), (2) with the following:

Attach the woven wire to the posts so that the bottom wire is approximately 2 inches above the ground but not more than 4 inches above the ground at the posts, except on abrupt grade changes as the plans show.

Secure the woven wire to all end and corner posts by wrapping each line of wire around the post and tying the wire back on itself with not less than 1 ½ twists tightly wrapped with tools designed for the purpose, and supplement with staples driven into the posts. Stretch the wire until no slack exists, longitudinal wires are tight, and approximately 50 percent of the factory fabricated fence crimp is removed. Apply tension with an engineer-approved stretcher designed to produce a uniform amount of tension in each wire.

D (Vacant)**E (Vacant)****52. Traffic Control.**

Supplement standard spec 643.3.1 with the following:

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

Provide the Wisconsin State Patrol, Racine County Sheriff's Department, 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 safety hazard develops.

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

Do not permit equipment or vehicles to directly cross the live traffic lanes of the freeway. Yield to all through traffic at all locations. Equip all contractor's vehicles or equipment operating in the live traffic lanes with a hazard identification beam (flashing yellow signal

light). Operate the flashing yellow beam only when merging or exiting live traffic lanes or when parked or operating on shoulders.

Equip all construction vehicles and equipment operating on or near roadways open or closed to traffic, with at least one flashing amber light. The flashing amber light shall be activated when vehicles or equipment are operated on the roadway, parked in close proximity to the roadway, and when entering or exiting live lanes of traffic. Mount the flashing amber light approximately midway between the transverse extremities of the vehicles or machinery and at the highest practical point that provides visibility from all directions. The light shall be of the flashing strobe or revolving type meeting the following minimum requirements:

Flashing Strobe Type Light

360-degree lens
60 to 90 flashes per minute
5-inch minimum height
3-3/4 inch minimum diameter

Revolving Type Light

360-degree lens
45 to 90 flashes per minute
4-5/8 inch minimum height
3-3/4 inch minimum diameter

Equip the light with bulbs of 50 candlepower minimum. Use magnetic or permanent mounting. No compensation for furnishing and installing the flashing amber light to contractor owned construction equipment or vehicles will be provided for in the contract.

Locations of egress or ingress for construction vehicles to prosecute the work shall be subject to approval from the engineer.

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.

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

Replace standard spec 643.3.1(6) with the following:

Provide 24-hour a day availability of equipment, forces and materials to promptly restore barricades, lights, or other traffic control devices that are damaged or disturbed. Restore any barricade, light, or other traffic control so that the device is not out of service for more than two hours.

53. Pavement Marking Late Season, Item 646.0900.S.

A Description

This special provision describes providing and maintaining late season pavement marking as specified in standard spec 646.3.1.4.

B Materials

Use any pavement marking material from the department's approved products list.

C Construction

Provide and maintain late season marking conforming to standard spec 646.3.1.

D Measurement

The department will measure Pavement Marking Late Season by the linear foot of 4-inch wide line acceptably completed. The department will not measure work required because of delays that are not the department's responsibility under standard spec 108.10.3.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
646.0900.S	Pavement Marking Late Season	LF

Payment for Pavement Marking Late Season is full compensation for providing, maintaining, and removing late season temporary marking; and for resealing areas of protective surface treatment on structures as required in standard spec 646.3.1.1. All costs for late season marking required because of delays that are not the department's responsibility under standard spec 108.10.3 are incidental to the contract.

646-010 (20110615)

54. Pavement Marking Outfall, Item 646.0805.S.**A Description**

This special provision describes furnishing and installing Pavement Marking Outfall in accordance to standard spec 646, as shown on the plans, and as hereinafter provided. Pavement Marking Outfall shall consist of furnishing and installing white non-reflectorized markings of the specified material.

B Materials

Furnish paint that conforms to requirements of standard spec 646.2.2.

C Construction

Apply the paint a minimum thickness of 15 mils and position it on the pavement centered on the centerline of the outfall.

D Measurement

The department will measure Pavement Marking Outfall in place as units.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
646.0805.S	Pavement Marking Outfall	Each

Payment is full compensation for furnishing all materials; preparing the surface; applying and protecting the work; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the contract work.

646-035 (20030820)

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

A Description

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

B Materials

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

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

C Construction

C.1 General

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

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

C.2 Groove Depth

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

C.3 Groove Width – Longitudinal Markings

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

C.4 Groove Position

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

C.5 Groove Cleaning

C.5.1 Concrete

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

If water is used in the grooving process, allow the groove to dry a minimum of 24 hours after groove cleaning, and prior to pavement marking application. The groove surface shall be clean and dry before applying the adhesive, and the pavement marking tape. Use a high-pressure air blower with at least 185 ft³/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 ft³/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 ft³/min air flow and 90 psi air pressure to clean the groove.

C.6 Tape Application

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

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

- 1) For the Southeast Region and the ozone non-attainment Northeast Region counties of Sheboygan, Manitowoc, and Kewaunee:
 - Apply SPA-60 during May 1 to September 30, both dates inclusive due to Volatile Organic Compound Limitations..
 - Apply P-50 during October 1 to April 30, both dates inclusive. –
- 2) For the remainder counties:
 - Apply either adhesive.

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

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

D Measurement

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

E Payment

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

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

Payment is full compensation for cleaning and preparing the pavement surface; furnishing and installing the material; and for removing temporary pavement marking, if necessary.

646-022 (20120615)

56. Pavement Marking Grooved Wet Reflective Tape 4-Inch, Item 646.0881.S; 8-Inch, 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 \pm 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 ft³/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 ft³/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 ft³/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)

57. Locating No-Passing Zones, Item 648.0100.

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

648-005 (20060512)

58. ID 1030-11-70 and 1030-11-74 Lighting Systems – WISDOT Owned Systems.

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

Append standard spec 651.2 with the following:

For materials to be furnished by the department or returned to the department, deliveries or pick-ups shall be scheduled three working days in advance so as to occur during normal business hours Monday through Thursday. Contact Mr. Mike Prebish at (414) 266-1170.

State Electrical Shop, 935 South 60th Street, West Allis and in Wauwatosa, Milwaukee County.

Append standard spec 651.3.1 with the following:

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

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

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

Append standard spec 651.5 with the following:

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

Append standard spec 652.3.1 with the following:

Install an additional conduit elbow in foundation where three way circuits are entering or leaving the pole base.

Append standard spec 652.3.1.2 with the following:

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

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

Append standard spec 652.3.1.4 with the following:

Conductors shall be supported at the top of the vertical raceway or as close as practical if the vertical rise exceeds 50-feet. Additional supports shall be provided as shown and in no case greater shall the distance between supports exceed that shown in Table 300.19(A) of the Wisconsin State Electric Code.

Append standard spec 654.3(2) with the following:

Construct Concrete Control Cabinet Bases Type 9 used for highway lighting so that the number and location of conduits in the concrete bases shall be as shown in the plans, plus required grounding circuit.

Append standard spec 655.3.1(1) and 655.3.7(3) with the following:

Wet location splices may be allowed under the following circumstances:

- Where shown in the plans;
- Where the best available location to connect new work to existing work below grade.
- In long runs where a reel of wire ends, or to prevent excessive pulling through numerous pull points.

Wet location splices shall be made with an approved epoxy kit.

Append standard spec 655.3.7(4) with the following:

Where two or more cable networks occupy the same pull box, manhole, etc., bundle and tag each circuit network (i.e. A/B/N and C/D/N) with approved all-weather tags.

At each pull point or access point, indicate the line side bundle with a lap of blue tape. *Exception:* Where the direction the bundle comes from is obvious, the lap of blue tape is not required. *Example of exception:* a bridge parapet junction box.

Append standard spec 659.3 with the following:

Install Plaques Light Pole on all poles located in the median at a mounting height of 6-inches above the highest adjacent safety barrier or obstruction.

Modify standard spec 657.3.1(3) with the following:

Use corrosion protection measures for breakaway transformer bases and aluminum light poles for installation on freeway lighting systems.

59. Pond Lining Clay, Item SPV.0035.001.

A Description

- (1) This section describes furnishing and installing clay liner to the areas shown on the plans.

B Materials

- (1) The clay material shall be furnished by the contractor from his own borrow site. Prior to excavating and hauling off-site clay soil to the storm water quality pond site, submit laboratory test results of his clay borrow source(s) documenting that the clay meets or exceeds the clay material specifications. The laboratory tests shall be conducted at the frequency listed below and be performed in accordance to ASTM standard methods as listed below. The test results shall be submitted to the engineer for his review and approval prior to construction. These three tests are absolutely required:

1. A minimum of 60 percent by weight which passes the 200 sieve.
 2. Liquid Limit (LL): 22 percent or greater.
 3. Plasticity Index (PI): 7 percent or greater.
- (2) Clay not meeting these three requirements shall be removed and disposed of by the contractor at his expense.

Table of Testing for Off-Site Clay

Test	Number of Required Tests		Minimum Requirement
	One Borrow Source Only	Multiple Borrow Sources	
Grain Size Analysis	3 (Total)	1 test/2,500 cy or less/site ^(a)	≥ 50% by Wt. Passing 200 Sieve
Hydrometer Analysis	3 (Total)	1 test/2,500 cy or less/site ^(a)	Info. Only
Atterberg Limits (ASTM D4318)	3 (Total)	1 test/2,500 cy or less/site ^(a)	LL ≥ 22% PI ≥ 12%
USCS Classification (ASTM D2487)	3 (Total)	1 test/2,500 cy or less/site ^(a)	Info. Only
Standard Proctor Analysis 5-Point Curve (Minimum) (ASTM D698)	2 (Total)	1 test/10,000 cy or less/site ^(b)	Info. Only
Permeability Test (use falling head method)	2 (Total)	test/10,000 cy or less/site ^(b)	1 x 10 ⁻⁷ cm/sec

- (3) In addition to the minimum three testing requirements, the contractor shall provide additional test results for any off-site clay he furnishes, to be used for informational purposes. The testing requirements are listed below.
- (4) Reference standards are listed as follows:
1. American Society for Testing and Materials (ASTM):
 - **ASTM D698** Test for Moisture-Density Relations of Soils and Soil Aggregate Mixtures Using 5.5 lb Rammer and 12 in. Drop (Standard Proctor).
 - **ASTM D1557** Test for Moisture-Density Relations of Soils and Soil Aggregate Mixtures Using 10 lb. Rammer and 18 in. Drop (Modified Proctor).

- **ASTM D2922** Test for Density of Soil In Place by Nuclear Method (Shallow Depth).
- **ASTM D1140** Test Method for Amount of Materials in Soils Finer than the No. 200 Sieve.
- **ASTM D422** Method for Particle-Size Analysis of Soils.
- **ASTM D4318** Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
- **ASTM D2487** Classification of Soils for Engineering Purposes.

^(a)For each clay borrow site to be used, one test shall be performed and provided to engineer for each 2,500 cubic yards or less of clay to be obtained from each of the borrow sources.

^(b)For each clay borrow site to be used, one test shall be performed and provided to engineer for each 10,000 cubic yards or less of clay to be obtained from each of the borrow sources.

C Construction

C.1 Clay Liner Placement

C.1.1 Liner Subgrade

- (1) The subgrade shall be compacted to a minimum compaction of 90 percent of Standard Proctor Maximum Density (ASTM D-698) prior to placing the liner.

C.1.2 Erosion Protection

- (1) The liner shall not be placed until after all adjacent site grading has been completed and only after silt fence has been installed completely around the perimeter of the storm water quality pond.

C.1.3 Clay Liner

- (1) After the fine grading is complete place and compact approved clay material in two 6-inch lifts for a total compacted thickness of 1 foot over all pond areas, including a height of 1 foot above the normal pond elevation. Also, compacted clay liner material shall be used for one pipe length along bedding material to a height of 6" above the normal pond elevation on all inlet and outlet pipes.
- (2) Notify the engineer at least three days prior to start of clay liner construction.
- (3) Place clay in a continuous lift across the pond floor. See plans for clay liner construction limits.
- (4) Lift thickness shall be 6 inches maximum after compaction.
- (5) Clay liner shall be a minimum of 1 foot thick measured perpendicular to the surface.
- (6) Compact clay to a minimum of 95% Standard Proctor Maximum Density (ASTM D698) with a sheepsfoot roller or other suitable equipment.

- (7) Placement of each lift shall not proceed until all required clay testing and documentation has been completed for the previous lift.
- (8) The moisture content of the clay during placement shall be:
 1. No drier than the optimum moisture content as determined by ASTM D698.
 2. No wetter than 7% wet of the optimum moisture content as determined by ASTM D698.
- (9) Excessively dry or wet clay soil shall be properly moisture-conditioned.
- (10) Provide all equipment necessary to adjust clay to the proper moisture content for compaction.
- (11) The maximum permeability of constructed clay samples collected and tested under Section B shall be 1×10^{-7} cm/sec.
- (12) The contractor is responsible for construction the clay liner in accordance to the plans and specifications. If the in-place clay liner fails to meet the requirements of this section, the contractor shall be responsible as follow:
 1. Remove and replace or rework any portion of the clay liner not meeting the project specifications until project specifications are met.
 2. The contractor shall not be compensated for removing, replacing and reworking clay not meeting the specification requirements.

C.1.4 Testing of Constructed Soils

- (1) As construction of the clay liner proceeds, the department will provide all required on-site quality control testing of installed materials as follows:
 1. Record thickness of liner system on a 100 x 100 foot grid pattern.
 2. Density testing (ASTM D2922) on a 100 x 100 foot grid pattern after the clay is placed and compacted.
 3. One (1) Standard Proctor (ATM D698) for each soil type used but no less than one Proctor analysis for each 5,000 cubic yards of clay placed.
 4. After the liner is placed and compacted, one Shelby tube sample and bulk sample shall be retrieved and analyzed for the following:
 - Grain size distribution and hydrometer analysis.
 - Moisture content.
 - Dry density.
 - Atterberg Limits.
 - Permeability.
- (2) The contractor shall provide the following:
 1. Access for on-site testing, inspection, and documentation.
 2. Machinery required to grade/blade density test locations.
 3. Machinery required to obtain undisturbed clay samples (i.e., with Shelby tubes).
 4. Replace and recompact clay material removed for testing purposes.

C.1.5 Pond Dewatering

- (1) The contractor is responsible for the temporary lowering of the water table below the pond bottom during construction and testing of the pond.
- (2) The water table elevation is unknown.

D Measurement

- (1) The department will measure Pond Lining Clay by the cubic yard acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.001	Pond Lining Clay	CY

Payment is full compensation for dewatering areas of pond liner to be laid and furnishing and placing the pond liner.

60. Abandoning Sewer Special, Item SPV.0035.003.

A Description

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

B Materials

Cellular concrete shall be a lightweight product consisting of portland cement, cement-silica, cement-pozzolan, lime pozzolan, lime-silica pastes, or pastes containing blends of these ingredients and having a homogeneous void or cell structure, attained with gas-forming chemicals or foaming agents.

C Construction

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

D Measurement

The department will measure Abandoning Sewer Special in volume by the cubic yard in accordance to standard spec 109.1.3.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.003	Abandoning Sewer Special	CY

Payment is full compensation for furnishing and placing all materials; and for excavating and backfilling where necessary.

61. Box Spillway 5'x5', Item SPV.0060.001; Box Spillway 2'x2.5', Item SPV.0060.014; Box Spillway 2'x4', Item SPV.0060.015.

A Description

This special provision describes furnishing and installing Box Spillways at the locations shown on the plans in accordance to the pertinent provisions of standard spec 504 and as hereinafter provided.

B Materials

Furnish materials conforming to the requirements specified in standard spec 504.2.

C Construction

Place Box Spillways as shown in the plans and as specified in standard spec 504.3.

D Measurement

The department will measure Box Spillway as each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.001	Box Spillway 5'x5'	Each
SPV.0060.014	Box Spillway 2'x2.5'	Each
SPV.0060.015	Box Spillway 2'x4'	Each

Payment for Box Spillway is full compensation for furnishing all excavating; all materials, including reinforcement; forms; placing, including reinforcement; finishing, curing, protecting, and heating.

62. Rootstock Vegetation, Item SPV.0060.002.

A Description

- (1) This work shall consist of furnishing and planting wetland herbaceous plant rootstock of the species specified, complete in place at the locations designated on the plans or as directed by the engineer. It shall include furnishing all necessary materials and performing all necessary work such as excavating plant holes, anchoring rootstock plants, necessary care and required replacements pending acceptance, and such work necessary and incidental thereto to complete the item in accordance to the plans, specifications, and contract.

B Materials

- (1) All plant materials shall be nursery-grown stock, not wild-collected, from an area not to exceed 75 linear miles from the project site. All plants shall be healthy, 1 to 2 years old, with a well-developed root system. Plants that show evidence of mold or rot will be rejected. Species substitutions are not allowed. The following plant material shall be furnished:

Scientific Name	Common Name	Number of Plants	
		Pond NE	Pond SW
<i>Scirpus validus</i>	Softstem-bulrush	52	143
<i>Scirpus fluviatilis</i>	River-bulrush	206	574
<i>Scirpus Acutus</i>	Hardstem-bulrush	<u>52</u>	<u>143</u>
		310	860

C Construction

C.1 General

- (1) Wetland rootstock (shelf planting) shall be planted between October 15 and November 15 or between May 1 and June 15. Planting shall not take place when the ground is frozen, or when the conditions are otherwise unsuitable for planting. The contractor shall give the engineer five working days notice of the intended date of delivery of rootstock to the project site. All rootstock plants shall be presented to the engineer and DOT wetland/ecology department, (262) 548-6709, for inspection and acceptance prior to planting.
- (2) All rootstock shall be handled with care and skill to prevent damage and shall be packed in a manner to ensure arrival at the project site in good condition. The rootstock shall be kept moist and cool prior to planting.

C.2 Timing of Planting

- (1) Wetland rootstock shall be planted on the day of delivery at the project site. In the event that this is not possible, the plants shall be temporarily stored by placing them in a well-ventilated, cool, shaded, moist storage space. The rootstock shall be adequately protected against drying by packing sphagnum moss around the roots. This storage period shall not exceed 48 hours.

C.3 Planting Layout

- (1) The shelf planting species shall be mixed randomly in their placement. They shall be planted at a uniform density of approximately one plant per square yard in those areas shown on the Planting Plan. Rootstock shall not be planted in rows.

C.4 Planting Method

- (1) Shelf planting shall be planted by hand with the use of a tree spud or other comparable method, or as directed by the engineer. If necessary, rootstock shall be anchored by means of a wire loosely wrapped around the rootstock and pressed firmly 1 to 2 inches into the ground.

C.5 Care

- (1) Freshly planted rootstock shall not be disturbed by subsequent activities that would cause uprooting or injury. The contractor shall properly care for all plants from the time of planting until the partial or final acceptance of the work under the contract. Proper care of plants shall consist of doing such watering and other work as necessary to keep the plants in a healthy growing condition. Complete waterings shall be performed at 2 to 3 day intervals between May 15 to September 15, if necessary. Such intervals may be lengthened when weather conditions and soil moisture permit. Additional waterings may be ordered by the engineer at any time during the plant establishment period, shall conditions require such waterings.

D Measurement

- (1) The department will measure Rootstock Vegetation by the number of plants complete in place and accepted in accordance to the terms of the contract.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.002	Rootstock Vegetation	Each

- (2) Payment is full compensation for furnishing, delivering, storing, and planting the rootstock, and for anchoring and supplying wire as necessary.

63. Cover Plates Left In Place, Item SPV.0060.003.

A Description

Furnish and install a steel plate to cover and support backfill material and traffic loading at inlets as shown on the plans, in accordance to the pertinent provisions of standard spec 611, and as hereinafter provided.

Cover plates left in place becomes the property of the department after final acceptance by the engineer.

B Materials

Provide a 0.5-inch minimum thickness steel plate that extends to the outside edge of the existing masonry.

C Construction

Clean out all soil, debris, other accumulated matter, and materials deposited or lodged due to the contractor's operations from the structure prior to placing the cover plate left in place on the structure.

Place cover plates as shown on the plans.

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.0060.003	Cover Plates Left In Place	Each

Payment is full compensation for furnishing and installing the cover plate; for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

64. Salvaging Existing Ramp Gate System, Item SPV.0060.005.**A Description**

This special provision describes removing an existing ramp gate system and transporting it as shown in the plans or as directed by the engineer.

B Materials

The existing ramp gate system consists of a luminaire, gear winch with cable, yoke assembly, transformer base, flashing LED lights, solar power system, gate arm, gate pivots, supports, guides, and all associated hardware.

C Construction

Carefully remove the existing ramp gate system from the concrete base in such a manner as to safeguard all parts from damage or loss. Salvage and store the ramp gate system until delivery to the department. At least two weeks prior to delivery, contact: Don Schell, (414) 227-2148, Wisconsin Department of Transportation, Statewide Traffic Operations Center, to make delivery arrangements for the ramp gate system. Delivery will be to a WisDOT facility in Waukesha County.

Removal of concrete base is paid for separately.

D Measurement

The department will measure Salvaging Existing Ramp Gate System by each individual salvaged unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.005	Salvaging Existing Ramp Gate System	Each

Payment is full compensation for removing, storing, transporting and delivering the ramp gate system.

65. Salvaging Existing Access Gate, Item SPV.0060.006.

A Description

This special provision describes salvaging an existing access gate and storing it as directed by the engineer.

B Materials

The existing access gate consists of a gate posts, gear winch with cable, gate arm, sign, and all associated hardware and bases.

C Construction

Carefully remove the existing access gate in such a manner as to minimize damage to reusable materials. Do not cut material that would be otherwise reusable. Salvage and store the ramp gate system at an engineer approved location on the project site. Contact Racine County Highway Superintendent Dennis Orlando at (262) 886-8440 to coordinate pick-up of the access gate by Racine County. Restore the site and dispose of damaged and surplus materials.

D Measurement

The department will measure Salvaging Existing Access Gate by each individual salvaged 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.0060.006	Salvaging Existing Access Gate	Each

Payment is full compensation for removing, and storing the access gate; and for restoring the site.

66. Erosion Control Filter Bags, Item SPV.0060.009.

A Description

This special provision describes furnishing, installing, maintaining, and removing erosion control filter bags under other contract items at locations designated on the plans or as directed by the engineer, and in accordance to plan details and as hereinafter provided.

B Materials

Bags shall be made of synthetic net with a mesh size of 1/8-inches by 1/8-inches that is of sufficient strength to hold the aggregate and to be lifted vertically.

Fill material shall be clean, sound, hard, durable coarse aggregate meeting the approval of the engineer and conforming to the size and gradation requirements for Size No. 1 coarse aggregate as specified in standard spec 501.2.5.4.4.

C Construction

Furnish bags filled with fill material as specified, secured to prevent loss of fill material during transportation, placement, maintenance and removal operations as hereinafter described. Completed erosion control filter bags shall have minimum in-place filled dimensions of 24-inches long by 12-inches wide by 6-inches high.

Install the erosion control filter bags as directed by the engineer and per plan detail. Place erosion control filter bags before starting any construction operation that may cause sedimentation or siltation at the site of the proposed filter bags.

D Measurement

The department will measure Erosion Control Filter Bags by each individual erosion control filter bag acceptably completed.

The department will not measure individual erosion control filter bags specified to be installed as part of silt fence drainage outlet protection. In those installations erosion control filter bags are part of and incidental to the appropriate 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.0060.009	Erosion Control Filter Bags	Each

Payment is full compensation for furnishing all specified materials; for delivering, assembling, placing, maintaining, and removing and disposing erosion control filter bags; for removing and disposing of the accumulated sediments; and for repairing and restoring damaged areas.

The department will not pay for individual erosion control filter bags specified to be installed as part of silt fence drainage outlet protection. In those installations erosion control filter bags are part of and incidental to the appropriate bid items.

67. Exposing Existing Utility, Item SPV.0060.012.

A Description

This work includes exposing existing utilities which are in direct conflict with proposed facilities. The location of existing utilities not in direct conflict with proposed construction is not included and shall be addressed using standard utility location procedures. The work includes exposing existing utilities under paved and unpaved surfaces, and providing both lateral and depth measurements for use in determining potential utility conflict solutions.

B Materials

B.1 Granular Backfill

Furnish granular backfill that conforms to standard spec 209.

B.2 Slurry Backfill

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

Submit all requests for exposing existing utilities in writing to the engineer for approval prior to performing the work. Coordinate utility exposures with the engineer and notify the utility owner or their agents of this work 2 working days in advance so that they may be present when the work commences.

C.2 Excavation

Remove all paved and unpaved surfaces at locations where the existing utility is being exposed. Saw or remove concrete and asphaltic pavements to the nearest joint. Remove all pavement surfaces in such a way that all existing edges consist of a true line having a perpendicular edge with no unraveling. Maintain drainage at all times in accordance to standard spec 205.3.3. Take precautions, including temporary shoring, in order to prevent any undermining of the existing roadway. Perform work in accordance to all applicable laws, ordinances, rules, regulations, and OSHA standards.

Expose all utility locations within a given location to a minimum depth of 18-inches below the bottom of each utility. Excavate in a manner that protects the integrity of the utilities and prevents any damage to wrappings or protective coatings such as by any mechanical method or hand digging. Notify the utility owner promptly if damage or interruption of service occurs. Repair all damage caused to such utilities resulting from negligence or carelessness on the part of the contractor's operation at contractor expense.

Take all lateral and depth measurements in US feet and tenths thereof. Identify horizontal locations of each exposed utility with a coordinate northing and easting referenced to the Wisconsin County Coordinate System (WCCS), Racine County, NAD 83 (97). Provide vertical elevations for each exposed utility and reference to NAVD 88 (91).

The utility location shall remain exposed and available for visual inspection until the completion of all work in a given location. If the utility shall remain exposed overnight or for prolonged periods of time, protect the location with traffic-rated steel plating, safety barriers, and all necessary traffic control devices that may be required under applicable standards or as directed by the engineer.

C.3 Backfilling

Upon completion of the utility exposure, restore the location in kind to its original condition. Use granular backfill, conforming to standard spec 209, to backfill the exposed utility locations to the subgrade elevation except for areas located within local streets. All granular material placed to an elevation of 18-inches above each exposed utility shall consist substantially of sand with all particles retained on a one-inch (25.0 mm) sieve removed. The remaining granular material shall conform to the specifications for backfill

for trench excavation. When exposed utility locations fall within local streets or city right-of-way, use slurry backfill to fill the entire location to the subgrade elevation.

Restore concrete pavement and concrete base course to the depth found in the existing roadway. Replace all locations that fall within live lanes of any roadway or pedestrian traffic with a high early-strength concrete pavement mix design having a depth equivalent to the existing pavement structure unless directed otherwise by the engineer. Locations that are closed to through traffic may use an approved concrete pavement mix conforming to standard spec 501. If directed by the engineer, tie concrete pavement and/or dowel it to the existing pavement according to the standard detail drawing for concrete pavement. All locations requiring asphaltic pavement shall consist of HMA Pavement Type E-3 unless otherwise directed by the engineer. Place the HMA pavement in lifts to a depth as directed by the engineer. Apply tack coat to composite pavement structures and between lifts.

Place base aggregate dense between the subgrade surface and the bottom of the pavement. In grassy areas, place 4-inches of topsoil, sod or seed and mulch, and fertilizer. Alternate restoration methods may be used upon written approval from the engineer.

C.4 Documentation

Provide documentation to the engineer and include the coordinates, elevations, and sketches of the utility locations tied to known features in the plans. Each utility shall be referenced to a proposed alignment with a station and offset. The size and/or diameter, composition, and a description of each utility shall be documented and the location of the elevation with respect to each utility noted. Supply digital photographs of the uncovered utility to the engineer in .jpeg format for future reference.

D Measurement

The department will measure Exposing Existing Utility as a unit for each location, acceptably completed. A location may have multiple utilities located within the same exposure area. An exposure area will include all utilities within 6 lateral feet of each other and payment will only be made for one unit regardless of the number of utilities exposed. If the distance from the existing ground elevation, located above the existing utility, to a point 18-inches below the exposed utility is between 0 and 6-feet, the department will measure each location as a single unit of work. If the distance from the existing ground elevation, located above the existing utility, to a point 18-inches below the exposed utility is greater than 6-feet and less than 12 feet, the department will pay for the item as two units of work. Exposures in depth greater than 12-feet are not covered under this item.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.012	Exposing Existing Utility	Each

Payment is full compensation for sawing all pavement; for removing all pavement; for furnishing all excavation; for disposing of all materials; for locating all utilities within each respective location; for providing documentation and photographs of utility locations to the engineer; for furnishing all surveying associated with exposing existing utilities; for furnishing all maintenance of the location during construction; for furnishing all traffic control, safety barriers, and steel plating required; for furnishing and placing granular backfill and slurry backfill; and for temporary shoring.

All finishing items including, but not limited to, base aggregate dense, concrete pavement, HMA pavement, curb and gutter, and sidewalk located above the subgrade elevation will be paid for using other contract items.

68. Permanent Barricades Type III, Item SPV.0060.017.

A Description.

This special provision describes furnishing barricades with “RAMP CLOSED” signs attached in accordance to the requirements of standard spec 643, as shown on the plans and as hereinafter provided.

B Materials

The barricades delivered to the project shall be new. The length of rails for the barricade shall be 8-feet.

C (Vacant)

D Measurement

The department will measure Permanent Barricades Type III in place by each individual permanent barricade 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.0060.017	Permanent Barricades Type III	Each

Payment is full compensation for furnishing the barricades and signs.

69. Barricade Rack, Item SPV.0060.018.

A Description

This special provision describes furnishing and erecting wood posts and perforated tubular steel to support Type III barricades.

B Materials

Conform to standard spec 634.2.1.

Conform to Upper Tube language in standard spec 634.2.5.

C Construction

Under the bid item Barricade Rack, furnish and install wood posts, perforated tubular steel, and all necessary miscellaneous hardware to complete the installation as specified in the plan details..

Conform to standard spec 634.3.1.

D Measurement

The department will measure Barricade Rack as each individual barricade rack, 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.0060.018	Barricade Rack	Each

Payment is full compensation for furnishing and installing all materials, including wood posts, perforated tubular steel and all hardware and fittings necessary to install the barricade rack; and for providing corrosion prevention.

70. Sealing Pipe Stubs, Item SPV.0060.024.**A Description**

This special provision describes sealing pipe stubs as shown on the plans, the requirements of the standard specifications and as hereinafter provided.

B Materials

Furnish materials conforming to the requirements specified in subsection 611.2 of the standard specifications.

C Construction

Thoroughly clean the end of the pipe stub, and seal it with brick or concrete block. Apply ½-Inch backplaster.

D Measurement

The department will measure Sealing Pipe Stubs as each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.024	Sealing Pipe Stubs	Each

Payment is full compensation for providing and placing all materials, including brick, or concrete block, mortar, backplaster.

71. Manholes 10-FT Diameter, Item SPV.0060.027.

A Description

- (1) This special provision describes furnishing and installing manhole structures at the depths and locations shown on the plans in accordance to the pertinent provisions of standard spec 611 and as hereinafter provided.

B Materials

- (1) Furnish materials conforming to the requirements specified in standard spec 611.2.

C Construction

- (1) Place manholes as shown in the plans and as specified in standard spec 611.3. Construct in accordance to Manholes 8-FT Diameter as indicated in the standard detail drawing "Manholes 3-FT, 4-FT, 5-FT, 6-FT, 7-FT and 8-FT Diameter" except with a 10-FT interior diameter as indicated on the plans.

D Measurement

- (1) The department will measure Manholes 10-FT Diameter as each individual manhole unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.027	Manholes 10-FT Diameter	Each

- (2) Payment is full compensation as specified in standard spec 611.5.2.

72. Silt Fence Drainage Outlet, Erosion Control Filter Bags, Item SPV.0060.030.

A Description

This special provision describes construction of erosion control filter bags at openings/outlets in silt fence alignments where water may pond against the silt fence, to allow a path for water discharge while still maintaining erosion protection of the downstream/downslope area. Specifically the protection provided by the erosion control filter bags will apply to environmentally sensitive areas such as wetlands and stream tributaries.

B Materials

Bags shall be made of synthetic net with a mesh size of 1/8-inches by 1/8-inches that is of sufficient strength to hold the aggregate and to be lifted vertically.

Fill material shall be clean, sound, hard, durable coarse aggregate meeting the approval of the engineer and conforming to the size and gradation requirements for Size No. 1 coarse aggregate as specified in standard spec 501.2.5.4.4.

C Construction

Provide suitable erosion control filter bags to complete installations at locations shown on the plans or as the engineer directs.

Install erosion control filter bags at the silt fence outlets as directed by the engineer and per plan detail. Place erosion control filter bags immediately after the silt fence has been installed and before starting any construction operation that may cause sedimentation or siltation at the site of the proposed silt fence outlets.

Inspect all erosion control filter bags immediately after each rainfall and at least daily during prolonged rainfall. Immediately correct any deficiencies. In addition, make a daily review of the erosion control filter bags in areas where construction activity has changed the earth contour and drainage runoff to ensure that the bags are functioning properly. Where deficiencies exist, move or adjust existing erosion control filter bags or install additional erosion control filter bags as approved or directed by the engineer and at no additional cost to the department.

Remove sediment deposits when the deposits reach approximately one-half of the height of the erosion control filter bag(s), or as directed by the engineer. The contractor shall dispose of the sediment outside of the right-of-way unless allowed by the engineer. Replace any bags that have been damaged.

Remove erosion control filter bags as part of the silt fence removal operation. The engineer will determine when the contractor will be allowed to do this as specified in standard spec 628.3.4.1. Dispose of erosion control filter bags and any sediment outside of the right-of-way. Reshape the area where the bags were located, fill sumps and trenches, dispose of erosion control filter bags, sediment and any excess eroded material outside of the right-of-way, and restore the affected area to match the adjacent vegetation.

D Measurement

The department will measure Silt Fence Drainage Outlet, Erosion Control Filter Bags for each individual installation, acceptably completed.

Individual erosion control filter bags will not be measured.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.030	Silt Fence Drainage Outlet, Erosion Control Filter Bags	Each

Payment is full compensation for providing, installing and removing erosion control filter bags used at silt fence drainage outlets at project completion or as the engineer directs; for inspecting and maintaining the erosion control filter bags as specified; for repairing and restoring damaged areas; and for removing and disposing of all surplus and waste material.

73. Silt Fence Drainage Outlet, Rock Bags, Item SPV.0060.031.

A Description

This special provision describes construction of rock bags at openings/outlets in silt fence alignments where water may pond against the silt fence, to allow a path for water discharge while still maintaining erosion protection of the downstream/downslope area.

B Materials

Furnish rock bags in accordance to the pertinent requirements of standard spec 628.

C Construction

Provide suitable rock bags to complete installations at locations shown on the plans or as the engineer directs.

Install rock bags at the silt fence outlets as directed by the engineer and per plan detail. Place rock bags immediately after the silt fence has been installed and before starting any construction operation that may cause sedimentation or siltation at the site of the proposed silt fence outlets.

Inspect all rock bags immediately after each rainfall and at least daily during prolonged rainfall. Immediately correct any deficiencies. In addition, make a daily review of the rock bags in areas where construction activity has changed the earth contour and drainage runoff to ensure that the bags are functioning properly. Where deficiencies exist, move or adjust existing rock bags or install additional rock bags as approved or directed by the engineer and at no additional cost to the department.

Remove sediment deposits when the deposits reach approximately one-half of the height of the rock bags, or as directed by the engineer. The contractor shall dispose of the sediment outside of the right-of-way unless allowed by the engineer. Replace any bags that have been damaged.

Remove rock bags as part of the silt fence removal operation. The engineer will determine when the contractor will be allowed to do this as specified in standard spec 628.3.4.1. Dispose of rock bags and any sediment outside of the right-of-way. Reshape the area where the bags were located, fill sumps and trenches, dispose of rock bags, sediment and any excess eroded material outside of the right-of-way, and restore the affected area to match the adjacent vegetation.

D Measurement

The department will measure Silt Fence Drainage Outlet, Rock Bags for each individual installation, acceptably completed.

Individual rock bags will not be measured.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.031	Silt Fence Drainage Outlet, Rock Bags	Each

Payment is full compensation for providing installing and removing rock bags used at silt fence drainage outlets at project completion or as the engineer directs; for inspecting and maintaining the rock bags as specified; for repairing and restoring damaged areas; and for removing and disposing of all surplus and waste material.

74. Surface Settlement Markers, Item SPV.0060.060; Abandonment of Geotechnical Instrumentation, Item SPV.0060.062.

A Description

The purpose of geotechnical instrumentation is to permit the engineer to monitor the contractor's general compliance with the requirements of the contract regarding ground movement in the vicinity of excavations and protection of adjacent property. The instrumentation program specified herein and shown on the plans is not intended to be used to ensure the safety of the work.

The contractor shall be responsible for monitoring ground conditions as necessary to conform to the requirements of the contract. The instrumentation program required by this article does not relieve the contractor of responsibility for providing additional instrumentation and monitoring if, in the contractor's opinion, such additional instrumentation and monitoring are necessary to accomplish the work.

This article covers the work necessary to furnish and install geotechnical instrumentation; for maintenance of installed instruments; taking initial instrument readings; and for abandonment of instruments after construction.

Hire an independent instrumentation specialist to install instrumentation with exception to surface settlement markers (SM) as shown on the project plans and as specified. The specialist shall have documented experience as set forth in the subsection, Quality Assurance.

The contractor's instrumentation specialist shall install the instruments as specified at the locations shown on the plans. The contractor shall complete an as-installed position survey to determine the horizontal and vertical positions of all instruments in accordance

to the requirements herein and furnish the engineer with a copy of the results within 24 hours of field data acquisition.

The engineer will survey and monitor all instruments and furnish the contractor with results.

Unless otherwise noted or instructed by the engineer, the contractor shall abandon all instruments upon completion of the work.

B Submittals

Submit the following specific information for information only, at least 30 days prior to the start of instrument installation, except submit copies of DNR forms as soon as possible after instruments are installed or abandoned:

1. Submit qualifications of instrumentation specialists and personnel.
2. Instrumentation shop drawings detailing locations, depths based on general information shown on the plans, type, details, and other pertinent information showing the installation details for each type of instrumentation required.
3. Drawing that indicates the locations of control points and benchmarks associated with surveys for monitoring geotechnical instrumentation.
4. Description of methods for installing and protecting all instruments.
5. Schedule of instrument installation related to significant activities or milestones in the overall project.
6. Following installation of the instruments and prior to the start of underground construction, submit as-built shop drawings showing the exact installed location, the instrument identification number, the instrument type, the installation date and time, the heading station or portal or shaft excavation depth on the installation date, when applicable, and the anchor or tip elevation and instrument length, when applicable, and installed locations of control points and benchmarks associated with surveys for monitoring geotechnical instrumentation. Include details of installed instruments, accessories, and protective measures including all dimensions and materials used.
7. Manufacturer's literature describing installation, operation, and maintenance procedures for all instruments, materials, readout units, and accessories.
8. Drilling and installation logs for instrumentation installations prepared by the instrumentation specialist.
9. Submit for each instrument to be installed, as applicable, a certificate issued by the instrument's manufacturer stating that the manufacturer has inspected and tested each instrument before it leaves the factory to see that the instrument is working correctly and has no defects or missing parts.
10. Submit permits and consents for drilling holes from ground surface and conducting monitoring activities.
11. Plans for geotechnical instrumentation to be installed at contractor's option.
12. Copies of completed DNR abandonment forms for observation wells and piezometers.

C Definitions

C.1 Open Ground

Ground without any above- or below-grade facilities, paved or unpaved roads, and utilities within a 25-foot horizontal radius.

C.2 Surface Settlement Marker (SM)

SMs are stakes, rods, or nails installed in unpaved or paved areas at predetermined locations to measure vertical (elevation) changes of the ground surface.

D Quality Assurance

D.1 General

The contractor shall notify the engineer at least 24 hours prior to all instrumentation installation operations so that the engineer may monitor the installation work.

Each instrument specified herein shall be the product of an acceptable manufacturer currently engaged in manufacturing geotechnical instrumentation hardware of the specified types.

D.2 Personnel Qualifications

Qualified technicians with a minimum of 2 years experience in the installation of geotechnical instrumentation similar to those specified herein.

Instrumentation Specialist: A professional civil or geotechnical engineer or engineering geologist, with a minimum of 5 years experience in the installation of instrumentation specified herein, shall prepare instrumentation shop drawings and supervise and direct technicians and be responsible for instrument installation required. The instrumentation specialist shall be physically present at the installation sites to supervise the installations.

D.3 Control Points

Surveys for monitoring geotechnical instrumentation shall be referenced to the same control points and benchmarks established for setting out the work. Control points shall be tied to benchmarks and other monuments outside of the zone of ground movements that might result from underground excavations.

E Tolerances

SMs shall be installed within 12 inches of the horizontal locations indicated on the plans or approved shop drawings.

Should actual field conditions prohibit installation at the locations and elevations indicated on the plans, prior acceptance shall be obtained from the engineer for new instrument locations and elevations.

F Project Conditions

Obtain necessary permits for the installation of monitoring systems.

Provide the engineer and the department access to the instruments at all times.

G Materials

G.1 Surface Settlement Markers (SM)

Surface settlement markers in paved areas shall be hardened steel markers treated or coated to resist corrosion, with an exposed convex head having a minimum diameter of 1/2 inch and similar to surveyor's PK nails.

Surface settlement markers in unpaved areas shall be a 2-inch by 2-inch by 18-inch long hardwood hub driven to grade.

H Execution

H.1 General

Instrumentation shall be installed at the locations indicated on the plans or approved shop drawings, and as approved by the engineer. All instrumentation shall be installed under the direct supervision of the contractor's instrumentation specialist.

Locate conduits and underground utilities in all areas where borings are to be drilled and instruments installed. Instrument locations shall be modified, as approved by the engineer, to avoid interference with the existing conduits and utilities. Repair damage to existing utilities resulting from instrument installations at no additional cost to the department.

Geotechnical instrumentation shall be installed and baseline surveys or initial readings completed before commencing any excavation work for shafts and tunnels.

The contractor may use instrument data provided by the engineer but shall be responsible to determine whether these data are adequate and timely to meet the requirements of the work. The contractor may collect its own data from the geotechnical instruments required by this article, but any such data collected shall be provided to the engineer as specified herein.

H.2 Review of Instrumentation Plan

Prior to ordering materials or installation of instruments, confer with the engineer as to the suitability of the planned instruments and locations, regarding proximity to excavations and compatibility with the means and methods of excavation, ground support and groundwater control. The instrumentation plan specified herein and shown on the plans may be modified by the engineer prior to installation, to suit the contractor's means and methods of construction.

Replace, at no cost to the department, instrumentation in place that becomes inaccessible or unreadable as a result of the contractor's means and methods of construction or changes in the contractor's means and methods of construction that could have been anticipated by the contractor prior to installation. The locations of replacement instruments shall be jointly determined by the engineer and contractor.

H.3 Installation

Complete installation and testing of each instrument located outside of excavations a minimum of 1 week prior to excavation or dewatering within 100 feet of the instrument.

The anticipated general locations of instrumentation are shown on the plans. Check instruments to be installed in borings for interference with utilities and subsurface facilities. Mark locations of all instruments in the field prior to installation acceptance of the location obtained from the engineer. Confer with the engineer in the event that conflicts with utilities occur, and changes to the planned locations become necessary.

All instruments shall be clearly marked, permanently labeled, and protected to avoid being obstructed or otherwise damaged by construction operations or the general public. Protective housing and box or vault covers shall be marked.

After installation of each instrument, survey the as-built location to define the vertical and lateral positions of the exposed parts.

H.4 Protection and Maintenance

Flag and protect all locations. Exercise care during construction so as to avoid damage to instrumentation. Repair or replace instrumentation that is damaged as a result of the contractor's operation at his expense. The engineer will determine whether repair or replacement is required. Complete the repair or replacement as soon as practical after notification by the engineer as to whether a repair or replacement is required.

Maintain exposed parts of installed instruments as necessary to ensure their availability for use for the duration of the work. The engineer will perform maintenance and calibration of readout devices.

H.5 Installing Surface Settlement Markers (SM)

Install surface settlement markers (SM) at the locations as shown on the plans. The method of installation shall be the contractor's option; however, the marker shall be rigidly affixed so as not to move relative to the surface to which it is attached.

H.6 Monitoring Instruments

The contractor will take initial readings as specified in this article. Subsequent reading will be taken by the engineer. Provide access to instruments as requested by the engineer. Instrument data will be made available to the contractor, upon request, within 1 working day of reading. The contractor may observe the readings at any time or take his own supplementary readings. Make data obtained by the contractor, whether from specified instruments or from additional instruments, available to the engineer within 1 working day of reading.

1. For workshafts, monitor as follows:

Monitor all instruments within 50 feet of the outer edge of workshaft daily beginning when workshaft construction, ground improvement, excavation or dewatering activity begins, whichever comes first. Continue daily monitoring until backfill and removal of excavation support of the workshaft are complete. Provide a brief description of the construction activity in the submittal of monitoring data.

Monitor at least once every 6 hours during active construction, which includes ground support system installation (including contact grouting to fill exterior voids), excavating, and ground improvement within and around workshaft.

2. For tunnel excavation, monitor all instruments located within, around and above the excavation as follows:

Monitor at least once every 5 hours during active construction, but not less than twice per day beginning when tunnel excavation approaches within 50 feet of the station of the instrument location. Continue monitoring at the same frequency until excavation advances 100 feet beyond the station of the instrument location or the tunnel drive is completed (i.e. tunnel boring machine completely enters the receiving shaft).

Upon completion of the tunnel drive, monitoring daily until contact grouting to fill exterior voids as required in Article, Tunnel and Workshaft Construction, Contact Grouting is complete. Continue to monitor weekly until backfill and removal of excavation support of all workshafts are complete or until directed by the engineer to end monitoring.

H.7 Abandonment of Instrumentation

Abandon all piezometers identified in the Geotechnical Baseline Report, and all piezometers and observation wells installed during the course of the work, unless directed otherwise by the engineer. Abandonment of wells and piezometers shall be in accordance to standard spec 204.3.3.3 or in accordance to NR 812 or NR 141 of the Wisconsin Administrative Code, whichever is more stringent. Submit copies of the complete DNR abandonment forms to the engineer within three work days.

I Measurement

I.1 Surface Settlement Markers (SM)

The department will measure Surface Settlement Markers as each individual surface settlement marker, acceptably completed.

I.2 Abandonment of Geotechnical Instrumentation

The department will measure Abandonment of Geotechnical Instrumentation as each individual abandoned piezometer, acceptably completed.

The department will not make a separate measurement for the abandonment of surface settlement markers.

J Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.060	Surface Settlement Markers	Each
SPV.0060.062	Abandonment of Geotechnical Instrumentation	Each

Payment is full compensation for furnishing and installing each instrument, all materials, labor, tools and equipment necessary for providing submittals, furnishing materials, installation, testing, protection, maintenance, replacement or repair of damaged instruments, initial readings, providing access to the engineer for reading, abandonment, and all other specified items of work for which no separate bid item is provided.

Abandonment of geotechnical instrumentation includes the abandonment of piezometers satisfactorily abandoned. No separate payment will be made for the abandonment of surface settlement markers.

75. Flexible Tubular Marker Bases Left In Place, Item SPV.0060.072; Flexible Tubular Marker Posts Left In Place, Item SPV.0060.073.

A Description

This special provision describes furnishing and installing Traffic Control Flexible Tubular Marker Posts and Traffic Control Flexible Tubular Marker Bases as shown on the construction staging plans Stage 4.

Traffic Control Flexible Tubular Marker Posts and Traffic Control Flexible Tubular Marker Bases left in place becomes property of the department after final acceptance by the engineer.

B Materials

This work shall be in accordance to the pertinent provisions of standard spec 643.2 and as hereinafter provided.

C Construction

This work shall be in accordance to the pertinent provisions of standard spec 643.3, as shown on the plans, and as hereinafter provided.

D Measurement

The department will measure Flexible Tubular Marker Posts Left In Place and Flexible Tubular Marker Bases Left In Place as each 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.0060.072	Flexible Tubular Marker Bases Left In Place	Each
SPV.0060.073	Flexible Tubular Marker Posts Left In Place	Each

Payment is full compensation for furnishing and installing the traffic control flexible tubular marker posts and flexible tubular marker bases.

76. Pavement Marking Grooved Preformed Thermoplastic Words, Item SPV.0060.077; Arrows Type 2, Item SPV.0060.081; Stop Line 18-Inch, Item SPV.0090.080.

A Description

This special provision describes grooving the pavement surface, and furnishing and installing preformed thermoplastic pavement marking as shown on the plans, in accordance 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 in accordance 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 \pm 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 in accordance 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 ft³/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 ft³/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.5.2 Asphalt

Use a high-pressure air blower with at least 185 ft³/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) by each individual unit, acceptably completed.

The department will measure Pavement Marking Grooved Preformed Thermoplastic Stop Line 18-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 items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.077	Pavement Marking Grooved Preformed Thermoplastic Words	Each
SPV.0060.081	Pavement Marking Grooved Preformed Thermoplastic Arrows Type 2	Each
SPV.0090.080	Pavement Marking Grooved Preformed Thermoplastic Stop Line 18-Inch	LF

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

77. Reconstructing Manholes Special, Item SPV.0060.080.

A Description

This special provision describes reconstructing manholes by removing or salvaging existing manhole covers, adjustment rings, and precast cone sections; and furnishing and installing new precast concrete barrel sections, new or salvaged precast concrete cone sections, new external joint seals, new adjustment rings, new internal/external chimney seals, and new manhole covers, as shown on the plans.

Perform this work in accordance to the pertinent provisions of the Standard Specifications for Sewer and Water Construction in Wisconsin, Sixth Edition, December 22, 2003, and published Addenda, except as herein modified.

B Materials

B.1 Precast Concrete Barrel and Cone Sections

Furnish precast barrel and cone sections in accordance to standard spec 611.2.1(3) as designated in the plans.

B.2 External Joint Seals

Furnish either MacWrap or WrapidSeal external manhole joint seals.

B.3 Manhole Adjustment Rings

Furnish precast concrete manhole adjustment rings from the department's approved products list.

B.4 Internal/External Chimney Seals

Furnish Internal / External Adaptor Seals manufactured by Adaptor Inc. Provide sleeve length, adjustment ring outside diameter, and casting identification when ordering seal.

B.5 Manhole Covers

Furnish new cast iron manhole frames and lids. Frames and lids shall be Neenah R-1580. Covers shall be Type B non-rocking, self-sealing with gaskets, and have concealed pick holes.

C Construction

Excavate and backfill as specified for excavation for structures in standard spec 206, except do not backfill new precast concrete joints until at least 3 days after completion. Use granular backfill material for backfilling unless the engineer directs otherwise.

The elevations for manholes as indicated on the plans are approximate and are subject to all revisions necessary to fit field conditions.

Remove existing manhole frame and cover and existing adjustment rings. Remove or salvage existing cone section, as designated in the plans. After removing existing materials, dispose of them outside the right-of-way in accordance to standard spec 203.3.3.

Install new precast barrel section, as designated in the plans. Install new or salvaged precast cone section, as designated in the plans. Install external joint seal per manufacturer instructions. Install steps which conform to AASHTO M199.

Clean the mating surface on top of new or salvaged precast concrete cone section. Install adjustment rings, internal/external chimney seal, and manhole cover and lid. Secure adjustment rings with mortar, engineer-approved mastic, or using the manufacturer's recommended method. Install internal/external chimney seal per manufacturer instructions. Set manhole frame and lid in accordance to standard spec 611.3.3.

D Measurement

The department will measure Reconstructing Manholes Special by each individual reconstructed manhole, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.080	Reconstructing Manholes Special	Each

Payment is full compensation for removing existing manhole covers, removing adjustment rings, and removing or salvaging precast cone sections; for providing and installing all required materials, including new precast concrete barrel sections, external joint seals, new or salvaged precast concrete cone sections including steps, new adjustment rings, new internal/external chimney seals, and new manhole covers; for furnishing all necessary excavation, backfilling, backfill material, and disposing of surplus material; and for cleaning out and restoring the work site, except the department will pay for restoration work such as topsoil, seeding, or asphalt surface under separate contract items.

78. Inlets Median 4 Grate Modified, Item SPV.0060.084.**A Description**

This special provision describes furnishing and installing inlet structures at the depths and locations shown on the plans in accordance to the pertinent provisions of standard spec 611 and as hereinafter provided.

B Materials

Furnish materials conforming to the requirements specified in standard spec 611.2.

C Construction

Construct Inlets Median 4 Grate Modified as shown in the plans and as specified in standard spec 611.3.

D Measurement

The department will measure Inlets Median 4 Grate Modified as each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.084	Inlets Median 4 Grate Modified	Each

Payment is full compensation as specified in standard spec 611.5.2.

79. Installing State Furnished Distribution Centers, Item SPV.0060.100.

A Description

This special provision describes the installing of street lighting distribution centers furnished by the department.

B Materials

Provide small parts, fittings, fasteners, connectors, splice kits, etc., needed to complete the installation and approved by the engineer.

C Construction

Install and connect the distribution center as shown in the plans. Make all connections for a complete and operable system.

Restore surfaces at locations where WE Energies has excavated for service extensions (to either side of its transformer) and rough backfilled.

Ground the chain link fence with #4 AWG grounding wire exothermically bonded to a 5/8 inch by 8 foot copper clad grounding electrode and electrically bond the gates to the fence with flexible jumpers whenever fences are crossed by an underground utility high-voltage service lateral, or where in the vicinity of overhead transmission lines.

Coordinate all necessary arrangements with WE Energies for installing and closing the utility service extension on behalf of the department, which will be the billing customers. The department will pay all required utility service extension fees.

Distribution Centers shall be hauled to the site from department Electrical Shop, as described in the appended standard spec 651.

D Measurement

The department will measure Installing State Furnished Distribution Centers as each individual installed 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.0060.100	Installing State Furnished Distribution Centers	Each

Payment is full compensation for hauling and installing the distribution center; for making connections; for providing and installing all parts, fittings, fasteners, connectors, splice kits, etc.; for fence grounding; for restoration of WE Energies rough backfill; and for coordination with WE Energies.

80. Removing Lighting Units, Item SPV.0060.102.

A Description

Remove existing lighting units. A lighting unit is defined as the luminaire(s), luminaire arm(s), pole (30- through 50-foot), and breakaway feature. Lamp Disposal will be measured and paid separately.

Removal of the existing underdeck luminaires will be incidental to removal of the overpass structures, however the associated Lamp Disposal for these underdeck luminaires will be measured and paid separately.

B (Vacant)

C Construction

Dispose of all materials except lamps off site or return to department as directed by engineer. Lamps shall be turned in to the department under a separate item, Lamp Disposal High Intensity Discharge, SPV.0060.103.

D Measurement

The department will measure Removing Lighting Units by each individual removed lighting 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.0060.102	Removing Lighting Units	Each

Payment is full compensation for removing lighting units; for disposal or return to the department as directed by the engineer.

81. Lamp Disposal High Intensity Discharge, Item SPV.0060.103.

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 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.0060.103	Lamp Disposal High Intensity Discharge	Each

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

This payment will be in addition to payment for the work under which the lamps are removed from service.

82. Temporary Wood Pole Lighting Units, Item SPV.0060.108.

A Description

The work under this item consists of furnishing and installing described items which include wood pole, mounting bracket and luminaire, junction box, grounding system, and lightning protection system as shown on the plans. All work shall be in accordance to standard spec 651 and 659 and as hereinafter provided.

B Materials

Wood poles shall be Class 4 or larger with a 60-foot minimum overall length. The poles shall be western red cedar in accordance to ANSI standards 05.1. Pressure treatment shall be 5% pentachlorophenol with a minimum of 8 pounds per cubic foot net retention of the oil-borne preservative. All poles shall be shaved the entire length.

Floodlight mounting bracket arms for wood pole lighting units and floodlight luminaires shall be as shown on plan details. Floodlight shall be one of the models described below or approved equal:

- GE Turnpike, General Elec. Product Number: RPFS40S*M2GLN3GRK;
- Holophane Predator, Holophane Product Number: PF-400HP-**-BN1KR;
- Lithonia Lighting, Lithonia Product Number: 170S 400S HPN *** TS PER;
(*'s to be replaced by appropriate voltage code as specified in plans)

C Construction

This work shall be in accordance to the pertinent provisions of standard spec 611.3.1.1 and as shown on the plans. Install #4 AWG grounding wire exothermically bonded to a 5/8 inch by 8 foot copper clad grounding electrode, cable guard, NEMA 3R junction box at 10ft above grade for fuses and splice. Install air terminal with #2 AWG grounding wire exothermically bonded to a 5/8 inch by 8 foot copper clad grounding electrode for lightning protection. Install #2 AWG bare tinned copper bonding conductor between grounding electrodes; exothermically weld on both ends. Provide conduit and wiring, junction boxes, wire racks, and hardware as necessary and as shown on lighting plans and detail drawings.

Install floodlight mounting bracket arms for wood pole lighting units and floodlight luminaires as shown on the plans and details and as per applicable portion of standard spec article 657.3 and 659.3.

Removal of temporary wood pole lighting units and salvage value for wood pole is included under a separate item in a different project. (Removing Lighting Units, Item SPV.0060.102, under Project R14-1 Contract ID 1030-11-71.)

D Measurement

The department will measure Temporary Wood Pole Lighting Units by each individual temporary wood pole lighting 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.0060.108	Temporary Wood Pole Lighting Units	Each

Payment is full compensation for furnishing and installing items as mentioned above; for furnishing all excavation and backfill.

83. Truck Mounted Attenuator, Item SPV.0075.001.**A Description**

This special provision describes furnishing, maintaining and operating a Truck Mounted Attenuator (TMA) to protect the contractor, department personnel, traveling public and equipment during moving operations and short term stationary work in a closed lane of traffic when deemed necessary by the engineer.

B Materials**B.1 General**

The TMA shall be a model that has been approved by the Federal Highway Administration for meeting NCHRP 350 Test Level 3 Crashworthiness. The attenuator shall be mounted to a suitable truck in a manner meeting the manufacturer's specifications.

C Construction

Place the TMA in the closed lane in advance of the equipment and personnel, located as recommended by the manufacturer and approved by the engineer. If the TMA is not available when the work requires its use, postpone the work until the TMA is available.

If utilized in a mobile operation, the TMA support vehicle shall shadow the mobile operation and maintain a consistent distance from the mobile operation as recommended by the manufacturer. The TMA operator shall remain with the vehicle at all times during mobile operations.

D Measurement

The department will measure Truck Mounted Attenuator by the hour(s) acceptably completed and as directed by the engineer. The number of hours measured shall be any hours the TMA and operator are used in mobile operations or short term stationary work.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0075.001	Truck Mounted Attenuator	HR

Payment is full compensation for furnishing, maintaining and operating the TMA and its operator.

84. Boulder Obstructions, Item SPV.0075.002.

A Description

This special provision describes breaking, excavating, handling and disposing of boulder obstructions as defined in Section B.

B Materials

B.1 Boulder Obstruction Definition

A boulder is a rock fragment that has a size (largest dimension or chord length) of 12 inches or more. Rock fragments that have a size ranging from 3 to 12 inches are cobbles. Boulders may be considered obstructions if they are encountered at the heading of a tunnel and they stop or significantly inhibit the forward progress of the Microtunnel Boring Machine (MTBM) to less than 10 percent of normal forward progress for at least 60 minutes under normal thrust and torque.

Boulders and boulder obstructions, including nested cobbles and boulders, shall be documented and the documentation presented to the engineer for an evaluation. Boulder and boulder obstruction indications shall consist, at a minimum, of the following:

1. Sound from the heading.
2. MTBM operator's experience with machine behavior.
3. Need to limit rpm and maintain available torque in response to material behavior.
4. Material recovered from separation plant.

Obstructions could be of natural origin such as boulders or man-made such as concrete slabs. The obstructing object may require removal by supplementary means such as drilling and splitting through the cutterhead, from an outside excavation, emergency shafts, or other means.

C Construction

Excavate and dispose boulder obstructions at a suitable location. The engineer will determine a suitable location.

D Measurement

The department will measure Boulder Obstructions as work for boulder obstructions removal on hourly basis as each boulder obstruction is encountered during tunnel construction.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0075.002	Boulder Obstructions	HRS

Payment is full compensation for furnishing all delays, labor, equipment, materials and incidentals necessary for boulder obstruction removal.

Boulder obstruction removal by means of rescue shafts and all associated work including excavation, backfilling, and surface restoration will be considered under the Differing Site Conditions clause standard spec 104.2.2.2.

85. Concrete Barrier Pan Reinforced 42-Inch, Item SPV.0090.010.

A Description

Construct Concrete Barrier Pan Reinforced 42-Inch in accordance to standard spec 603, details shown in the plans and as hereinafter provided.

B Materials

Add the following to standard spec 603.2:

Concrete minimum strength to be 4000 psi.

Delete paragraph (4) in standard spec 603.2.

C Construction

C.1 General

Delete paragraph (1) in standard spec 603.3.1.1.

Add the following to standard spec 603.3.1.1:

Construct the concrete barrier to present a smooth, uniform appearance in its final position conforming to the horizontal and vertical lines shown on the plans or ordered by the engineer, and be free of lumps, sags or other irregularities. The top and exposed faces of the barrier shall conform to standard spec 603.3.1.5.

Feed concrete into the slip form machine at a uniform rate. Operate the machine under sufficient uniform restraint to forward motion to produce a well compacted mass of concrete free from surface pits larger than one inch in diameter and requiring no further finishing, other than that conforming to standard spec 603.3.1.6.

If constructed by using a slip form machine or similar type equipment, the concrete barrier shall be of well-compacted, dense concrete, and the exposed surfaces conform to standard spec 603.3.1.7. If requested by the engineer, evidence of successful operation of the slip form machine or other equipment may be required.

Utilize concrete of such consistency that, after slip forming, it will maintain the shape of the barrier without support.

C.2 Anchor Dowels

Replace standard spec 603.3.1.2 with the following:

Install anchor dowels at the locations, spacing, and depth shown in the plans. Where required, cast anchor dowels in the supporting surface, or secure them in drilled holes

using a department approved 2-part epoxy resin. Ensure epoxied dowels develop the pullout strength the plans show.

C.3 Joints

Add the following to standard spec 603.3.1.3:

Construct contraction joints at the locations, spacing, and depth shown in the plans.

C.4 Temporary Precast Barrier

Delete standard spec 603.3.2.

D Measurement

Replace standard spec 603.4 with the following:

The department will measure Concrete Barrier Pan Reinforced 42-Inch by the linear foot, acceptably completed, measured along the base of the concrete barrier.

E Payment

Replace standard spec 603.5 with the following:

E.1 General

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.010	Concrete Barrier Pan Reinforced 42-Inch	LF

E.2 Permanent Barrier

Except as specified otherwise below for permanent barrier deficient in smoothness by more than 3/8 inch, payment for Concrete Barrier Pan Reinforced 42-Inch is full compensation for excavating and preparing the foundation; for providing all materials shown in the plans, including concrete, expansion joints, reinforcement, concrete and base aggregate dense between parallel runs of concrete barrier vertical back, and extruded polystyrene; for furnishing all joints as shown in the plans; and for placing, finishing, protecting, and curing concrete.

The department will pay for permanent barrier deficient in smoothness by more than 3/8 inch but not greater than 3/4 inch or ground to less than 3/4 inch, at 75 percent of the contract unit price. The department will administer the price adjustment under the Nonconforming Smoothness Concrete Barrier administrative item.

The department will pay separately for providing delineators under the Delineator Brackets and Delineator Reflectors bid items as specified in standard spec 633.5.

86. Wet Reflective Removable Temporary Pavement Marking Tape, SPV.0090.025.

A Description

Apply temporary pavement markings in accordance to the standard spec 649.2.2, except as hereinafter modified.

B Materials

Provide 3M Stamark Wet Reflective Removable Tape Series 780 temporary pavement marking tape.

C Construction

Within the freeway mainline crossover areas, provide 3M Stamark Wet Reflective Removable Tape Series 780 temporary pavement marking tape for both directions of travel. Provide the wet reflective tape for pavement marking left and right edgelines and lane divider lines. Freeway mainline crossover areas are defined as lane shifting areas where the freeway mainline pavement marking lane divider skips are replaced with a solid 4" white line in the traffic control plan set.

Apply the wet reflective tape according to product application specifications.

D Measurement

The department will measure Wet Reflective Removable Temporary Pavement Marking Tape in length 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.0090.025	Wet Reflective Removable Temporary Pavement Marking Tape	LF

Payment is full compensation for furnishing, applying, maintaining the wet reflective pavement marking tape for the duration of the contract, and for pavement marking removal; including dust and residue collection and disposal.

87. Micro Tunneling Storm Sewer Reinforced Concrete Pipe Class V 54-Inch, Item SPV.0090.063.

A Description

Excavate and backfill for work shaft, sheeting and shoring, control, handling and disposal of water, grouting, removing boulders encountered, compressed air, and lighting and ventilation; furnishing pipes; and shall be in accordance to the construction details on the plans, the requirements of the article Tunnel and Shaft Construction of these special provisions, standard spec 607 and 608, and as hereinafter provided.

B Materials

Furnish storm sewer reinforced concrete pipe conforming to standard spec 608 and as hereinafter provided.

C (Vacant)**D Measurement**

The department will measure Micro Tunneling Storm Sewer Reinforced Concrete Pipe Class V 54-Inch by the linear foot, acceptably completed measured 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.0090.063	Micro Tunneling Storm Sewer Reinforced Concrete Pipe Class V 54-Inch	LF

Payment is full compensation for furnishing all required excavation for work shaft; for backfilling work shaft; for sheeting and shoring; for compaction and compaction testing; for control, handling and disposal of water; for grouting; for removing boulders encountered; for compressed air; for lighting; for ventilation; for temporary support; for protection of existing utilities; and for furnishing storm sewer pipe.

88. Removing Overhead Lighting Cable, Item SPV.0090.101.**A Description**

The work under this item shall consist of removal and disposal of existing overhead lighting cable at the locations shown on the plans, and in accordance to the pertinent provisions of standard spec 204 and as hereinafter provided. Cable shall not be removed until contractor has verified that any lighting circuits have been permanently disconnected and alternate power for new temporary wood pole lighting units have been installed and are functional.

B (Vacant)**C Construction**

Dispose of all materials off site.

D Measurement

The department will measure Removing Overhead Lighting Cable by the linear foot of removed existing overhead lighting cable acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.101	Removing Overhead Lighting Cable	LF

Payment is full compensation for furnishing all work, disposal of materials, and for furnishing all labor, tools, equipment and incidentals necessary to complete the work. Bid price to reflect salvage value of cable.

89. Overhead Cable Quadruplex 6 AWG, Item SPV.0090.111.

A Description

This special provision describes the furnishing, installing and connection of overhead cable complete with all splicing, identifications, terminations and guy wires at wood poles.

B Materials

Overhead cable shall be aluminum conductors according to ASTM B 230 and shall be Class B stranded according to ASTM B 231, and shall conform to the values listed in the table below:

Phase Conductor			Messenger Wire		
Size AWG	Stranding	Avg. Insulation Thickness	Min. Size AWG	Stranding	
		mm	mils		
6	7	1.1	45	6	6/1

The aerial cable shall be an assembly of insulated aluminum conductors and a steel messenger wire according to ANSI/ICEA S-76-474. The cable assembly may have the messenger wire intertwined with the insulated cables or lashed to the insulated cables by a factory wrap. The cable shall be assembled according to ANSI/ICEA S-76-474.

All cable shall be rated 600 V. The cable shall be rated 105 °C dry and 90 °C wet and shall be suitable for installation in wet and dry locations, and shall be resistant to oils and chemicals, and UV rated. The UL listing mark, cable voltage, insulation type and ratings, as well as the cable size shall all be clearly printed on the cable in a color contrasting with the insulation color. When specified, each cable installed shall be identified with its complete circuit number at each termination, splice, junction box or other location where the wire is accessible.

All electric cables installed shall be color coded. Neutral wires shall be color coded white. Single phase three wire runs of cable shall be color code one black, one red, and one white. Insulated ground wires, where applicable, shall be green. Color striping of cables will not be acceptable in lieu of the specified color coding means.

The luminaire connections to the aerial cable shall be made with listed parallel tap insulation piercing connectors. The connector shall be rated for 600 V and be listed under UL Standard 486B.

C Construction

Overhead cable shall be installed such that the any location on cable span shall be minimum 20ft above proposed or existing grade at that location.

Guy wires shall be installed as necessary per WisDOT standard details for Spanwire Temporary Traffic Signal.

Conform to standrad spec 655.3.5(9) for ground resistance testing.

D Measurement

The department will measure Overhead Cable Quadruplex 6 AWG by the linear foot, acceptably completed, in place and will be taken as the length of the messenger wire. Measurement will be made in a straight line between changes in direction and to the centers of light standards and control cabinets. Sag of the aerial cable or vertical cable will not be measured for payment. The rewiring to facilitate relocation of the cable due to staging or other construction requirements will not be measured for payment.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.111	Overhead Cable Quadruplex 6 AWG	LF

Payment for the overhead cable bid items is full compensation for providing electrical wire; for making all connections; for providing all connectors, including wire nuts, fuses, fuse holders, splices, tape, and insulators, for messenger wire, guy wires.

90. Field Office Fixed, Item SPV.0105.001.

Replace standard spec 642 with the following:

A Description

Furnish, equip, and maintain field office facilities.

B Materials

B.1 General

The contractor is encouraged to provide a permanent/fixed facility for use as a field office that is an existing office building, or an existing building converted to office-type use, located not more than one mile from the project limits and approved by the engineer. In the case such a suitable permanent/fixed facility cannot be located, a temporary/modular facility shall be provided.

Supply a first aid kit in each field office provided under the contract. Ensure the kits are readily accessible to project personnel. Check and replenish the contents of each kit at least once a week. Ensure that each kit contains, at a minimum, a supply of latex-free

examination gloves, CPR masks, adhesive tape, pressure and cling bandages, antiseptic wipes, bite/sting swabs, cold packs, and safety goggles.

Equip the facilities with Class A, B, and C fire extinguisher(s) conforming to all applicable codes and NFPA standards.

Minimum interior useable floor space shall be 1000 square feet, not including shared spaces, such as plan review areas, conference rooms, meeting areas, hallways, and restrooms.

Provide a suitably sized, open meeting area, including tables and folding chairs to accommodate regularly scheduled meetings of 25 people, as approved by the engineer.

Provide 10 workstations, including a lockable desk, shelf, and fireproof 4-drawer file cabinet. Provide 5 private rooms, equipped, in addition to the above, with a four-shelf bookcase, a large lockable metal storage cabinet, and a 48" x 36" whiteboard with dry-erase markers. These rooms shall have an interior door with a lockset.

Provide one ergonomically correct office chair in working condition, with, at a minimum, the following features, for each workstation:

1. Five-legged base with casters.
2. High backrest.
3. Seat adjustable from 15 inches (381 mm) to 22 inches (558 mm) from the floor with a seamless waterfall, rounded front edge.
4. Adjustable arms.

Provide the field office with 5 high-speed computer Internet connection(s) at a setting of no less than 1 MB. The high-speed Internet connection must consist of a "small office/ home networking" package. The package shall include a Dynamic IP Address (DHCP) and a Modem Router. The package must accommodate IPSec based VPN products.

Provide and install into the field office 6 two-line programmable touch-tone telephones and telephone exchanges with local and long distance service. At least one will be a cordless type operating at no less than 2.4 GHz. The voice exchanges are to be configured so that the incoming calls for any voice exchange utilize an open exchange. Furnish a voice mail answering service. The telephones and the communication services are for the sole use of the department staff.

Furnish a fax machine with a dedicated exchange service and the ability to copy, auto-feed, fax, and print on paper up to 11" x 17" in size.

Provide one new, leased, high-capacity color printer/photocopier/scanner capable of printing and copying up to 11" x 17" paper, with the ability to perform duplexing, sorting, stapling, and multiple sheet auto feeding, with a built-in scanner with the

capability to scan black and white and color up to 11" x 17" at a minimum of 600 dpi, and with a network connection, as approved by the engineer.

Provide and maintain an adequate supply of bottled drinking water. Provide one 18 cubic foot minimum size refrigerator with freezer, microwave and one coat rack.

Maintain the field office equipment and provide supplies for the fax machine and photocopiers as requested by the engineer.

Provide for the professional cleaning of the field office during regular business hours twice monthly.

Provide clearly marked recycling and waste receptacles within the field office, and separate recycling and waste dumpsters near the field office. Cover outdoor containers to keep out rain, snow, and wind-driven debris. Provide regularly scheduled recycling and waste pick-up.

Equip these facilities with suitable artificial lighting and adequate heating and air conditioning equipment along with the necessary fuel to maintain a minimum temperature of 68F (20C) during the hours occupied.

The contractor may furnish, if the contract allows, the field offices jointly in cooperation with other contractors on designated projects.

Do not combine field offices, or combine them with, or attach them to, any buildings used by the contractor, unless the engineer allows in writing.

The field office shall remain available for department use for 60 calendar days beyond the contract completion date or until the engineer approves its closure or removal.

These field facilities are for the sole use of the department.

B.2 Permanent/Fixed Facility Field Office

Provide a permanent/fixed facility that is an existing office building, or an existing building converted to office-type use, meeting all applicable codes and standards, located not more than one-half-mile from the project limits and approved by the engineer.

Maintain interior sanitary facilities conforming to State and local health requirements, in clean and good working condition, and stock with sanitary supplies for the duration of the contract, as also approved by the engineer.

Include an adjacent, no-fee, lighted parking lot large enough to accommodate the needs of the field offices at peak usage, as approved by the engineer. Maintain the parking lot and egress, including snow removal.

Do not begin construction operations requiring the use of the field offices by the department until the required field offices are furnished, fully equipped, and made ready for use as the engineer directs.

B.3 Temporary/Modular Facility Field Office

Provide rented, modular field offices that are designed as mobile office units, no more than five years old, or other engineer-approved types that are floored, roofed, and weatherproofed, and have a minimum ceiling height of 8 feet-0 inches (2.44 m). Provide R-11 or better insulation in all walls, floors, and ceilings. Provide skirting around the perimeter of the mobile office units.

Equip these facilities with suitable artificial lighting and adequate central heating and cooling equipment designed to maintain a comfortable temperature during occupied hours, at the approval of the engineer.

Provide electrical power by connecting to the existing power grid.

Provide and maintain suitable interior or exterior sanitary facilities conforming to State and local health requirements, in clean and good working condition, and stock with sanitary supplies including hand sanitizer for the duration of the contract, at the approval of the engineer.

Provide a sufficient number and size of operable windows, located in order to promote effective cross ventilation, and equipped with required locks and metal screens. Windows are to be of the horizontal slider type. All rooms are to have at least one window.

The exterior doors shall be constructed of steel and equipped with heavy-duty locks with attached security plates. There shall be vandal-resistant exterior lights located at all exterior doors. Provide steps at all exterior doors.

Provide a level, graded CABC (at a minimum) site for field offices, including an adjacent, no-fee parking lot large enough to accommodate the needs of the field offices at peak usage, as approved by the engineer. Maintain the parking lot and egress, including snow removal.

Anchor or secure the field offices to prevent them from overturning by high velocity winds. Locate the field office in a dust-reduced and vibration-free environment.

Do not begin construction operations requiring the use of the field offices by the department until the required field offices are furnished, leveled, and secured in the approved locations, fully equipped, and made ready for use as the engineer directs.

C (Vacant)

D Measurement

The department will measure Field Office Fixed as a single lump sum unit for the entire field office(s), acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.001	Field Office Fixed	LS

Payment is full compensation for providing, equipping, securing, and maintaining the facility; and for providing all incidentals and sundries, including but not limited to utilities, fuel, security, toilet facilities, and office supplies as required, either independently or jointly, for the time specified in section B.1.

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- 91. Survey Project 1030-11-77, Item SPV.0105.012; Project 1030-11-78, Item SPV.0105.014; Project 1030-11-70, Item SPV.0105.016; Project 1030-11-74, Item SPV.0105.018; Project 1030-25-77, Item SPV.0105.020; Project 1030-25-78, Item SPV.0105.022.**

A Description

Standard spec 105.6 and 650 are modified 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. The contractor shall perform all survey required to lay out and construct the work under this contract, subject to engineer's approval.

The department may choose to perform quality assurance surveys during the project. These quality assurance surveys do not relieve the contractor of 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

Conform to standard spec 650.3 and as modified in this special provision.

Replace standard spec 650.3.3.1 with the following:

Under the Survey Project bid item the contractor may substitute global positioning system (GPS) machine guidance for conventional subgrade staking on all or part of the

work. The engineer may require the contractor to revert 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.

Add the following to standard spec 650.3.3.3.3.

The contractor shall provide a GPS rover to the department for department personnel use to verify contractor survey.

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 to the contractor. At any time after the contract is awarded the contractor may request available survey and design information. The department will provide that information within 5 business days of receiving the contractor's request. The department incurs no additional liability beyond that specified in standard spec 105.6 or standard spec 650 by having provided this additional information.

Add the following to standard spec 650.3.3.3.4.2:

The contractor shall provide GPS rover training to department personnel sufficient to the point that the GPS rover can be utilized by the department to verify contractor survey.

Add the following to standard spec 650.3.3.3.6.2:

The contractor shall record all subgrade elevation checks and submit a hard copy to the engineer at the completion of the project.

Additional requirements:

Project 1030-11-77

Additional work shall consist of survey associated with monitoring surface settlement markers for microtunneling.

Projects 1030-11-70, 1030-11-74, 1030-11-77, 1030-11-78, 1030-25-77, 1030-25-78

Additional work shall consist of obtaining pipe invert stations, offsets, and elevations at the locations of Sealing Pipe Stubs, draintile standpipes, and draintile manholes, and reporting them to Joshua LeVeque, WisDOT Project Manager, at joshua.leveque@dot.wi.gov, for use on subsequent IH 94 Mainline projects.

D Measurement

Replace standard spec 650.4 with the following:

The department will measure Survey Project (Project) as separate single lump sum unit of work for survey, 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.0105.012	Survey Project 1030-11-77	LS
SPV.0105.014	Survey Project 1030-11-78	LS
SPV.0105.016	Survey Project 1030-11-70	LS
SPV.0105.018	Survey Project 1030-11-74	LS
SPV.0105.020	Survey Project 1030-25-77	LS
SPV.0105.022	Survey Project 1030-25-78	LS

Payment is full compensation for performing all survey work required to lay out and construct all work under this contract.

92. Pavement Cleanup Project 1030-11-77, Item SPV.0105.013; Project 1030-11-78, Item SPV.0105.015; Project 1030-11-70, Item SPV.0105.017; Project 1030-11-74, Item SPV.0105.019; Project 1030-25-77, Item SPV.0105.021; Project 1030-25-78, Item SPV.0105.023.

A Description

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

B Materials

B.1 Pavement Cleanup

Furnish a vacuum-type street sweeper equipped with a power broom, water spray system, and a vacuum collection system.

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

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

C Construction

C.1 Pavement Cleanup

Keep all pavements, curb lanes and gutters both closed and open to public traffic within the job-site boundaries free of dust and debris generated from any activity under the contract. Keep all pavements, curb lanes and gutters adjacent to the project free of dust and debris that are affected by land disturbing, dust generating activities, as defined in the contractor's dust control implementation plan.

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

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

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

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

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

D Measurement

The department will measure Pavement Cleanup Project (Project) as a single lump sum unit of work, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.013	Pavement Cleanup Project 1030-11-77	LS
SPV.0105.015	Pavement Cleanup Project 1030-11-78	LS
SPV.0105.017	Pavement Cleanup Project 1030-11-70	LS
SPV.0105.019	Pavement Cleanup Project 1030-11-74	LS
SPV.0105.021	Pavement Cleanup Project 1030-25-77	LS
SPV.0105.023	Pavement Cleanup Project 1030-25-78	LS

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

Payment is full compensation for surveillance, mobilization, sweeping, disposing of materials and any other labor, tools or equipment necessary to complete the work.

93. Flashing Solar Beacon Assembly Station 24+00 RT, Item SPV.0105.096; Station 24+00 LT, Item SPV.0105.097; Station 57+75 RT, Item SPV.0105.601; Station 57+75 LT, Item SPV.0105.602.

A Description

This special provision describes furnishing, installing, and putting into operation a flashing solar beacon system, in accordance to standard spec 651 to 658 and as hereinafter provided.

The solar powered beacon shall consist of a solar panel, amber LED signal, battery, and shall be designed to operate 24 hours a day and 7 days per week.

B Materials

Furnish materials for the Flashing Solar Beacon Assembly, at each location shown on the plans, as follows:

1. Solar Panel

- a. The solar panel shall be up to 13.5"x15" in size and provide up to 13.5 watts peak total output.
- b. The solar panel shall be mounted to an aluminum plate and bracket at an angle of 45°- 60° to provide maximum output.
- c. All fasteners used shall be anti-vandal.
- d. All solar panel connectors shall conform to Ingress Protection, IP-67 rating, dust proof, and protected from temporary immersion in water up to 1 meter deep for 30 minutes. Connectors shall be Deutsch DTM series.
- e. Solar panels shall be TAPCO # 2772-2 or equal.

2. LED Beacon

- a. The signal beacon shall consist of the head, amber lens, visor, signal closure cap, and mounting hardware for a 4.5" OD aluminum pole. The lens shall be a 3-12VDC 8" or 12" amber LED beacon using AlInGaP technology.
- b. The head shall be a one piece polycarbonate shell with the polycarbonate door using stainless steel hinge pins. Thumbscrews shall hold the door against the body.
- c. The visor shall be a one piece polycarbonate unit which shall be attached at four points to the head door.
- d. The LED Beacon shall be TAPCO#2406 or equal.

3. Control Circuit

- a. The control circuit shall have the capability of independently flashing up to two independent outputs. The LED light outputs and flash pattern shall be completely programmable. The LED light output and duty cycle shall be programmable.
- b. The flashing output shall be 50 to 60 flashes per minute with a 100 – 500 millisecond duration on time. The output shall reach the output current as programmed for the duration of the pulse.

- c. The control circuit shall automatically adjust LED output for maximum visibility for both day and night time operations. The day and night time mode will automatically be determined by solar panel charge input.
- d. The control circuit shall be installed in an IP67 rated enclosure.
- e. All circuit connectors shall conform to Ingress Protection, IP-67 rating, dust proof, and protected from temporary immersion in water up to 3 feet deep for 30 minutes. Connectors shall be Deutsch DTM series.
- f. The control circuit shall be TAPCO #3204-0009 or equal.

4. Battery

- a. Battery unit shall be a 4.8 volt 14000mAH Nickel Metal Hydride (NiMH).
- b. All batteries shall be sealed in a plastic film to provide moisture and corrosion resistance.
- c. All batteries shall operate between the temperatures of 20°C and +60°C.
- d. All battery connectors shall conform to Ingress Protection, IP-67 rating, dust proof, and protected from temporary immersion in water up to 3 feet deep for 30 minutes. Connectors shall be Deutsch DTM series.
- e. Batteries shall be internally fused to prevent short circuit.
- f. Battery assembly shall be equipped with a thermister for thermal protection during charge cycles.
- g. All batteries used shall be TAPCO #2795-6 or equal.

5. Pedestal Shaft

- a. Shall be a standard 4.5" OD aluminum pedestal pole with one end threaded for easy installation into a pedestal base.
- b. Shall be 15' Schedule 80 pipe raw aluminum.

6. Pedestal Base

- a. The pedestal base shall be a TP-358 cast aluminum pedestals mount on a concrete base attached by four internal anchor bolts imbedded in the base.
- b. The base shall have a large 8.5" square hand hole cover allowing access to the interior of the base.

7. Anchor Bolts

- a. The anchor bolts shall be galvanized steel 1" x 42".
- b. Set of 4 includes lock washer and nut.

C Construction

Install in accordance to the manufacturer's specifications and instructions.

Furnish and install W2-1 traffic signs per state plates with the assembly for a complete system.

The contractor is responsible for flasher programming.

Submit shop drawings to Tom Heydel, WisDOT 262-548-6763 for approval prior to installation.

D Measurement

The department will measure Flashing Solar Beacon Assembly (location) as a single lump sum unit of work, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.096	Flashing Solar Beacon Assembly Station 24+00 RT	LS
SPV.0105.097	Flashing Solar Beacon Assembly Station 24+00 LT	LS
SPV.0105.601	Flashing Solar Beacon Assembly Station 57+75 RT	LS
SPV.0105.602	Flashing Solar Beacon Assembly Station 57+75 LT	LS

Payment is full compensation for furnishing, installing, and placing into operation each flashing solar beacon assembly; for furnishing all solar panels, LED beacons, control circuits, batteries, concrete bases, pedestal bases, pedestal shafts, and anchor bolts; for furnishing all mounting hardware; for flasher cabinet wiring and programming; for excavation, backfilling, restoration, and disposal of surplus materials.

The W2-1 traffic signs used in the installation of the Flashing Solar Beacon Assembly shall be measured and paid separately under their own specific item.

94. Freeway Lighting Integrator ID 1030-11-70, Item SPV.0105.111; ID 1030-11-74, Item SPV.0105.112.

A Description

These special provisions describe coordinating freeway lighting with various parties; record keeping, and documentation. Where the department is responsible for freeway lighting operation, maintenance, or utility locates on existing systems or systems overlapping project boundaries, the contractor's freeway lighting integrator will serve as the contractor's liaison to the department's electrical operations unit.

B Personnel Qualifications

Assign personnel experienced in underground utility construction and department freeway lighting specifications and practices.

C Construction

At any one time during the project, the contractor shall assign one individual person as the freeway lighting integrator.

The freeway lighting integrator shall:

1. Familiarize himself with the location and nature of existing lighting circuits. This familiarity shall include the extent of any lighting system that overlaps project limits.
2. Maintain a file of applicable permits or licenses issued to the contractor, and convey copies to the engineer.
3. Keep with him at all times a contact list of affected lighting personnel.
4. Maintain a record of tagouts and the clearance of tagouts.
5. Interface with department electrical personnel to determine how contract limits might affect maintenance or operation of existing systems.
6. Maintain ongoing contact with the department's Diggers' Hotline Coordinator to ensure that each of the two persons knows that all requested utility locates are marked in the field by the appropriate party. The intent here is to assure coordination. This special provision does not transfer additional utility locating responsibilities to the contractor, beyond those responsibilities already assigned to him by other provisions of the contract.
7. Inform the department of any lighting outages, including outside the project limits where a lighting system crosses the project boundary.
8. Maintain in any format real-time records of existing, removed and new lighting facilities. Include utility service extensions. Additional required records will include temporary connections and their ultimate removal.
9. Maintain records of tests, including: "meg" tests, amperage draw per circuit leg, voltage reading at the disconnect, and voltage reading at the furthest pole per circuit leg. Convey these records at time of acceptance or partial acceptance.
10. At the time of acceptance or partial acceptance, convey as-built drawings in both the following formats: plan redlines and .PDF electronic. Include utility service extensions.
11. Secure copies of operators manuals, tear sheets, etc. as may be provided by manufacturers of some lighting materials, and convey a minimum of three sets to the department.
12. Work with the engineer to notify department electrical personnel of acceptance or partial acceptance.
13. Perform related duties as may be needed to ensure continuity of freeway lighting during construction, and orderly transfer upon completion.

D Measurement

The department will measure Freeway Lighting Integrator (ID) as a single complete lump sum unit of work for freeway lighting integrator, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.111	Freeway Lighting Integrator ID 1030-11-70	LS
SPV.0105.112	Freeway Lighting Integrator ID 1030-11-74	LS

Payment is full compensation for personnel costs; and for furnishing all required coordination, record-keeping, and documentation.

95. Geogrid Reinforcement, Item SPV.0180.001.

A Description

This special provision describes furnishing and installing geogrids for subgrade stabilization, base reinforcement, or pavement structure applications in accordance to the plans, standard spec 645, and as hereinafter provided.

B Materials

Provide geogrid that consists of either single or joined multiple layers of a uniform rectangular grid of bonded, formed, or fused polymer tensile strands crossing with a nominal right angle orientation. The polymer shall consist of polyester, polypropylene, polyamide, or polyethylene. The grid shall maintain dimensional stability during handling, placing, and installation. The geogrid shall be insect, rodent, mildew, and rot resistant. Minimum geogrid width shall be 6.0 feet.

Provide geogrid that complies with the following physical properties:

Test	Method	Value ⁽¹⁾
Tensile Strength at 5% Strain, Both Principal Directions (lb/ft)	ASTM D 4595 ⁽²⁾	450 min.
Flexural Rigidity Both Principal Directions (mg-cm)	ASTM D 1388 ⁽³⁾	150,000 min.
Aperture Area (in ²)	Inside Measurement ⁽⁴⁾	5.0 max
Aperture Dimension (in)	Inside Measurement ⁽⁴⁾	0.5 min.

⁽¹⁾ All numerical values represent minimum/maximum average roll values, i.e. the average minimum test results on any roll in a lot should meet or exceed the minimum specified value.

⁽²⁾ The tensile strength (T) of a joined multi-layered geogrid shall be computed using the following equation:

$$T = n(f)t$$

where

n = the number of individual layers in the joined multi-layered geogrid,

t = the tensile strength of a single layer of geogrid as determined using testing method ASTM D4595, and

f = reduction factor based on the number of layers comprising the multi-layered system and determined by the equation $f = 1.00 - [0.04(n - 1)]$.

(3) Values shall be determined by Option "A" (Cantilever Test) of testing method ASTM D1388 using test specimens that are 36 inches ± 0.04 inch long. Test specimen widths for differing geogrids shall be variable and equal to 1 element plus $\frac{1}{2}$ the aperture width on both sides of that element. An element is defined as the minimum number of parallel strands that form a distinguishable repeating pattern.

(4) Aperture Area and Aperture Dimension for joined multi-layer geogrids shall be determined based on measurement of a single layer of the geogrid.

Protect the geogrid from ultraviolet radiation and from damage due to shipping and handling. Keep the geogrid dry until it is installed. The geogrid rolls shall be clearly marked to identify the material contained.

Deliver a sample of the geogrid material to the engineer at least 10 days prior to its incorporation into the work. At the same time, furnish a manufacturer's Certified Report of Test or Analysis that verifies that the geogrid delivered for use on the work meets the above requirements. Samples of geogrid for test purposes will be obtained from the job site for each 10,000 square yards or portions thereof used on the contract.

C Construction

Prior to placement of the geogrid, bring the indicated placement surface to the required lines, grades, and dimensions as shown on the plans. Smooth and shape the surface to eliminate any rocks, clods, roots, or other items that may cause damage to the geogrid during placement or covering.

Place the geogrid on the prepared surface at the locations and to the limits as shown on the plans. After placement, pull the geogrid taut and secure it using pins, clips, staples, or other devices to prevent movement or displacement. Place parallel strips of geogrid with a minimum overlap of 24 inches. Lap butt joints between roll ends a minimum of 12 inches. Fasten all lapped sections together by using ties, straps, clips, or other devices to develop a secure joint that meets the approval of the engineer. No vehicles or construction equipment shall be permitted to operate directly on the geogrid.

Cover small rips, tears, or defects in the geogrid with an additional section of geogrid; secure the additional geogrid in place so that it overlaps the damaged area by at least 3 feet in all directions. Remove and replace geogrid sections with large rips, tears, defects, or other damage at the direction of the engineer. All costs to repair or replace damaged or defective geogrid shall be the responsibility of the contractor.

After placement, cover the geogrid to the indicated depth with the type of material required on the plans or in the special provisions. Placing, spreading, and compacting of this material shall comply with the applicable sections of the standard specifications or special provisions except that the initial lift of material placed on the geogrid must be at least 4 inches. Place, spread, and compact the required backfill material so that the geogrid is not displaced or damaged. The engineer may require changes in equipment and/or operations to prevent such damage or displacement.

D Measurement

The department will measure Geogrid Reinforcement by the square yard of surface area upon which the geogrid has been placed, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.001	Geogrid Reinforcement	SY

Payment is full compensation for furnishing, transporting, and installing the geogrid; and for furnishing and installing all devices and materials necessary to join or secure the geogrid in place.

96. Geotextile Fabric Type FF, Item SPV.0180.002.

A Description

This special provision describes furnishing, installing and removing geotextile fabric and fabric hold down systems for filtering storm water, as shown in the plans and as hereinafter provided.

B Materials

Furnish type FF geotextile fabrics conforming to standard spec 645.2.1 except use a woven polypropylene fabric. Furnish type FF geotextile fabrics selected from the department's erosion control product acceptability list (PAL). Obtain copies of the erosion control PAL and prequalification procedure from the Bureau of Technical Services.

C Construction

Meet the pertinent requirements as set forth in standard spec 645.3 and as follows:

Install in accordance to the plan details for the intended use in such a manner to preclude ripping and tearing of the fabric, or otherwise rendering the fabric or assembly ineffective for its intended use.

D Measurement

The department will measure Geotextile Fabric, Type FF by the square yard of surface area of the fabric placed, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.002	Geotextile Fabric, Type FF	SY

Payment is full compensation for furnishing, transporting, installing and removing the fabric and fabric hold down systems.

97. Removing Rumble Strips, Item SPV.0180.004.**A Description**

Remove existing rumble strips located in existing concrete shoulder along IH 94, as shown on the plans, and in accordance to the pertinent provisions of standard spec 204, and as hereinafter provided. The diamond ground area shall be filled with asphaltic surface temporary.

B Materials

Furnish asphaltic surface temporary that is in accordance to the pertinent provisions of this contract and standard spec 465.

C Construction

The existing rumble strips shall be diamond ground to a 0.75-inch minimum depth below the lowest corrugation. Clean the diamond ground area prior to placement of tack coat. Fill the ground area with asphaltic surface temporary to provide a smooth driving surface as directed by the engineer.

D Measurement

The department will measure Removing Rumble Strips by the square yard of existing rumble strip, prior to removal by diamond grinding, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.004	Removing Rumble Strips	SY

Payment is full compensation for diamond grinding existing rumble strips; cleaning and tacking; furnishing, placing and compacting asphaltic surface temporary; and for disposal of all materials.

98. Rootstock Protection, Item SPV.0180.005.**A Description**

- (1) This special provision describes the installation of rootstock protection for wetland plantings.

B Materials

- (1) Furnish posts that consist of 1 inch by 2 inch by 5 foot wooden stakes. Furnish cross members that consist of biodegradable, natural organic fiber bailing twine.

C Construction

- (1) Install rootstock protection prior to the rootstock planting. Install posts a minimum of 2 feet into the ground or to a depth that secures the post and resists being pushed over. Install rootstock protection in such a manner as to provide a grid like pattern 10 feet by 20 feet through the area of the rootstock plantings. Extend the perimeter of the Rootstock Protection to a minimum of 5 feet in all directions beyond the limits of the rootstock plantings. Attach bailing twine, used as cross members, to all posts as shown in the plan. Attach bailing twine to the posts using knots or any other means approved by the engineer so that no more than 3 cross members may be affected if any one cross member breaks or becomes unattached. Use means approved by the engineer when bailing twine is attached to all intermediate posts. Maintain rootstock protection through the life of the contract, as needed, or within 24 hours of notification by the engineer.

D Measurement

- (1) The department will measure Rootstock Protection by the square yard acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.005	Rootstock Protection	SY

- (2) Payment is full compensation for furnishing all materials, installing all posts, cross members, disposal of surplus materials; and for maintaining the Rootstock Protection through the life of the contract.

99. Mulching Special, Item SPV.0180.006.**A Description**

This work is in accordance to the standard spec 627, except as hereinafter modified.

Use Mulching Special for the detention pond seeding zones.

B Materials

Mulching material for the detention pond shall consist of clean straw free of debris, with no weed seed, including reed canary grass, purple loosestrife, box elder, buckthorn species, phragmites (tall reed grass) or other invasive species.

C Construction

Place mulch the same day of seeding. Spread the straw uniformly over the seeded zones as indicated on the plan, to a loose depth of ½ to 1 inch, by blowing from a machine, by hand, or as directed by the engineer.

D Measurement

The department will measure Mulching Special by the square yard acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.006	Mulching Special	SY

Payment for Mulching Special is full compensation for providing all materials; for furnishing all hauling, placing, and spreading of the mulch material; and for maintaining the work and repairing all damaged areas.

100. Base Aggregate Dense 1 ¼-Inch Special, Item SPV.0195.002.

A Description

This special provision describes constructing a dense graded base in accordance to standard spec 305 and standard spec 107.14 and as modified in this special provision.

B Materials

Replace standard spec 305.2.2.1 with the following:

Except for reclaimed asphaltic pavement, use 1¼ inch base aggregate that conforms to the following gradation requirements:

	Percent Passing By Weight
1 1/4 inch	95 - 100
1 inch	---
3/4 inch	70 - 90
3/8 inch	45 - 75
No. 4	30 - 60
No. 10	20 - 40
No. 40	7 - 25
No. 200	2 - 12 ^{[1][2]}

^[1] Limited to a maximum of 8.0 percent for base placed between old and new pavement.

^[2] 3.0-10.0 percent passing when base is ≥ 50% crushed gravel.

C (Vacant)

D Measurement

The department will measure Base Aggregate Dense 1 ¼-Inch Special by the ton, acceptably completed.

E Payment

Replace standard spec 305.5 (1) 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.0195.002	Base Aggregate Dense 1 ¼-Inch Special	TON

Payment is full compensation according to standard spec 305.5.

101. Select Subbase, Item SPV.0195.006.

A Description

This special provision describes constructing a dense graded base in accordance to standard spec 305 and standard spec 107.14 and as modified in this special provision.

B Materials

Replace standard spec 305.2.2.1 with the following:

Except for reclaimed asphaltic pavement, use 1¼ inch base aggregate that conforms to the following gradation requirements:

	Percent Passing By Weight
1 1/4 inch	95 - 100
1 inch	---
3/4 inch	70 - 90
3/8 inch	45 - 75
No. 4	30 - 60
No. 10	20 - 40
No. 40	7 - 25
No. 200	2 - 12 ^{[1][2]}

^[1] Limited to a maximum of 8.0 percent for base placed between old and new pavement.

^[2] 3.0-10.0 percent passing when base is ≥ 50% crushed gravel.

C (Vacant)

D Measurement

The department will measure Select Subbase by the ton acceptably completed.

E Payment

Replace standard spec 305.5 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.0195.006	Select Subbase	TON

Payment is full compensation for preparing the foundation; and for stockpiling, placing, shaping, compacting, and maintaining the base.

102. Manholes 4-FT Diameter Special, Item SPV.0200.001.

A Description

This special provision describes furnishing and constructing Manholes 4-FT Diameter Special for use with existing pipe underdrain in accordance to standard spec 611 and as specified herein.

B Materials

Furnish Manholes 4-FT Diameter Special in accordance to standard spec 611.2 and the standard detail drawings for Manholes 4-FT Diameter.

C Construction

Construct Manholes 4-FT Diameter Special in accordance to standard spec 611.3 and the standard detail drawings for Manholes 4-FT Diameter.

D Measurement

The department will measure Manholes 4-FT Diameter Special by the vertical foot of manhole acceptably completed, to the nearest 0.1 foot as defined by the "Depth as Shown on Plans" dimension per standard detail drawing. The "Depth as Shown on Plans" will be measured by the engineer in the field upon locating the existing drain tile.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0200.001	Manholes 4-FT Diameter Special	VF

Payment for Manholes 4-FT Diameter Special is full compensation for providing and placing all materials, including all masonry, connections, steps, and other fittings; for furnishing all excavating, backfilling, disposing of surplus material, and for cleaning out and restoring the work site; except that the department will pay for covers, including frames and lids and adjusting the covers separately.

**ADDITIONAL SPECIAL PROVISION 1 (ASP 1)
FOR TRANSPORTATION ALLIANCE FOR NEW SOLUTIONS (TrANS)
PROGRAM EMPLOYMENT PLACEMENTS AND APPRENTICESHIPS**

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Section 5204(e) – Surface Transportation Workforce Development Training and Education, provides for 100 percent Federal funding if the core program funds are used for training, education, or workforce development purposes, including “pipeline” activities. The core programs includes: Congestion Mitigation and Air Quality Improvement (CMAQ) Program, Highway Bridge Program (HBP), Interstate Maintenance (IM), National Highway System (NHS), and Surface Transportation Program (STP). These workforce development activities cover surface transportation workers, including OJT/SS programs for women and minorities as authorized in 23 U.S.C. §140(b).

TrANS is an employment program originally established in 1995 in Southeastern Wisconsin. Currently TrANS has expanded to include TrANS program locations to serve contractors in Southeast (Milwaukee and surrounding counties), Southcentral (Dane County and surrounding counties including Rock County), and most Northeastern Wisconsin counties from locations in Keshena, Rhinelander and surrounding far Northern areas. TrANS attempts to meet contractor’s needs in other geographic locations as possible. It is an industry driven plan of services to address the outreach, preparation, placement and retention of women, minorities and non-minorities as laborers and apprentices in the highway skilled trades. These candidate preparation and contractor coordination services are provided by community based organizations. For a list of the TrANS Coordinators contact the Disadvantaged Business Enterprise Office at (414) 438-4583 in Milwaukee or (608) 266-6961 in Madison. These services are provided to you at no cost.

I. BASIC CONCEPTS

Training reimbursements to employing contractors for new placements, rehires or promotions to apprentice of TrANS Program graduates will be made as follows:

- 1) **On-the-Job Training, Item ASP.1T0G, ASP 1 Graduate.** At the rate of \$5.00 per hour on federal aid projects when TrANS graduates are initially hired, or seasonally rehired, as unskilled laborers or the equivalent.

Eligibility and Duration: To the employing contractor, for up to 2000 hours from the point of initial hire as a TrANS program placement.

Contract Goal: To maintain the intent of the Equal Employment Opportunity program, it is a goal that 6 (number) TrANS Graduate(s) be utilized on this contract.

- 2) **On-the-Job Training, Item ASP.1T0A, ASP 1 Apprentice.** At the rate of \$5.00 per hour on federal aid projects at the point when an employee who came out of the TrANS Program is subsequently entered into an apprenticeship contract in an underutilized skilled trade (this will include the Skilled Laborer Apprenticeship when that standard is implemented).

Eligibility and Duration: To the employing contractor, for the length of time the TrANS graduate is in apprentice status.

Contract Goal: To maintain the intent of the Equal Employment Opportunity program, it is a goal that 6 (number) TrANS Apprentice(s) be utilized on this contract.

- 3) The maximum duration of reimbursement is two years as a TrANS graduate plus time in apprentice status.
- 4) If a TrANS program is not available in the contractor's area and another training program is utilized, payment of On-the-Job Training hours may be approved by the Wisconsin Department of Transportation (WisDOT) if the training program meets the established acceptance criteria. Only On-the-Job Training Hours accumulated after WisDOT approval will be reimbursed as specified under Items ASP.1T0G and ASP.1T0A. For more information, contact the Disadvantaged Business Enterprise Office at the phone numbers listed above.
- 5) WisDOT reserves the right to deny payments under items ASP.1T0G and ASP.1T0A if the contractor either fails to provide training or there is evidence of a lack of good faith in meeting the requirements of this training special provision.

I. RATIONALE AND SPECIAL NOTE

The \$5.00 per hour now being paid for TrANS placements is intended to cover the duration of two years to allow for reaching entry-level laborer status. An additional incentive, the \$5.00 rate, would promote movement into the underutilized skilled trades' apprenticeships and applies until the individual completes their apprenticeship. These incentives benefit TrANS candidates by giving them a better opportunity to enter a skilled trade; benefits contractors who will be assisted in meeting their EEO profiles and goals; and benefits the public who will see the program reinforce larger public-private employment reform in Wisconsin. The pool of TrANS graduates was created for the purpose of addressing underutilization in the skilled trades, an objective that is further reinforced by a parallel retention pilot program, known as the Companywide Reporting. *Whether or not reimbursement is involved, the WisDOT reassures contractors who are in the Companywide Program that TrANS placements still contribute toward fulfilling the new hire goal of 50% women and minorities.* Based on data administered by United States Department of Labor (US DOL), the highway skilled trades remain underutilized for women statewide (less than 6.9%); and for minorities in all counties (% varies by county).

NOTE: *Unless using other advancement strategies, contractors are encouraged to use some or all of this monetary incentive to offset the cut in hourly wages an individual may incur when entering an apprenticeship if the full general laborer hourly rate has been previously paid. No special accounting measures are required.*

II. IMPLEMENTATION

The implementation of ASP 1 is intended to cover only the amount of time it takes for underutilization to be resolved across the trades. This will be measured annually at the county and/or state levels using data administered by WisDWD in relation to goals set by the USDOL-

OFCCP. With appropriate state and federal approvals, we may also do some measurement at the company level.

It is the contractor's responsibility to note on their Certified Payrolls if their employee is a TrANS graduate or a TrANS apprentice. The District EEO Coordinators utilize the information on the Certified Payrolls to track the hours accumulated by TrANS Graduates and TrANS apprentices on WisDOT contracts. Payment under this ASP 1 is made based on the hours recorded off of the Certified Payrolls. Tracking may eventually include improved linkages with the WisDWD apprentice database, information from company and committee level sources.

TrANS is nondiscriminatory by regulation, and is a tool for optional use by contractors to address the underutilization of women and minorities as laborers and apprentices in our industry's skilled trades.

IV. TRANS TRAINING

As part of the contractor's equal employment opportunity affirmative action program, training shall be provided to employees enrolled in apprenticeship and on-the-job training programs as follows:

The contractor shall provide on-the-job training aimed at developing full journey workers in the type of trade or job classifications involved. In the event the contractor subcontracts a portion of the contract work, the contractor shall determine how many, if any, of the trainees are to be trained by the subcontractor provided, however, that the contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The contractor shall also insure that this training special provision is made applicable to such subcontract.

Training and upgrading of minorities and women toward journey workers status is a primary objective of this training special provision. Accordingly, the contractor shall make every effort to enroll minority trainees and women (e.g., by conducting systematic and direct recruitment through public and private sources likely to yield minority trainees and women trainees); to the extent such persons are available within a reasonable area of recruitment. The contractor will be given an opportunity and will be responsible for demonstrating the steps that they have taken in pursuance thereof, prior to determination as to whether the contractor is in compliance with this training special provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which they have successfully completed a training course leading to journey workers status or in which they have been employed as a journey worker. The contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used, the contractor's records should document the findings in each case.

V. APPRENTICESHIP TRAINING

The Federal Highway Administration's (FHWA) policy is to require full use of all available training and skill improvement opportunities to assure increased participation of minority groups, disadvantaged persons and women in all phases of the highway construction industry. The FHWA On-the-Job Training (OJT) Program requires the State transportation agencies (STAs) to establish apprenticeships and training programs targeted to move women, minorities, and disadvantaged individuals into journey-level positions to ensure that a competent workforce is available to meet highway construction hiring needs, and to address the historical underrepresentation of members of these groups in highway construction skilled crafts.

The OJT Supportive Services (OJT/SS) Program was established in Title 23 Code of Federal Regulations (CFR), Part 230) to supplement the OJT program and support STA training programs by providing services to highway construction contractors and assistance to highway construction apprentices and trainees. The primary objectives of OJT/SS are:

- (1) To increase the overall effectiveness of the State highway agencies' approved training programs.
- (2) To seek other ways to increase the training opportunities for women, minorities, and disadvantaged individuals.

The STAs are responsible for establishing procedures, subject to the availability of Surface Transportation and Bridge Funds under 23 U.S.C. §140(b) (Nondiscrimination), for the provision of supportive services with respect to training programs approved under 23 CFR, Part 230(a) (Equal Employment Opportunity on Federal and Federal-aid Construction Contracts – including Supportive Services).

The contractor and subcontractor shall maintain records to demonstrate compliance with these apprenticeship requirements. Reasonable exemptions and modifications to and from any or all of these requirements will be determined by the Wisconsin Department of Transportation-Civil Rights Office. A request for an exemption or modification, with justification, shall be made in writing, addressed to WisDOT Civil Rights Office, 4802 Sheboygan Avenue, P.O. Box 7965, Rm. 451, Madison, WI 53707.

ADDITIONAL SPECIAL PROVISION 3 DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

1. Description

General

- a. The disadvantaged business enterprise (DBE) requirements of 49 CFR Part 26 apply to this contract. The department's DBE goal is shown on the cover of the bidding proposal. The contractor can meet the specified contract DBE goal by procuring services or materials from a DBE or by subcontracting work to a DBE. The department calculates the DBE participation as the dollar value of DBE participation included in the bid expressed as a percentage of the total contract bid amount.
- b. Under the contract, the contractor agrees to provide the assistance to participating DBE's in the following areas:
 - i. Produce accurate and complete quotes.
 - ii. Understand highway plans applicable to their work.
 - iii. Understand specifications and contract requirements applicable to their work.
 - iv. Understand contracting reporting requirements.
- c. The department encourages the contractor to assist and develop DBE firms to become fully knowledgeable contractors to successfully perform on its contracts.
- d. For information on the disadvantaged business program, visit the department's Civil Rights and Compliance Section website at:

<http://www.dot.wisconsin.gov/business/engrserv/dbe-main.htm>

2. Definitions

- a. Interpret these terms, used throughout this additional special provision, as follows:
 - i. **Bid Percentage:** The DBE percentage indicated in the bidding proposal at the time of bid.
 - ii. **DBE:** A disadvantaged business enterprise (DBE) certified as a DBE by the department and included on the department's list of certified DBE's who are determined to be ready, willing and able.
 - iii. **DBE goal:** The amount of DBE participation expected in the contract as shown on the cover of the Highway Work Proposal.
 - iv. **Discretionary Goal:** A contractor assigned DBE goal, typically abbreviated as "Disc" on the cover of the Highway Work Proposal, which is enforced as committed.
 - v. **Manufacturer:** A firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract.
 - vi. **Supplier:** A firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment required under the contract are bought, kept in stock, and regularly sold or leased to the public.
 - vii. **Voluntary Achievement:** The amount of DBE participation achieved and reported in the contract in excess of the assigned goal.

3. DBE Percentage Required at Bid Submission

Indicate the bid percentage (i.e. 0% through 100%) of DBE participation on the completed bidding proposal, including projects with discretionary goals. For electronic submittals, show the percentage in the miscellaneous data folder, Item 3, DBE Percent. For paper submittals, show the percentage on the sheet included after the schedule of items. By submission of the bid, the bidder contractually commits to DBE participation at or above the bid percentage, or certifies that they have utilized

comprehensive good faith efforts to solicit and utilize DBE firms to meet the DBE participation requirements of this contract proposal, and that the bid percentage is reflective of these good faith efforts. If the bidder does not indicate the bid percentage of DBE participation on the completed bidding proposal, the department will consider the bid irregular and may reject the bid.

4. Department's DBE Evaluation Process

a. Documentation Submittal

Within 10 business days after the notification of contract award, the contractor is to identify, by name, the DBE firms whose utilization is intended to satisfy this provision, the items of work of the DBE subcontract or supply agreement and the dollar value of those items of work by completing the Commitment to Subcontract to DBE Form [DT1506] and all necessary attachment A forms, as well as, Good Faith Waiver Form [DT1202] and supporting documentation as necessary. If the contractor fails to furnish the required forms within the specified time, the department may cancel the award. Delay in fulfilling this requirement is not a cause for extension of the contract time and shall not be used as a tool to delay execution.

i. Bidder Meets DBE Goal

If the bidder indicates that the contract DBE goal is met, after award and before execution, the department will evaluate the Commitment to Subcontract to DBE Form DT1506 and attachment A(s) to verify the actual DBE percentage achieved. If the DBE commitment is verified, the contract is eligible for execution with respect to the DBE commitment.

ii. Bidder Does Not Meet DBE Goal

- (1) If the bidder indicates a bid percentage on the Commitment to Subcontract to DBE Form [DT1506] that does not meet the contract DBE goal, the bidder must submit a Good Faith Waiver Form [DT1202] and supporting documentation. After award and before execution, the department will evaluate the bidder's DBE commitment and consider the bidder's good faith waiver request.
- (2) The department will review the bidder's good faith waiver request and notify the bidder of one of the following:
 - a. If the department grants a good faith waiver, the bid is eligible for contract execution with respect to DBE commitment.
 - b. If the department rejects the good faith waiver request, the department may declare the bid ineligible for execution. The department will provide a written explanation of why the good faith waiver request was rejected. The bidder may appeal the department's rejection as allowed under 7 a. & b.

5. Department's Criteria for Good Faith Effort

The Code of Federal Regulations {CFR}, 49 CFR Part 26-Appendix A, is the guiding regulation concerning good faith efforts. However, the federal regulations do not define "good faith" but states that bidder must actively and aggressively attempt to meet the goal. The federal regulations are general and do not include every factor or effort that can be considered. As a result, each state must establish its own processes and consider the factors established in its own process when making a determination of good faith.

- a. The department will only grant a good faith waiver if the bidder has made the effort, given the relevant circumstances under the contract that a bidder actively and aggressively seeking to meet the goal would make. The department will evaluate the bidder's good faith effort to determine whether a good faith waiver will be granted. The bidder must demonstrate, on the DT1202 that they have aggressively solicited DBE participation in an attempt to meet the contract DBE goal and attaining the stated DBE goal is not feasible.

- b. The department, in conjunction with industry stakeholders, has developed the following guidance for contractor good faith effort. The guidance and the attached appendices provide a framework for the actions required by all parties in the processing and evaluation of bidder's total efforts to achieve the project specific DBE goal prior to the bid letting date.
- c. Prime Contractors should:
 - i. Document all efforts and decisions made toward achieving the DBE goal on the contract. The bidder should use the Civil Rights & Compliance System [CRCS] and related WisDOT-approved DBE outreach tools, including the Bid Express Small Business Network, to foster DBE participation on all applicable contracts.
 - ii. Request quotes by identifying potential items to subcontract and solicit. Prime contractors are strongly encouraged to include in their initial contacts a single page including a detailed list of items for which they are accepting quotes, by project, within a letting. *See attached sample entitled "Sample Contractor Solicitation Letter" in Appendix A.* Prime contractors should also indicate a willingness to accept quotes in areas they are planning to perform themselves, **as required by federal rules**. In some cases, it might be appropriate to use DBE's to do work in a prime contractor's area of specialization.
 - (1) Solicit quotes through all reasonable and available means from certified DBE firms who match 'possible items to subcontract' and send copies to DBESS office, highlighting areas in which you are seeking quotes. Email is acceptable.
 - (2) SBN is the preferred outreach tool. <https://www.bidx.com/wi/main>. Other acceptable means include postal mail, email, fax, phone call.
 - a. Primes must ask DBE firms for a response in their solicitations. *See Sample Contractors Solicitation Letter* in Appendix. This letter can be included as an attachment to the SBN sub-quote request.
 - b. Solicit quotes at least 10 calendar days prior to the letting date {ideally two Fridays before the letting} to allow DBE firms sufficient time to respond. Prime contractors should contact DBE firms early, asking them if they need help in putting together a quote, or helping to arrange for equipment needs, or solve other problems.
 - (3) Second solicitation should take place within 5 days
 - a. An email solicitation is highly recommended for this second solicitation
 - (4) Upon request, provide interested DBE firms with adequate information about plans, specifications and the requirements of the contract by letter, information session, email, phone call and/or referral.
 - (5) When potential exists, advise interested DBE firms on how to obtain bonding, line of credit or insurance as may be requested.
 - (6) Document DBE firm's interest in quoting by taking appropriate steps to follow up initial solicitation with:
 - a. Email to all prospective DBE firms in relevant work areas
 - b. Phone call log to DBE firms who express interest via written response or call.
 - c. Fax/letter confirmation
 - d. Copy of the DBE quotes
 - e. Signed copy of Bid Express SBN Record of Subcontractor Outreach Effort.
- d. Evaluate DBE quotes as documentation is critical if the prime does not utilize the DBE firm's quote for any reason.
 - i. Evaluate DBE firm's capability to perform 'possible items to subcontract' using legitimate reasons, including but not limited to, **a discussion with the DBE firm** regarding its

- capabilities prior to the bid letting. If lack of capacity is your reason for not utilizing the DBE quote, you are required to contact the DBE directly regarding their ability to perform the work indicated in the UCP directory as their work area [NAICS code]; only the work area and/or NAICS code listed in the UCP directory will be counted for DBE credit. Documentation of the conversation is required.
- ii. In striving to meet a DBE conscious contract goal, prime contractors are expected to use DBE quotes that are responsive and reasonable. This includes DBE quotes that are not the low quote.
 - iii. **Special Circumstance:** Evaluation of DBE quotes with tied bid items. "Tied quotes are the condition in which a subcontractor submits quotes including multiple areas of expertise across multiple work areas noting that the items and price are tied. Typically this type of quoting represents a cost saving to the prime but is not clearly stated as a discount; tied quotes are usually presented as 'all or none' quote to the prime." When non-DBE subcontractors submit tied bid items in their quotes to the prime, the DBE firms' quote may seem not competitive. In such a case, the following steps are taken in comparing the relevant quotes. These are qualitative examples.
 - (1) Compare bid items common to both quotes, noting the reasonableness in the price comparison.
 - (2) Review quotes from other firms for the bid items not quoted by the DBE firm to see if combining both can provide the same competitive advantage that the tied bid items offered.
- e. After notification of contract award, submit '**Commitment to Subcontract**' form within the time period specified in the contract.
 - i. Provide the following information along with department form DT1202:
 - (1) The names, addresses, e-mail addresses, telephone numbers of DBE's contacted. The dates of both initial and follow-up contact. A printed copy of SBN solicitation is acceptable.
 - (2) A description of information provided to the DBE's regarding the plans, specifications, and estimated quantities for portions of the work to be performed by that DBE.
 - (3) Photocopies or electronic copies of all written solicitations to DBE's.
 - (4) Documentation of each quote received from a DBE and, if rejected, the reason for that rejection.
 - (5) Bidder attendance at any pre-solicitation or pre-bid meetings the department held to inform DBE's of participation opportunities available on the project.
 - f. The department's DBE Support Services Office is available by phone, email or in writing to request assistance in meeting the DBE goal:

DBE Support Services Office
6150 Fond du Lac Ave.
Milwaukee, WI 53218
Phone: 414-438-4583 / 608-266-6961
Fax: 414-438-5392
E-mail: DOTDBESupportServices@dot.wi.gov

6. Bidder's Appeal Process

- a. A bidder can appeal the department's decision to deny the bidder's good faith waiver request. The bidder must provide written documentation refuting the specific reasons for rejection as stated in the department's rejection notice. The bidder may meet in person with the department if so

requested. Failure to appeal within 7 calendar days after receiving the department's written notice of rejection of a good faith waiver request under constitutes a forfeiture of the bidder's right of appeal. If the bidder does not appeal, the department may declare the bid ineligible for execution.

- b. The department will appoint a representative, who did not participate in the original determination, to assess the bidder's appeal. The department will issue a written decision within 7 calendar days after the bidder presents all written and oral testimony. In that written decision, the department will explain the basis for finding that the bidder did or did not meet the contract DBE goal or make an adequate good faith effort to meet the contract DBE goal. The department's decision is final. If the department finds that the bidder did not meet the contract DBE goal or did not make adequate efforts to meet the DBE goal, the department may declare the bid ineligible for execution.

7. Department's Criteria for DBE Participation

Department's DBE List

- a. The department maintains a DBE list on the department's website at <http://app.mylcm.com/wisdot/Reports/WisDotUCPDirectory.aspx>
- b. The DBE office is also available to assist at 414-438-4583 or 608-266-6961.

8. Counting DBE Participation

Assessing DBE Work

- a. The department will only count the DBE usage towards the contract DBE goal if the DBE firm is certified as a DBE by one of the unified certification program agencies. If a firm becomes DBE certified before entering into a subcontract, the department may consider that DBE usage towards the contract goal. The department only counts the value of the work a DBE actually performs towards the DBE goal. The department assesses the DBE work as follows:
- b. The department counts work performed by the DBE's own resources. The department includes the cost of materials and supplies the DBE obtains for the work. The department also includes the cost of equipment the DBE leases for the work. The department will not include the cost of materials, supplies, or equipment the DBE purchases or leases from the prime contractor or its affiliate, except the department will count non-project specific leases the DBE has in place before the work is advertised.
- c. The department counts fees and commissions the DBE charges for providing a bona fide professional, technical, consultant, or managerial services. The department also counts fees and commissions the DBE charges for providing bonds or insurance. The department will only count costs the engineer deems reasonable based on experience or prevailing market rates.
- d. If a DBE subcontracts work, the department counts the value of the subcontracted work only if the DBE's subcontractor is also a DBE.
- e. The contractor shall maintain records and may be required to furnish periodic reports documenting its performance under this item.
- f. It is the prime contractor's responsibility to determine the DBE's ability to perform the work with the use of the UCP directory.

9. Commercially Useful Function

- a. The department counts expenditures of a DBE toward the DBE goal only if the DBE is performing a commercially useful function on that contract.
- b. A DBE is performing a commercially useful function if the following conditions are met:
- c. For contract work, the DBE is responsible for executing a distinct portion of the contract work and it is carrying out its responsibilities by actually performing, managing, and supervising that work.
- d. For materials and supplies, the DBE is responsible for negotiating price, determining quality and quantity, ordering, and paying for those materials and supplies.

10. Trucking

All bidders are expected to adhere to the department's current trucking policy posted on the HCCI website at

<http://www.dot.wisconsin.gov/business/engrserv/docs/dbe-trucking-notice.pdf>

11. Manufacturers and Suppliers

The department counts material and supplies a DBE provides under the contract. The department will give full credit toward the DBE goal if the DBE is a manufacturer of those materials or supplies. The department will give 60 percent credit toward the DBE goal if the DBE is merely a supplier of those materials or supplies. It is the bidder's responsibility to find out if the DBE is considered a supplier or a manufacturer before listing them on Commitment to Subcontract to DBE form DT1506.

12. DBE Prime

If the prime contractor is a DBE, the department will only count the work the contractor performs with its own forces, the work DBE subcontractors perform, and the work DBE suppliers or manufacturers perform.

13. Joint Venture

If a DBE performs as a participant in a joint venture, the department will only count that portion of the total dollar value of the contract equal to that portion of the work that the DBE performs with its own forces.

14. Mentor Protégé

- a. If a DBE performs as a participant in a mentor protégé agreement, the department will credit the portion of the work performed by the DBE protégé firm
- b. On every other project that the mentor protégé team identifies itself on.
- c. For no more than one half of the total contracted DBE goal on any WisDOT project.

15. DBE Replacement

In the event a Prime Contractor needs to replace a DBE firm originally listed on the approved DBE Commitment Form DT1506, the Prime Contractor must comply with the department's DBE Replacement Policy located on the DBE page on the following web site:

<http://www.dot.wisconsin.gov/business/engrserv/docs/policyreplacingdbe.pdf>

16. Changes to the approved DBE Commitment Form DT1506

If there are any changes to the approved Commitment to Subcontract to DBE Form DT1506, the prime contractor must submit a revised DBE Commitment Form DT1506 and relevant attachment A(s) to the DBE Programs Office within 5 business days.

17. Contract Modifications

When additional opportunity is available by contract modifications, the Prime Contractor shall utilize DBE Subcontractors, that were committed to equal work items, in the original contract.

18. Payment

Costs for conforming to this Additional Special Provision (ASP) and any associated DBE requirements are incidental to the contract.

APPENDIX A
Sample Contractor Solicitation Letter Page 1
This sample is provided as a guide not a requirement

GFW SAMPLE MEMORANDUM

TO: DBE FIRMS
FROM: POTENTIAL PRIME CONTRACTOR OR MAJOR SUBCONTRACTOR
SUBJECT: REQUEST FOR DBE QUOTES
LET DATE & TIME
DATE: MONTH DAY YEAR
CC: DBE OFFICE ENGINEER

Our company is considering bidding on the projects indicated on the next page, as a prime and/or a subcontractor for the Wisconsin Department of Transportation Month- date -year Letting. Page 2 lists the projects and work items that we may subcontract for this letting. We are interested in obtaining subcontractor quotes for these projects and work categories. Also note that we are willing to accept quotes in areas we may be planning to perform ourselves as required by federal rules.

Please review page 2, respond whether you plan to quote, highlight the projects and work items you are interested in performing and return it via fax or email within 3 days. Plans, specifications and addenda are available through WisDOT at the DBE Support Services office or at the Highway Construction Contract Information (HCCI) site at <http://roadwaystandards.dot.wi.gov/hcci/>

Your quote should include all of the costs required to complete the items you propose to perform including labor, equipment, material, and related bonding or insurance. The quote should note items that you are DBE certified to perform, tied items, and any special terms. Page 2, with the indicated projects and items you plan to quote, should be used as a cover sheet for your quote.

Please make every effort to have your quotes into our office by time deadline the prior to the letting date. **Make sure the correct letting date, project ID and proposal number, unit price and extension are included in your quote.** We prefer quotes be sent via SBN but prime's alternative's are acceptable. Our office hours are include hours and days. Please call our office as soon as possible prior to the letting if you need information/clarification to prepare your quote at contact number.

If you wish to discuss or evaluate your quote in more detail, contact us after the contract is awarded. Status of the contract can be checked at WisDOT's HCCI site at <http://roadwaystandards.dot.wi.gov/hcci/>

All questions should be directed to:

Project Manager, John Doe,
Phone: (000) 123-4567
Email: Joe@joetheplumber.com
Fax: (000) 123- 4657

Sample Contractor Solicitation Letter Page 2

This sample is provided as a guide not a requirement

REQUEST FOR QUOTATION

Prime's Name: _____

Letting Date: _____

Project ID: _____

Please check all that apply

- ☐ Yes, we will be quoting on the projects and items listed below
- ☐ No, we are not interested in quoting on the letting or its items referenced below
- ☐ Please take our name off your monthly DBE contact list
- ☐ We have questions about quoting this letting. Please have some one contact me at this number

Prime Contractor 's Contact Person

Phone: _____
Fax: _____
Email: _____

DBE Contractor Contact Person

Phone _____
Fax _____
Email _____

Please circle the jobs and items you will be quoting below

Proposal No.	1	2	3	4	5	6	7
County							

WORK DESCRIPTION:

Clear and Grub	X		X	X		X	X
Dump Truck Hauling	X		X	X		X	X
Curb & Gutter/Sidewalk, Etc.	X		X	X		X	X
Erosion Control Items	X		X	X		X	X
Signs and Posts/Markers	X		X	X		X	X
Traffic Control		X	X	X		X	X
Electrical Work/Traffic Signals		X	X	X		X	
Pavement Marking		X	X	X	X	X	X
Sawing Pavement		X	X	X	X	X	X
QMP, Base	X	X		X	X	X	X
Pipe Underdrain	X			X			
Beam Guard				X	X	X	X
Concrete Staining							X
Trees/Shrubs	X						X

Again please make every effort to have your quotes into our office by time deadline prior to the letting date.

We prefer quotes be sent via SBN but prime's preferred alternative's are acceptable.

If there are further questions please direct them to the prime contractor's contact person at phone number.

APPENDIX B BEST PRACTICES FOR PRIME CONTRACTOR & DBE SUBCONTRACTOR GOOD FAITH EFFORT

This list is not a set of requirements; it is a list of potential strategies

Primes

- Prime contractor open houses inviting DBE firms to see the bid “war room” or providing technical assistance
- Participate in speed networking and mosaic exercises as arranged by DBE office
- Host information sessions not directly associated with a bid letting;
- Participate in a formal mentor protégé or joint venture with a DBE firm
- Participate in WisDOT advisory committees i.e. TRANSAC, or Mega Project committee meetings
- Facilitate a small group DBE ‘training session’ Clarifying how your firm prepares for bid letting, evaluates subcontractors, preferred qualifications and communication methods
- Encourage subcontractors to solicit and highlight DBE participation in their quotes to you
- Quality of communication, not quantity creates the best results. Contractors should do as thorough a job as possible in communicating with DBE firms before the bid and provide any assistance requested to assure best possible bid.

DBE

- DBE firms should contact primes as soon as possible with questions regarding their quotes or bid; seven days prior is optimal.
- Continually check for contract addendums on the HCCI website through the Thursday prior to letting to stay abreast of changes.
- Review the status of contracts on the HCCI website reviewing the ‘apparent low bidder’ list, and bid tabs at a minimum.
- Prepare a portfolio or list of related projects and prime and supplier references; be sure to note transportation-related projects of similar size and scope, firm expertise and staffing.
- Participate in DBE office assessment programs
- Participate on advisory and mega-project committees
- Sign up to receive the DBE Contracting Update
- Consider membership in relevant industry or contractor organizations
- Active participation is a must. Quote as many projects as you can reasonably work on; quoting the primes and bidding as a prime with the department are the only ways to get work.

APPENDIX C

Types of Efforts considered in determining GFE

This list represents concepts being assessed; analysis requires additional steps

1. Whether the contractor attended any pre-solicitation or pre-bid meetings that were scheduled by WisDOT to inform DBEs of contracting and subcontracting opportunities;
2. Whether the contractor provided written notice to a reasonable number of specific DBEs that their interest in the contract was being solicited, in sufficient time to allow the DBEs to participate effectively;
3. Whether the contractor followed up initial solicitations of interest by contacting DBEs to determine if the DBEs were interested; returned the phone calls of interested DBE firms.
4. Whether the contractor selected portions of the work to be performed by DBEs in order to increase the likelihood of meeting the DBE goal;
5. Whether the contractor provided interested DBEs with adequate information about the plans, specifications and requirements of the contract;
6. Whether the contractor negotiated in good faith with interested DBEs, not rejected DBEs as unqualified without sound reasons based on a thorough investigation of their capabilities;
7. Whether the contractor made efforts to assist interested DBEs in being more competitive.
8. Whether the contractor effectively used the services of available minority community organizations: minority contractors groups, local, state, and Federal minority business assistance offices, and other organizations that provide assistance to small businesses and DBE firms.
9. Whether Prime used CRCS to identify DBE who specialize in relevant work areas.
10. Whether the contractor used available resources including contacting the DBE office, using WisDOT's website
11. Whether the contractor returned calls of firms expressing interest in a timely manner.

APPENDIX D
Good Faith Effort Evaluation Guidance
Excerpt from Appendix A of 49 CFR Part 26

APPENDIX A TO PART 26 -- GUIDANCE CONCERNING GOOD FAITH EFFORTS

- I. When, as a recipient, you establish a contract goal on a DOT assisted contract, a bidder must, in order to be responsible and/or responsive, make good faith efforts to meet the goal. The bidder can meet this requirement in either of two ways. First, the bidder can meet the goal, documenting commitments for participation by DBE firms sufficient for this purpose. Second, even if it doesn't meet the goal, the bidder can document adequate good faith efforts. This means that the bidder must show that it took all necessary and reasonable steps to achieve a DBE goal or other requirement of this part which, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not fully successful.
- II. In any situation in which you have established a contract goal, part 26 requires you to use the good faith efforts mechanism of this part. As a recipient, it is up to you to make a fair and reasonable judgment whether a bidder that did not meet the goal made adequate good faith efforts. It is important for you to consider the quality, quantity, and intensity of the different kinds of efforts that the bidder has made. The efforts employed by the bidder should be those that one could reasonably expect a bidder to take if the bidder were actively and aggressively trying to obtain DBE participation sufficient to meet the DBE contract goal. Mere pro forma efforts are not good faith efforts to meet the DBE contract requirements. We emphasize, however, that your determination concerning the sufficiency of the firm's good faith efforts is a judgment call: meeting quantitative formulas is not required.
- III. The Department also strongly cautions you against requiring that a bidder meet a contract goal (i.e., obtain a specified amount of DBE participation) in order to be awarded a contract, even though the bidder makes an adequate good faith efforts showing. This rule specifically prohibits you from ignoring bona fide good faith efforts.
- IV. The following is a list of types of actions which you should consider as part of the bidder's good faith efforts to obtain DBE participation. It is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases.
 - A. Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBEs who have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the DBEs to respond to the solicitation. The bidder must determine with certainty if the DBEs are interested by taking appropriate steps to follow up initial solicitations.
 - B. Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces.
 - C. Providing interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.

- D.
 - (1) Negotiating in good faith with interested DBEs. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBEs to perform the work.
 - (2) A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Prime contractors are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable.
 - E. Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The contractor's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non solicitation of bids in the contractor's efforts to meet the project goal.
 - F. Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or contractor.
 - G. Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.
 - H. Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBEs.
- V. In determining whether a bidder has made good faith efforts, you may take into account the performance of other bidders in meeting the contract. For example, when the apparent successful bidder fails to meet the contract goal, but others meet it, you may reasonably raise the question of whether, with additional reasonable efforts, the apparent successful bidder could have met the goal. If the apparent successful bidder fails to meet the goal, but meets or exceeds the average DBE participation obtained by other bidders, you may view this, in conjunction with other factors, as evidence of the apparent successful bidder having made good faith efforts.

Appendix E

Small Business Network [SBN] Overview

The Small Business Network is a part of the Bid Express® service that was created to ensure that prime bidders have a centralized online location to find subs - including small and disadvantaged business enterprises (DBEs). It is available for prime bidders to use as part of their Basic Service subscription. Within the Small Business Network, **Prime Contractors** can:

1. Easily select proposals, work types and items:
 - a. After adding applicable work types, select items that you wish to quote. Enter the sub-quote quantities and add comments, if desired. Adding or removing items and work types can be done quickly. If needed, you can save the sub-quote for completion at a later time.
2. Create sub-quotes for the subcontracting community:
 - a. Create sub-quotes with ease using the intuitive sub-quote creator. In seven short steps, you can rapidly create a custom sub-quote directed to all subcontractors that bid on the applicable work types. Steps include: provide contact information and sub-quote expiration date, select letting and proposal, add work types and items, specify terms and conditions, upload attachments, and select vendors.
 - b. Create a sub-quote to send to subcontractors or suppliers that lists the items in a proposal that you want quoted
 - c. Create an unlimited number of sub-quotes for items you want quoted, and optionally mark them as a DBE-preferred request
 - d. Add attachments to sub-quotes
3. View sub-quote requests & responses:
 - a. After logging into the Bid Express service, you can quickly review all of your sub-quote requests and all unsolicited sub-quote requests from subcontractors. To simplify the Small Business Network home screen, sub-quote requests can be hidden with one click if they are not applicable.
 - b. View or receive unsolicited sub-quotes that subcontractors have posted, complete with terms, conditions and pricing
4. View Record of Subcontractor Outreach Effort:
 - a. For each sub-quote produced, a *Record of Subcontractor Outreach Effort* is generated that shows the response statistics for a particular sub-quote. If accepted by the letting agency, this report may serve as proof of a “Good Faith” effort in reaching out to the DBE community.
 - b. Easily locate pre-qualified and certified small and disadvantaged businesses
 - c. Advertise to small and disadvantaged businesses more efficiently and cost effectively
 - d. Document your interactions with subs/DBEs by producing an Outreach Report (may be accepted as proof of DBE outreach at the discretion of each agency)

The Small Business Network is a part of the Bid Express® service that was created to ensure that small businesses have a centralized area to access information about upcoming projects. It can help small businesses learn more about opportunities, compete more effectively, network with other contractors and subcontractors, and win more jobs.

1. View and reply to sub-quote requests from primes:
 - a. After logging into the Bid Express service, you can quickly review all incoming sub-quote requests and all unsolicited sub-quotes created by your company. Receive notifications by selected work type. To simplify on the Small Business Network home screen, sub-quote requests can be filtered by work types relevant to your interests, or hidden with one click if they are not applicable.
2. Select items when responding to sub-quote requests from primes:
 - a. You have the freedom to choose and price any number of items when responding to a sub-quote request. Quantities can be modified, and per-item comments are also available.
 - b. View requests for sub-quotes for work that primes have posted for projects they are bidding, add your pricing, terms, and conditions, and submit completed sub-quotes to the requesting primes
 - c. Add attachments to a sub-quote
3. Create and send unsolicited sub-quotes to specific contractors:
 - a. Create unsolicited sub-quotes with ease using the intuitive sub-quote creator. In eight short steps, you can rapidly create a custom sub-quote directed at any number of specific vendors of your choosing. Steps include: provide contact information and sub-quote expiration date, select letting and proposal, add work types and items, specify terms and conditions, upload attachments, and select vendors.
4. Easily select and price items for unsolicited sub-quotes:
 - a. After adding applicable work types, select items that you wish to quote. The extended price calculates automatically, cutting out costly calculation errors. Comments can be provided on an per-item basis as well.
 - b. Create an unsolicited sub-quote that lists the items from a proposal that you want to quote, include pricing, terms and conditions, and send it to selected prime/plan holder
 - c. Add attachments to a sub-quote
 - d. Add unsolicited work items to sub-quotes that you are responding to
5. Easy Access to Valuable Information
 - a. Receive a confirmation that your sub-quote was opened by a prime
 - b. View Bid Tab Analysis data from past bids, including the high, average and low prices of items.
 - c. View important notices and publications from DOT targeted to small and disadvantaged businesses
6. Accessing Small Business Network for WisDOT contracting opportunities
 - a. If you are a contractor not yet subscribing to the Bid Express service, go to **www.bidx.com** and select “Order Bid Express.” The Small Business Network is a part of the Bid Express Basic Service.
 - b. DBE firms can request a Bid Express Small Business Network Account at no cost by calling 414-438-4588

ADDITIONAL SPECIAL PROVISION 4

Payment to all Subcontractors. Within 10 calendar days of receipt by a contractor of a progress payment for work performed, materials furnished, or materials stockpiled by a subcontractor, the contractor shall pay that subcontractor for all work satisfactorily performed and for all materials furnished or stockpiled.

The contractor agrees further to release retainage amounts to each subcontractor within 10 calendar days after the subcontractor's work is satisfactorily completed. In addition, whenever the Department reduces the contract retainage amount, within 10 calendar days of receipt by a contractor of a retainage payment, the contractor must reduce the total amount retained from subcontractors to no more than remains retained by the Department.

The contractor shall pay the subcontractor within the time frames described above unless the contractor complies with both of the following within 10 calendar days of receiving the Department's progress payment:

- 1) The contractor notifies the subcontractor in writing that the work is not satisfactorily completed.
- 2) The contractor requests approval from the Department to delay payment because the subcontractor has not satisfactorily completed the work.

The contractor's request for approval should include the written notification to the subcontractor and shall provide sufficient documentation of good cause to assist the engineer in making a timely decision. If the engineer does not grant approval, the contractor shall pay the subcontractor within 10 calendar days of the Department's decision.

All subcontracting agreements made by a contractor shall include the above provisions and shall be binding on all contractors and subcontractors.

The contractor certifies compliance with the requirements of this Additional Special Provision by signing the contract. This clause applies to both DBE and non-DBE subcontractors.

ADDITIONAL SPECIAL PROVISIONS 5**Fuel Cost Adjustment****A Description**

Fuel Cost Adjustments will be applied to partial and final payments for work items categorized in Section B as a payment to the contractor or a credit to the department. ASP-5 shall not apply to any force account work.

B Categories of Work Items

The following items and Fuel Usage Factors shall be used to determine Fuel Cost Adjustments:

(1) Earthwork.		Unit	Gal. Fuel Per Unit
205.0100	Excavation Common	CY	0.23
205.0200	Excavation Rock	CY	0.39
205.0400	Excavation Marsh	CY	0.29
208.0100	Borrow	CY	0.23
208.1100	Select Borrow	CY	0.23
209.0100	Backfill Granular	CY	0.23
350.0102	Subbase	CY	0.28
350.0104	Subbase	Ton	0.14
350.0115	Subbase 6-Inch	SY	0.05
350.0120	Subbase 7-Inch	SY	0.05
350.0125	Subbase 8-Inch	SY	0.06
350.0130	Subbase 9-Inch	SY	0.07
350.0135	Subbase 10-Inch	SY	0.08
350.0140	Subbase 11-Inch	SY	0.09
350.0145	Subbase 12-Inch	SY	0.09

C Fuel Index

A Current Fuel Index (CFI) in dollars per gallon will be established by the Department of Transportation for each month. The CFI will be the price of No. 2 fuel oil, as reported in U.S. Oil Week, using the first issue dated that month. The CFI will be the average of prices quoted for Green Bay, Madison, Milwaukee and Minneapolis.

The base Fuel Index (BFI) for this contract is \$2.90 per gallon.

D Computing the Fuel Cost Adjustment

The engineer will compute the ratio CFI/BFI each month. If the ratio falls between 0.85 and 1.15, inclusive, no fuel adjustment will be made for that month. If the ratio is less than 0.85 a credit to the department will be computed. If the ratio is greater than 1.15 additional payment to the contractor will be computed. Credit or additional payment will be computed as follows:

- (1) The engineer will estimate the quantity of work done in that month under each of the contract items categorized in Section B.
- (2) The engineer will compute the gallons of fuel used in that month for each of the contract items categorized in Section B by applying the unit fuel usage factors shown in Section B.
- (3) The engineer will summarize the total gallons (Q) of fuel used in that month for the items categorized in Section B.
- (4) The engineer will determine the Fuel Cost Adjustment credit or payment from the following formula:

$$FA = \left(\frac{CFI}{BFI} - 1 \right) \times Q \times BFI$$

(plus is payment to contractor; minus is credit to the department)

Where	FA	=	Fuel Cost Adjustment (plus or minus)
	CFI	=	Current Fuel Index
	BFI	=	Base Fuel Index
	Q	=	Monthly total gallons of fuel

E Payment

A Fuel Cost Adjustment credit to the department will be deducted as a dollar amount each month from any sums due to the contractor. A Fuel Cost Adjustment payment to the contractor will be made as a dollar amount each month.

Upon completion of the work under the contract, any difference between the estimated quantities and the final quantities will be determined. An average CFI, calculated by averaging the CFI for all months that fuel cost adjustment was applied, will be applied to the quantity differences. The average CFI shall be applied in accordance with the procedure set forth in Section D.

ADDITIONAL SPECIAL PROVISION 6 MODIFICATIONS TO THE STANDARD SPECIFICATIONS

Make the following revisions to the 2013 edition of the standard specifications:

106.3.4.3.1 General

Replace paragraph two with the following effective with the November 2012 letting:

- (2) Required sampling and testing methodologies and documentation are specified in CMM chapter 8.
 - (3) If disputed, approval of materials and components, as well as acceptance of the work incorporating those materials or components, is subject to review under the QMP dispute resolution process.
-

107.17.3 Railroad Insurance Requirements

Replace the entire text with the following effective with the August 2012 letting:

- (1) If required by the special provisions, provide or arrange for a subcontractor to provide railroad protective liability insurance in addition to the types and limits of insurance required in 107.26. Keep railroad protective liability insurance coverage in force until completing all work, under or incidental to the contract, on the railroad right of way or premises of the railroad and until the department has accepted the work as specified in 105.11.2.4.
- (2) Provide railroad protective liability insurance coverage written as specified in 23 CFR part 646 subpart A. Provide a separate policy for each railroad owning tracks on the project. Ensure that the railroad protective liability insurance policies provide the following minimum limits of coverage:
 - 1. Coverage A, bodily injury liability and property damage liability; \$2 million per occurrence.
 - 2. Coverage B, physical damage to property liability; \$2 million per occurrence.
 - 3. An annual aggregate amount of \$6 million that shall apply separately to each policy renewal or extension.
- (3) Obtain coverage from insurance companies licensed to do business in Wisconsin that have an A.M. Best rating of A- or better. 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.
- (4) Submit the following to each railroad owning tracks on the project as evidence of that railroad's respective coverage:
 - 1. A certificate of insurance for the types and limits of insurance specified in 107.26.
 - 2. The railroad protective liability insurance policy or other acceptable documentation to the railroad company.
- (5) Submit the following to the region as evidence of the required coverage:
 - 1. A copy of the letter to the railroad company transmitting the submittal documents specified in 107.17.3(4).
 - 2. A certificate of insurance for the required railroad protective liability coverages.
- (6) Do not begin work on the right of way or premises of the railroad company until the region receives the submittals specified in 107.17.3(5) and notification from the railroad company that the contractor has provided sufficient insurance information to begin work.
- (7) Notify the railroad and the region immediately upon cancellation or initiating cancellation, whichever is earlier, or any material change in coverage. Cease operations within 50 feet of the railroad right of way immediately if insurance is cancelled or reduced. Do not resume operations until the required coverage is in force.

460.2.8.3.1.4 Department Verification Testing Requirements

Replace paragraph four with the following effective with the December 2012 letting:

- (4) The department will randomly test each design mixture at the following minimum frequency:
- FOR TONNAGES TOTALING:
- Less than 501 tons no tests required
- From 501 to 5,000 tons..... one test
- More than 5,000 tons..... add one test for each additional 5,000-ton increment

501.2.5.5 Sampling and Testing

Replace the entire text with the following effective with the January 2013 letting:

- (1) Sample and test aggregates for concrete according to the following:
- Sampling aggregates AASHTO T2
- Lightweight pieces in aggregate AASHTO T113
- Material finer than No. 200 sieve AASHTO T11
- Unit weight of aggregate AASHTO T19
- Organic impurities in sands AASHTO T21
- Sieve analysis of aggregates AASHTO T27
- Effect of organic impurities in fine aggregate AASHTO T71
- Los Angeles abrasion of coarse aggregate AASHTO T96
- Freeze-thaw soundness of coarse aggregate..... AASHTO T103
- Sodium sulfate soundness of aggregates..... AASHTO T104
- Specific gravity and absorption of fine aggregate AASHTO T84
- Specific gravity and absorption of coarse aggregate AASHTO T85
- Flat & elongated pieces based on a 3:1 ratio..... ASTM D4791^[1]
- Sampling fresh concrete AASHTO R60
- Making and curing concrete compressive strength test specimens AASHTO T23
- Compressive strength of molded concrete cylinders AASHTO T22

^[1] As modified in CMM 8-60.

506.3.22 Shop Inspection

Replace paragraph one with the following effective with the July 2010 letting:

- (1) The engineer or an independent inspection agency under department contract may inspect all structural steel and miscellaneous metals furnished. The department will provide the contractor with monthly consultant inspection invoices and identify any quality deficiencies at the fabrication facility.

506.5 Payment

Add paragraph nine as follows effective with the June 2010 letting:

- (9) The department will limit costs for inspections conducted under 506.3.2 to \$0.05 per pound of material and deduct costs in excess of that amount from payment due the contractor. The department will determine costs for in-house inspections based on hourly rates for department staff plus overhead and use invoiced costs for contracted-out inspections. The department will administer deductions for the contractor's share of the total inspection cost under the Excess Costs For Fabrication Shop Inspection administrative item.

507.2.2.1 General

Replace paragraph four with the following effective with the December 2012 letting:

- (4) Ensure that there are no unsound knots or knot holes. Also ensure that there are no tight knots of a diameter exceeding one-quarter of the greater dimension at the point where they occur. Measure a knot by taking its diameter at right angles to the length of the timber. Ensure that the sum of sizes of all knots in any one-foot length does not exceed 2 times the size of the largest allowed single knot. The engineer will treat cluster knots as if they were a single knot. A cluster knot is 2 or more knots grouped together, with the fibers of the wood deflected around the entire unit.

512.3.1 Driving and Cutting Off

Replace the entire text with the following effective with the December 2012 letting:

512.3.1.1 General

- (1) Coordinate driving operations to prevent damage or displacement of concrete in substructure units or damage to adjacent facilities due to vibrations.
- (2) Drive sheeting with a variation of 1/4 inch or less per foot from the vertical or from the batter the plans show. Ensure that the sheetpiles are within 6 inches of the plan position after driving. Do not damage sheetpiles attempting to correct for misalignment.
- (3) Remove and replace, or otherwise correct, sheetpiles the engineer deems unacceptable under 105.3. Submit details of planned corrections to the engineer for review and approval before initiating any corrective actions.
- (4) Drive sheetpiles to or beyond the required tip elevation the plans show.

512.3.1.2 Driving System

- (1) Furnish a sheetpile driving system capable of driving the sheetpiles to the required minimum tip elevation the plans show.
- (2) The engineer may order the contractor to remove a pile driving system component from service if it causes insufficient energy transfer or damages the sheetpiles. Do not return a component to service until the engineer determines that it has been satisfactorily repaired or adjusted.
- (3) Drive sheetpiles with diesel, air, steam, gravity, hydraulic, or vibratory hammers.

512.3.1.3 Cut-Offs

- (1) Cut off sheetpiles at the elevations the plans show or as the engineer directs. Pile cut-offs become the property of the contractor. Dispose of cut-offs not incorporated into the work.

526.3.3 Temporary Structures

Replace paragraphs two through four with the following effective with the January 2013 letting:

- (2) Inspect temporary structures conforming to the National Bridge Inspection Standards (NBIS) and the department's structure inspection manual before opening to traffic. Perform additional inspections, as the department's structure inspection manual requires, based on structure type and time in service. Submit inspection reports on department form DT2007 to the engineer and electronic copies to the department's bureau of structures maintenance section. Ensure that a department-certified active team leader, listed online in the department's highway structures information system (HSIS), performs the inspections.
- (3) Maintain temporary structures and approaches in place until no longer needed. Unless the engineer directs otherwise, completely remove and dispose of as specified in 203.3.4. Contractor-furnished materials remain the contractor's property upon removal.

614.2.5 Wood Posts and Offset Blocks

Retitle and replace the entire text with the following effective with the July 2012 letting:

614.2.5 Posts and Offset Blocks**614.2.5.1 Wood Posts and Offset Blocks**

- (1) Furnish sawed posts and offset blocks of one of the following species:

Douglas fir	Southern pine	Ponderosa pine	Jack pine	White pine
Red pine	Western hemlock	Western larch	Hem-fir	Oak
- (2) Ensure that posts are the size the plans show and conform to the nominal and minimum dimensions tabulated in 507.2.2.3. The contractor does not have to surface the posts. Provide posts of the net length the plans show after setting and cut off.
- (3) Use stress graded posts rated at 1200 psi f_b or higher. Determine the stress grade rating for douglas fir, western larch, and southern pine as specified in 507.2.2.4.
- (4) For hem-fir, hemlock, red pine, white pine, jack pine, ponderosa pine, and oak conform to the following:

TABLE 614-1 PROPERTIES FOR WOOD POSTS AND BLOCKS

SPECIES			WESTERN HEMLOCK, HEM-FIR, RED PINE, WHITE PINE, JACK PINE, PONDEROSA PINE		OAK	
MAXIMUM SLOPE OF GRAIN			1 in 15		1 in 12	
NOMINAL WIDTH OF FACE			6"	8"	6"	8"
SHAKES, CHECKS, AND SPLITS	GREEN		1"	1 3/8"	2 3/8"	3 1/8"
	SEASONED		1 1/2"	2"	2 5/8"	3 1/2"
MAXIMUM WANE			1"	1 3/8"	1 1/8"	1 5/8"
MAXIMUM ALLOWABLE KNOTS	NARROW FACE	MIDDLE 1/3 OF LENGTH	1 3/8"	1 5/8"	2 1/8"	2 3/8"
		END ^[1]	2 3/4"	3 1/4"	4 1/4"	4 3/4"
		SUM IN MIDDLE 1/2 OF LENGTH ^[2]	11"	13"	17"	19
	WIDE FACE	EDGE KNOT N MIDDLE 1/3 OF LENGTH	1 3/8"	1 5/8"		
		EDGE KNOT AT END ^[1]	2 3/4" 7	3 1/4"		
		CENTERLINE	1 3/8"	1 7/8"	2 1/4"	2 7/8"
		SUM IN MIDDLE 1/2 OF LENGTH	5 1/2"	7 1/2"	9"	11 1/2"

^[1] But do not exceed the maximum allowable knot on the centerline of the wide face of the same piece.

^[2] But do not exceed 4 times the maximum allowable knot on the centerline of the wide face of the same piece.

- (5) Pressure treat posts and offset blocks as specified in 507.2.2.6. Use one of the oil-soluble preservatives or chromated copper arsenate conforming to 507.2.3. Use the same material for offset blocks and posts and treat material used in each continuous installation with the same type of preservative.

614.2.5.2 Steel Posts

- (1) Furnish steel posts conforming to AASHTO M270 Grade 36 and galvanized according to AASTHO M111.

614.2.5.3 Plastic Offset Blocks

- (1) Furnish plastic offset blocks from the department's approved products list.

614.3.1 General

Replace the entire text with the following effective with the July 2012 letting:

- (1) Paint the ends of cut-off galvanized posts, rail, bolts, cut or drilled surfaces of galvanized components, and areas of damaged zinc coating with 2 coats of zinc dust/zinc oxide paint. Clean the damaged and adjacent areas thoroughly before applying paint.
- (2) Apply 2 coats of wood preservative to cut surfaces of wood components. Use the same preservative originally used to treat that component or use a 2-percent solution of copper naphthenate conforming to AWWA Standard P8 or P36.

614.3.2.1 Installing Posts

Replace paragraph four with the following effective with the July 2012 letting:

- (4) Cut post tops to the finished elevation the plans show.

628.2.13 Rock Bags

Replace paragraph one with the following effective with the November 2012 letting:

- (1) Furnish rock bags made of a porous, ultraviolet resistant, high-density polyethylene or geotextile fabric that will retain 70% of its original strength after 500 hours of exposure according to ASTM D4355 and a minimum in-place filled size of 18-inches long by 12-inches wide by 6-inches high. Ensure that the fabric conforms to the following:

TEST REQUIREMENT	METHOD	VALUE
Minimum Tensile	ASTM D4632	
Machine direction		70 lb minimum
Cross direction		40 lb minimum
Elongation	ASTM D4632	
Machine direction		20% minimum
Cross direction		10 % min
Puncture	ASTM 4833	65 lbs minimum
Minimum Apparent Opening		0.0234 inches (No. 30 sieve)
Maximum Apparent Opening		0.0787 inches (No. 10 sieve)

701.4.2 Verification Testing

Replace paragraph two with the following effective with the December 2012 letting:

- (2) The department will sample randomly at locations independent of the contractor's QC tests and use separate equipment and laboratories. The department will conduct a minimum of one verification test for each 5 contractor QC tests unless specific QMP provisions specify otherwise.

715.3.1.3 Department Verification Testing

Replace paragraph one with the following effective with the December 2012 letting:

- (1) The department will perform verification testing as specified in 701.4.2 except as follows:
- Air content, slump, and temperature: a minimum of 1 verification test per lot.
 - Compressive strength: a minimum of 1 verification test per lot.

Errata

Make the following corrections to the 2012 edition of the standard specifications:

107.22 Contractor's Responsibility for Utility Facilities, Property, and Services

Correct errata by eliminating references to the department. Costs are determined by statute.

- (3) If the contractor damages or interrupts service, the contractor shall notify the utility promptly. Coordinate and cooperate with the utility in the repair of the facility. Determine who is responsible for repair costs according to Wisconsin statutes 66.0831 and 182.0175(2).

506.2.6.5.2 Pad Construction

Correct errata by changing ASTM A570 to ASTM A1011.

- (4) For the internal steel plates use rolled mild steel conforming to ASTM A36, or ASTM A1011 grade

512.3.3 Painting

Correct errata by changing 511.3.5 to 550.3.11.3.

- (1) Paint permanent steel sheet piling as specified for painting steel piling in 550.3.11.3.

513.2.2.8 Toggle Bolts

Correct errata by changing r ASTM A570 to ASTM A1011.

- (1) Use toggle bolts made of steel, conforming to the plans. Make the assembly from the material specified below:
- | | |
|---------------------------|--|
| Toggle bolt and pin | Cold finished steel heat-treated Brinell 311-363 ASTM A354. |
| Toggle washer | Hot rolled steel ASTM A1011. Manufacturer's standard washer. |
| Spacer nut | Grade 1213, ASTM A108. Cold finished steel heat-treated ASTM A325. |

660.2.1 General

Correct errata by changing section 511 to 550.

- (1) Furnish materials conforming to the following:
- | | |
|--------------------------|-------------|
| Concrete | section 501 |
| Concrete bridges | section 502 |
| Luminaires | section 659 |
| Steel piling | section 550 |
| Steel reinforcement..... | section 505 |

660.3.2.3 Pile Type Foundations

Correct errata by changing section 511 to 550.

- (1) Drive piles as specified in for steel piling in section 550.

701.3 Contractor Testing

Correct errata by changing AASHTO T141 to AASHTO R60 and changing AASHTO T309 to ASTM C1064.

- (1) Perform contract required QC tests for samples randomly located according to CMM 8-30. Also perform other tests as necessary to control production and construction processes, and additional testing enumerated in the contractor's quality control plan or that the engineer directs. Use test methods as follows:

TABLE 701-2 TESTING STANDARDS

TEST	TEST STANDARD
Washed P 200 analysis	AASHTO T11 ^[1]
Sieve analysis of fine and coarse aggregate	AASHTO T27 ^[1]
Aggregate moisture	AASHTO T255 ^[1]
Sampling freshly mixed concrete	AASHTO R60
Air content of fresh concrete	AASHTO T152 ^[2]
Concrete slump	AASHTO T119 ^[2]
Concrete temperature	ASTM C1064
Concrete compressive strength	AASHTO T22
Making and curing concrete cylinders	AASHTO T23
Standard moist curing for concrete cylinders	AASHTO M201

^[1] As modified in CMM 8-60.

^[2] As modified in CMM 8-70.

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.

**I-94 North-South Corridor
EEO/AA Requirements for Contractors and Subcontractors
(OFFICE OF FEDERAL CONTRACT COMPLIANCE PROGRAMS,
US DEPARTMENT OF LABOR)**

1. Prime Contractor(s) and subcontractors awarded a construction contract in excess of \$10,000 at any tier for construction work under the contract **shall comply** with the requirements of **Executive Order 11246 as amended, Section 503 of The Rehabilitation Act of 1973 as amended and the Vietnam Era Veterans' Readjustment Assistance Act of 1974 as amended (38 U.S.C. 4212).**
2. The contractor shall provide written notification to the District Director, Office of Federal Contract Compliance Programs (OFCCP), U.S. Dept. of Labor/ESA, 310 West Wisconsin Avenue, Suite 1115, Milwaukee, WI 53202 - phone: (414) 297-3822, fax: (414) 297-4038, within 10 working days of the award of any construction contract (subcontract) in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. This notification shall include name, address and telephone number of the subcontractor, employer identification number (EIN), dollar amount of the contract, and the estimated starting and completion date. This notification provision applies to 2nd and 3rd tier subcontractors, etc. as well as the prime contractor.
3. The prime contractor and each subcontractor are required to complete a monthly Utilization Report. The report will include the total number of work hours broken out by construction trade and classification (supervisor, journey or apprentice), race and gender. The report will also include the number of employees within each trade and classification by race and gender. These reports will be entered into the Civil Rights Compliance System(CRCS) in accordance with WisDOT requirements. However, if USDOL is denied access to the CRCS, the contractor will be notified by USDOL. The contractor will submit directly to USDOL at the address above, the Utilization Report and number of employees as described earlier in this paragraph.
4. The prime contractor and each subcontractor are to provide a list of employees who worked on this project by name, race, sex, trade, classification (foreman/supervisor, journey, apprentice, trainee), if the person was a TrANS grad, and date of hire into the prime or subcontractor's workforce. This will be sent to the U. S. Department of Labor, OFCCP when the last work hours are reported for the project by each contractor.
5. The **Prime Contractor** is required to **appoint an EEO/Affirmative Action (EEO/AA) Manager for the project.** Each **subcontractor is required to appoint an EEO/AA Project Coordinator.** The EEO/AA Manager shall have overall responsibility for the

monitoring of EEO/AA compliance by the prime contractor and by all subcontractors working on this project (for all construction work originated by the Prime Contractor).

6. The prime contractor shall establish a **Special Project Affirmative Action Oversight Committee (SPAAOC)** comprised of OFCCP, and other representatives from state/local Civil Rights Enforcement/Development Agencies, labor unions, community constituents representing minority and female groups and other government and non-government agencies as needed. The first meeting will be held as soon as possible prior to the start of the project. Thereafter, the SPAAOC shall meet periodically throughout the course of the contract to discuss EEO/AA issues.
7. A designated EEO representative of each contractor on the project must attend a technical assistance seminar sponsored by OFCCP to understand their obligations under Executive Order 11246 as amended, Section 503 of The Rehabilitation Act of 1973 as amended and the Vietnam Era Veterans' Readjustment Assistance Act of 1974 as amended (38 U.S.C. 4212). If the contractor's EEO representative has attended an OFCCP technical assistance seminar during the previous 12 calendar months, they will be exempt from this requirement.
8. The EEO/AA goals (good faith effort) for this contract are:

Nation wide:	6.9% for Females of total work hours by trade
Milwaukee County:	8.0% for Minorities of total work hours by trade
Racine County:	8.4% for Minorities of total work hours by trade
Kenosha County:	3.0% for Minorities of total work hours by trade

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://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm>

(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 section 3.2 of the CRCS System Background Information manual available online on the Labor, Wages, and EEO Information page at:

<http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/docs/crc-basic-info.pdf>

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are

applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar

with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor

will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions

of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or

will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-

Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly

rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is

evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this

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

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

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

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

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

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

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

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

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

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

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

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

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

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

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

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

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS
PREFERENCE FOR APPALACHIAN DEVELOPMENT
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS
ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

SEPTEMBER 2002

**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE
EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)**

1. The Offeror's or Bidder's attention is called to the "Employment Practices" and "Equal Opportunity Clause" set forth in the Required Contract Provisions, FHWA 1273.
2. The goals and timetables for minority and female participation expressed in percentage terms for the contractor's aggregate work force in each trade, on all construction work in the covered area, are as follows:

Goals for Minority Participation for Each Trade:

<u>County</u>	<u>%</u>	<u>County</u>	<u>%</u>	<u>County</u>	<u>%</u>
Adams	1.7	Iowa	1.7	Polk	2.2
Ashland	1.2	Iron	1.2	Portage	0.6
Barron	0.6	Jackson	0.6	Price	0.6
Bayfield	1.2	Jefferson	7.0	Racine	8.4
Brown	1.3	Juneau	0.6	Richland	1.7
Buffalo	0.6	Kenosha	3.0	Rock	3.1
Burnett	2.2	Kewaunee	1.0	Rusk	0.6
Calumet	0.9	La Crosse	0.9	St. Croix	2.9
Chippewa	0.5	Lafayette	0.5	Sauk	1.7
Clark	0.6	Langlade	0.6	Sawyer	0.6
Columbia	1.7	Lincoln	0.6	Shawano	1.0
Crawford	0.5	Manitowoc	1.0	Sheboygan	7.0
Dane	2.2	Marathon	0.6	Taylor	0.6
Dodge	7.0	Marinette	1.0	Trempealeau	0.6
Door	1.0	Marquette	1.7	Vernon	0.6
Douglas	1.0	Menominee	1.0	Vilas	0.6
Dunn	0.6	Milwaukee	8.0	Walworth	7.0
Eau Claire	0.5	Monroe	0.6	Washburn	0.6
Florence	1.0	Oconto	1.0	Washington	8.0
Fond du Lac	1.0	Oneida	0.6	Waukesha	8.0
Forest	1.0	Outagamie	0.9	Waupaca	1.0
Grant	0.5	Ozaukee	8.0	Waushara	1.0
Green	1.7	Pepin	0.6	Winnebago	0.9
Green Lake	1.0	Pierce	2.2	Wood	0.6

Goals for female participation for each trade: 6.9%

These goals are applicable to all the contractor's construction work, (whether or not it is federal or federally assisted), performed in the covered area. If the contractor performs construction work in the geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

The contractor's compliance with the Executive Order and the Regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from contractor to contractor or from project to project for the sole purpose of meeting the contractor's goals shall be a violation of the contract, the Executive Order and the Regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten (10) working days of award of any construction subcontract in excess of \$10,000.00 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor, employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

As referred to in this section, the Director means:

Director
Office of Federal Contract Compliance Programs
Ruess Federal Plaza
310 W. Wisconsin Ave., Suite 1115
Milwaukee, WI 53202

The "Employer Identification Number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.

4. As used in this notice, and in the contract resulting from solicitation, the "covered area" is the county(ies) in Wisconsin to which this proposal applies.

APRIL 2012

ADDITIONAL FEDERAL-AID PROVISIONS

BUY AMERICA

All steel and iron materials permanently incorporated in this project shall be domestic products and all manufacturing and coating processes for these materials 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.

Upon completion of the project certify to the engineer, in writing using department form WS4567, that all steel, iron, and coating processes for steel or iron incorporated into the contract work conform to these Buy America provisions. Attach a list of exemptions and their associated costs to the certification form. Department form WS4567 is available at:

<http://roadwaystandards.dot.wi.gov/standards/forms/hidden/ws4567.doc>

NOTICE TO ALL BIDDERS

To report bid rigging activities call:

1-800-424-9071

The U.S. Department of Transportation (DOT) operates the above toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m., Eastern Time. Anyone with knowledge of possible bid rigging, bidding collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

Effective 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
- II. Payroll Requirements
- III. Postings at the Site of the Work
- IV. Affidavits
- V. Wage Rate Redistribution
- VI. Additional Classifications

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 contracts.

While the wage rates shown are the minimum rates required by the contract to be paid during its life, this is not a representation that labor can be obtained at these rates. It is the responsibility of bidders to inform themselves as to the local labor conditions and prospective changes or adjustments of wage rates. No increase in the contract price 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
RACINE COUNTY**

Compiled by the State of Wisconsin - Department of Workforce Development
for the Department of Transportation
Pursuant to s. 103.50, Stats.
Issued on April 1, 2012

CLASSIFICATION: Contractors are required to call the Department of Workforce Development if there are any questions regarding 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.

<u>TRADE OR OCCUPATION</u>	<u>HOURLY BASIC RATE OF PAY</u>	<u>HOURLY FRINGE BENEFITS</u>	<u>TOTAL</u>
	\$	\$	\$
Bricklayer, Blocklayer or Stonemason	32.66	15.92	48.58
Carpenter	31.68	18.49	50.17
Cement Finisher	27.14	19.22	46.36
Future Increase(s): Add \$1.86 on 6/1/12; Add \$1.87 on 6/1/13; Add \$1.87 on 6/1/14; Add \$1.87 on 6/1/15; Add \$1.75 on 6/ 1/ 16.			
Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.40/hr when the Wisconsin Department of Transportation or responsible governing agency requires that work be performed at night under artificial illumination with traffic control and the work is completed after sunset and before sunrise.			
Electrician	31.14	22.30	53.44
Fence Erector	35.62	0.00	35.62
Ironworker	31.31	21.54	52.85
Line Constructor (Electrical)	35.97	18.08	54.05
Painter	27.87	14.39	42.26
Pavement Marking Operator	26.50	13.36	39.86
Piledriver	29.56	24.96	54.52
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	28.85	14.60	43.45
Teledata Technician or Installer	24.65	15.17	39.82
Tuckpointer, Caulker or Cleaner	34.30	15.47	49.77
Underwater Diver (Except on Great Lakes)	36.20	18.81	55.01
Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	33.87	16.10	49.97
Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY	28.78	14.42	43.20

<u>TRADE OR OCCUPATION</u>	<u>HOURLY BASIC RATE OF PAY</u>	<u>HOURLY FRINGE BENEFITS</u>	<u>TOTAL</u>
	\$	\$	\$
Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	26.98	13.72	40.70
Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	23.38	12.48	35.86
Groundman - ELECTRICAL LINE CONSTRUCTION ONLY	21.30	10.97	32.27

TRUCK DRIVERS

Single Axle or Two Axle	22.35	16.19	38.54
Future Increase(s): Add \$1.75/hr on 6/1/2012; Add \$1.85/hr on 6/1/2013.			
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	22.50	16.19	38.69
Future Increase(s): Add \$1.75/hr on 6/1/2012; Add \$1.85/hr on 6/1/2013.			
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	22.50	16.19	38.69
Future Increase(s): Add \$1.75/hr on 6/1/2012; Add \$1.85/hr on 6/1/2013.			
Premium Pay: DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Pavement Marking Vehicle	23.84	14.70	38.54
Shadow or Pilot Vehicle	24.76	15.35	40.11
Truck Mechanic	24.91	15.35	40.26

LABORERS

General Laborer	22.65	18.60	41.25
Future Increase(s): Add \$1.60/hr on 6/1/2012; Add \$1.70/hr on 6/1/2013; Add \$1.60/hr on 6/1/2014.			
Premium Pay: Add \$.10/hr for topman; 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 \$.26/hr for bottomman; Add \$.35/hr for bituminous worker (raker and luteman), formsetter (curb, sidewalk and pavement), strike off man; Add \$.32/hr for and line and grade specialist; Add \$.65/hr for blaster and powderman; Add \$.75/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	22.00	16.86	38.86
Landscaper	22.91	15.68	38.59
Flagperson or Traffic Control Person	20.83	17.85	38.68
Future Increase(s): Add \$1.60/hr on 6/1/2012; Add \$1.70/hr on 6/1/2013; Add \$1.60/hr on 6/1/2014.			
Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr when the Wisconsin Department of Transportation or responsible governing agency requires that work be performed at night under artificial illumination with traffic control and the work is completed after sunset and before sunrise.			
Fiber Optic Laborer (Outside, Other Than Concrete Encased)	17.09	14.40	31.49
Railroad Track Laborer	17.00	5.71	22.71

<u>TRADE OR OCCUPATION</u>	<u>HOURLY BASIC RATE OF PAY</u>	<u>HOURLY FRINGE BENEFITS</u>	<u>TOTAL</u>
	\$	\$	\$
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 \$2/hr on 6/1/12; Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).	34.22	18.90	53.12
Backhoe (Track Type) Having a Mfrgr.'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 \$2/hr on 6/1/12; Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).	33.72	18.90	52.62
Air Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Asphalt Heater, Planer & Scarifier; Asphalt Milling Machine; Asphalt Screed; Automatic Subgrader (Concrete); Backhoe (Track Type) Having a Mfrgr.'s Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. & Under); Bituminous (Asphalt) Plant & Paver, Screed; Boatmen (NOT Performing Work on the Great Lakes); Boring Machine (Directional, Horizontal or Vertical); Bridge (Bidwell) Paver; Bulldozer or Endloader; Concrete Batch Plant, Batch Hopper; Concrete Breaker (Large, Auto, Vibratory/Sonic, Manual or Remote); Concrete Bump Cutter, Grinder, Planing or Grooving Machine; Concrete Conveyor System; Concrete Laser/Screed; Concrete Paver (Slipform); Concrete Pump, Concrete Conveyor (Rotec or Bidwell Type); Concrete Slipform Placer Curb & Gutter Machine; Concrete Spreader & Distributor; Crane (Carry Deck, Mini) or Truck Mounted Hydraulic Crane (10 Tons or Under); Crane With a Lifting Capacity of 25 Tons or Under; Forestry Equipment, Timbco, Tree Shear, Tub Grinder, Processor; Gradall (Cruz-Aire Type); Grader or Motor Patrol; Grout Pump; Hydro-Blaster (10,000 PSI or Over); Loading Machine (Conveyor); Material or Stack Hoist; Mechanic or Welder; Milling Machine; Post Hole Digger or Driver; Roller (Over 5 Ton); Scraper (Self Propelled or Tractor Drawn) 5 cu yds or More Capacity; Shoulder Widener; Sideboom; Skid Rig; Stabilizing or Concrete Mixer (Self-Propelled or 14S or Over); Straddle Carrier or Travel Lift; Tractor (Scraper, Dozer, Pusher, Loader); Tractor or Truck Mounted Hydraulic Backhoe; Trencher (Wheel Type or Chain Type); Tube Finisher; Tugger (NOT Performing Work on the Great Lakes); Winches	33.22	18.90	52.12

<u>TRADE OR OCCUPATION</u>	<u>HOURLY BASIC RATE OF PAY</u>	<u>HOURLY FRINGE BENEFITS</u>	<u>TOTAL</u>
	\$	\$	\$

& A- Frames.			
Future Increase(s): Add \$2/hr on 6/1/12; Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14.			
Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			

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 Sawyer (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.	32.96	18.90	51.86
Future Increase(s): Add \$2/hr on 6/1/12; Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14.			
Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			

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.	32.67	18.90	51.57
Future Increase(s): Add \$2/hr on 6/1/12; Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14.			
Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			

Fiber Optic Cable Equipment.	24.39	15.45	39.84
Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer.	36.20	18.81	55.01

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.	36.20	18.81	55.01

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.	26.80	18.52	45.32

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.	26.80	18.52	45.32

<u>TRADE OR OCCUPATION</u>	<u>HOURLY BASIC RATE OF PAY</u>	<u>HOURLY FRINGE BENEFITS</u>	<u>TOTAL</u>
-----	\$-----	\$-----	\$-----

SUPERSEDES DECISION WI20070010
U. S. DEPARTMENT OF LABOR
(DAVIS-BACON ACT, MINIMUM WAGE RATES)

STATE: Wisconsin

DECISION NUMBER: W1080010

DESCRIPTION OF WORK: Highways and Airport Runway and Taxiway Construction

DATE: December 7, 2012

LABORERS CLASSIFICATION:	Basic Hourly Rates	Fringe Benefits
Group 1: General Laborer; Tree Trimmer; Conduit Layer; Demolition and Wrecking Laborer; Guard Rail, Fence and Bridge Builder; Landscaper, Multiplate Culvert Assembler; Stone Handler; Bituminous Worker (Shoveler, Loader, Utility Man); Batch Truck Dumper; or Cement Handler; Bituminous Worker; (Dumper, Ironer, Smoother, Tamper); Concrete Handler	\$22.65	17.49
Group 2: Air Tool Operator; Joint Sawyer and Filler (Pavement); Vibrator or Tamper Operator (Mechanical Hand Operated); Chain Saw Operator; Demolition Burning Torch Laborer	22.80	17.49
Group 3: Bituminous Worker (Raker and Luteman); Formsetter (Curb, Sidewalk, and Pavement); Strike Off man	23.00	17.49
Group 4: Line and Grade Specialist	22.97	17.49
Group 5: Blaster and Powderman	23.30	17.49
Group 6: Flagman; traffic control person	19.79	17.49

Truck Drivers:

1 & 2 Axles	23.16	17.13
Three or More Axles; Euclids, Dumptr & Articulated, Truck Mechanic	23.31	17.13

CLASSES OF LABORER AND MECHANICS

Bricklayer	35.11	16.83
Piledriverman	24.47	19.46
Carpenter	30.52	14.41
Ironworker	30.51	22.72
Cement Mason/Concrete Finisher	28.50	19.72
Electrician		See Page 3
Line Construction		
Lineman	38.25	18.00
Heavy Equipment Operator	34.43	16.71
Equipment Operator	30.60	15.41
Heavy Groundman Driver	26.78	14.11
Light Groundman Driver	24.86	13.45
Groundsman	21.04	12.16
Millwrights (E. of Hwy 75).....	25.17	13.78
Millwrights (W. of Hwy 75)	25.32	13.78
Painter, Brush , Roller	30.30	17.04
Painter, Spray and Sandblaster	31.30	17.04
Painter, Steel	17.70	4.80
Well Drilling:		
Well Driller	16.52	3.70

Notes: Welders receive rate prescribed for craft performing operation to which welding is incidental. Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR, 5.5(a)(1)(ii)). Includes Modification 0, dated March 12, 2010; Modification 1, dated March 19, 2010; Modification 2, dated June 4, 2010; Modification 3, dated July 2, 2010; Modification 4, dated August 6, 2010; Modification 5, dated September 3, 2010; Modification 6, dated October 1, 2010; Modification 7, dated November 5, 2010; Modification 8, dated November 15, 2010; Modification 9, dated January 7, 2011; Modification #10 dated February 11, 2011; Modification #11 dated May 6, 2011; Modification #12 dated May 13, 2011; Modification #13 dated June 3, 2011; Modification #14 dated July 29, 2011; Modification #15 dated August 12, 2011; Modification #16 dated August 26, 2011; Modification #17 dated September 16, 2011; Modification #18 dated October 14, 2011; Modification #19 dated November 11, 2011; Modification #0, dated January 6, 2012; Modification #1 dated January 13, 2012; Modification #2 dated February 3, 2012; Modification #3 dated February 10, 2012; Modification #4 dated March 2, 2012; Modification #5 dated May 4, 2012; Modification #6 dated May 11, 2012; Modification #7 dated June 1, 2012; Modification #8 dated June 15, 2012; Modification #9 dated July 6, 2012; Modification #10 dated August 3, 2012; Modification #11 dated August 31, 2012; Modification #12 dated September 28, 2012; Modification #13 dated December 7, 2012.

SUPERSEDES DECISION WI20070010
U. S. DEPARTMENT OF LABOR
(DAVIS-BACON ACT, MINIMUM WAGE RATES)

STATE: Wisconsin

DECISION NUMBER: W1080010

DESCRIPTION OF WORK: Highways and Airport Runway and Taxiway Construction

DATE: December 7, 2012

<u>POWER EQUIPMENT OPERATORS CLASSIFICATION:</u>	<u>Basic Hourly Rates</u>	<u>Fringe Benefits</u>	<u>POWER EQUIPMENT OPERATORS CLASSIFICATION: (Continued)</u>	<u>Basic Hourly Rates</u>	<u>Fringe Benefits</u>
Group 1: Cranes, tower cranes and derricks, with or without attachments, with a lifting capacity of over 100 tons or cranes, tower cranes and derricks with boom, leads and/or jib lengths measuring 176 feet or longer	\$35.22	\$19.65	(scraper, dozer, pusher, loader); scraper - rubber tired (single or twin engine); end loader hydraulic backhoe (tractor-type); trenching machine; skid rigs; tractor, side boom (heavy); drilling or boring machine (mechanical heavy); roller (over 5 tons); percussion or rotary drilling machine; air track; blaster; loading machine (conveyor); tugger; boatmen; winches and A-frames; post driver; material hoist operator.	\$34.22	\$19.65
Group 2: Cranes, tower cranes and derricks, with or without attachments, with a lifting capacity of 100 tons or less or cranes, tower cranes and derricks with boom, leads and/or jib lengths measuring 175 feet or less, and backhoes (excavators) having a manufacturer's rated capacity of 3 cu. yds. and over, caisson rigs, pile driver, dredge operator, dredge engineer.....	\$34.72	\$19.65	Group 4: Greaser, roller steel (5 tons or less); roller (pneumatic tired) - self-propelled; tractor (mounted or towed compactors and light equipment); shouldering machine; self-propelled chip spreader; concrete spreader; finishing machine; mechanical float; curing machine; power subgrader; joint saw (multiple blade) belting machine; burlap machine; texturing machine; tractor, end loader (rubber tired) - light; jeep digger; fork lift; mulcher; launch operator; fireman; environmental burner.	\$33.96	\$19.65
Group 3: Mechanic or welder - heavy duty equipment, cranes with a lifting capacity of 25 tons or less, concrete breaker (manual or remote); vibrator/sonic concrete breaker; concrete laser screed; concrete slipform paver; concrete batch plant operator; concrete pavement spreader - heavy duty (rubber tired); concrete spreader and distributor, automatic subgrader (concrete); concrete grinder and planing machine; concrete slipform curb and gutter machine; slipform concrete placer; tube finisher; hydro blaster (10,000 psi and over); bridge paver; concrete conveyor system; concrete pump; stabilizing mixer (self propelled); shoulder widener; asphalt plant engineer; bituminous paver; bump cutter and grooving machine; milling machine; screed (bituminous paver); asphalt heater, planer and scarifier; backhoes (excavators) having a manufacturers rated capacity of under 3 cu. yds.; grader or motor patrol; tractor			Group 5: Air compressor; power pack; vibratory hammer and extractor; heavy equipment, leadman; tank car heaters; stump chipper; curb machine operator; concrete proportioning plants generators; mudjack operator; rock breaker; crusher or screening plant; screed (milling machine); automatic belt conveyor and surge bin; pug mill operator; oiler; pump (over 3 inches); drilling machine helper.....	\$33.67	\$19.65
			Group 6: Off - road material hauler with or without ejector	\$27.77	\$19.65
			Premium Pay: EPA Level "A" protection - \$3.00 per hour EPA Level "B" protection - \$2.00 per hour EPA Level "C" protection - \$1.00 per hours		

SUPERSEDES DECISION WI20070010
U. S. DEPARTMENT OF LABOR
(DAVIS-BACON ACT, MINIMUM WAGE RATES)

STATE: Wisconsin

DECISION NUMBER: W1080010

DESCRIPTION OF WORK: Highways and Airport Runway and Taxiway Construction

DATE: December 7, 2012

LABORERS CLASSIFICATION: Rates Benefits

			Area 4 -	BROWN, DOOR, KEWAUNEE, MANITOWOC (except Schleswig), MARINETTE (Wausauke and area south thereof), OCONTO, MENOMINEE (East of a line 6 miles West of the West boundary of Oconto County), SHAWANO (except area North of Townships of Aniwa and Hutchins) COUNTIES.
Electricians				
Area 1	\$27.80	16.52		
Area 2:				
Electricians.....	29.13	17.92	Area 5 -	ADAMS, CLARK (Colby, Freemont, Lynn, Mayville, Sherman, Sherwood, Unity), FOREST, JUNEAU, LANGLADE, LINCOLN, MARATHON, MARINETTE (Area North of the town of Wausauke), MENOMINEE (Area West of a line 6 miles West of the West boundary of Oconto County), ONEIDA, PORTAGE, SHAWANO (Area North of the townships of Aniwa and Hutchins), VILAS AND WOOD COUNTIES
Area 3:				
Electrical contracts under \$130,000	26.24	16.85		
Electrical contracts over \$130,000	29.41	16.97		
Area 4:	28.10	17.24		
Area 5	28.61	16.60		
Area 6	35.25	19.30	Area 6 -	KENOSHA COUNTY
Area 8				
Electricians.....	30.00	17.76	Area 8 -	DODGE, (Emmet Township only), GREEN, JEFFERSON, LAFAYETTE, RACINE (Burlington township), ROCK and WALWORTH COUNTIES
Area 9:				
Electricians.....	32.94	18.71	Area 9 -	COLUMBIA, DANE, DODGE, (area west of Hwy. 26, except Chester & Emmet Townships), GREEN LAKE (except townships of Berlin, Seneca and St. Marie), IOWA, MARQUETTE (except townships of Neshkoka, Crystal Lake, Newton and Springfield), and SAUK COUNTIES
Area 10	28.97	19.55		
Area 11	31.27	23.12		
Area 12	32.87	19.23		
Area 13	32.20	21.64	Area 10 -	CALUMET (Township of New Holstein), DODGE (East of Hwy. 26 including Chester Township), FOND DU LAC, MANITOWOC (Schleswig), and SHEBOYGAN COUNTIES
Teledata System Installer				
Area 14			Area 11 -	DOUGLAS COUNTY
Installer/Technician	21.89	11.83		
Sound & Communications			Area 12 -	RACINE (except Burlington township) COUNTY
Area 15				
Installer	16.47	14.84	Area 13 -	MILWAUKEE, OZAUKEE, WASHINGTON and WAUKESHA COUNTIES
Technician.....	24.75	16.04	Area 14 -	Statewide.
Area 1 -			Area 15 -	DODGE (East of Hwy 26 including Chester Twp, excluding Emmet Twp), FOND DU LAC (Except Waupun), MILWAUKEE, OZAUKEE, MANITOWOC (Schleswig), WASHINGTON, AND WAUKESHA COUNTIES.
CALUMET (except township of New Holstein), GREEN LAKE (N. part, including Townships of Berlin, St. Marie and Seneca), MARQUETTE (N. part, including Townships of Crystal Lake, Neshkoro, Newton & Springfield), OUTAGAMIE, WAUPACA, WAUSHARA and WINNEBAGO COUNTIES.				
Area 2 -				
ASHLAND, BARRON, BAYFIELD, BUFFALO, BURNETT, CHIPPEWA, CLARK (except Mayville, Colby, Unity, Sherman, Fremont, Lynn and Sherwood), CRAWFORD, DUNN, EAU CLAIRE, GRANT, IRON, JACKSON, LA CROSSE, MONROE, PEPIN, PIERCE, POLK, PRICE, RICHLAND, RUSK, ST. CROIX, SAWYER, TAYLOR, TREMPPEALEAU, VERNON and WASHBURN COUNTIES				
Area 3 -				
FLORENCE (townships of Aurora, Commonwealth, Fern, Florence and Homestead), MARINETTE (Niagara township)				

FEBRUARY 1999

**NOTICE TO BIDDERS
WAGE RATE DECISION**

The wage rate decision of the Secretary of Labor which has been incorporated in these advertised specifications is incomplete in that the classifications may be omitted from the Secretary of Labor's decision.

Since the bidder is responsible, independently, for ascertaining area practice with respect to the necessity, or lack of necessity, for the use of these classifications in the prosecution of the work contemplated by this project, no inference may be drawn from the omission of these classifications concerning prevailing area practices relative to their use. Further, this omission will not, per se, be construed as establishing any governmental liability for increased labor cost if it is subsequently determined that such classifications are required.

There may be omissions and/or errors in the federal wage rates. The bidder is responsible for evaluating and determining the correct applicable rate. The higher of state or federal rate will apply.

Wisconsin Department of Transportation

PAGE: 1

DATE: 12/11/12

REVISED:

SCHEDULE OF ITEMS

CONTRACT:
20130212004

PROJECT(S):

1030-11-70
1030-11-74
1030-11-77
1030-11-78
1030-25-77
1030-25-78

FEDERAL ID(S):

WISC 2013043
WISC 2013044
WISC 2013045
WISC 2013046
WISC 2013047
WISC 2013048

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS

SECTION 0001 ROADWAY ITEMS

0010	108.4400 CPM PROGRESS SCHEDULE	1.000 EACH	.		.	
0020	201.0105 CLEARING **p**	165.000 STA	.		.	
0030	201.0120 CLEARING	471.000 ID	.		.	
0040	201.0205 GRUBBING **p**	165.000 STA	.		.	
0050	201.0220 GRUBBING	471.000 ID	.		.	
0060	203.0100 REMOVING SMALL PIPE CULVERTS	124.000 EACH	.		.	
0070	203.0200 REMOVING OLD STRUCTURE (STATION) 027. 5906+05	LUMP	LUMP		.	
0080	203.0200 REMOVING OLD STRUCTURE (STATION) 028. 5921+18	LUMP	LUMP		.	

SCHEDULE OF ITEMS

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0090	203.0200 REMOVING OLD STRUCTURE (STATION) 029. 5938+28	LUMP	LUMP			.
0100	203.0200 REMOVING OLD STRUCTURE (STATION) 030. 5945+27	LUMP	LUMP			.
0110	203.0200 REMOVING OLD STRUCTURE (STATION) 031. 5954+68	LUMP	LUMP			.
0120	203.0200 REMOVING OLD STRUCTURE (STATION) 032. 5960+22	LUMP	LUMP			.
0130	203.0200 REMOVING OLD STRUCTURE (STATION) 033. 5979+62	LUMP	LUMP			.
0140	203.0200 REMOVING OLD STRUCTURE (STATION) 034. 6000+15	LUMP	LUMP			.
0150	203.0200 REMOVING OLD STRUCTURE (STATION) 035. 3007+01	LUMP	LUMP			.
0160	203.0200 REMOVING OLD STRUCTURE (STATION) 036. 3020+39	LUMP	LUMP			.
0170	203.0200 REMOVING OLD STRUCTURE (STATION) 040. 3130+67	LUMP	LUMP			.

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1030-25-78

WISC 2013048

CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0180	203.0200 REMOVING OLD STRUCTURE (STATION) 043. 5104+26	LUMP	LUMP			.
0190	203.0200 REMOVING OLD STRUCTURE (STATION) 044. 5083+15	LUMP	LUMP			.
0200	204.0100 REMOVING PAVEMENT ***P**	54,589.000 SY	.		.	
0210	204.0110 REMOVING ASPHALTIC SURFACE ***P**	215.000 SY	.		.	
0220	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS ***P**	360.000 SY	.		.	
0230	204.0125 REMOVING ASPHALTIC SURFACE MILLING	20,535.000 TON	.		.	
0240	204.0150 REMOVING CURB & GUTTER ***P**	2,210.000 LF	.		.	
0250	204.0155 REMOVING CONCRETE SIDEWALK ***P**	390.000 SY	.		.	
0260	204.0170 REMOVING FENCE ***P**	41,899.000 LF	.		.	
0270	204.0195 REMOVING CONCRETE BASES	2.000 EACH	.		.	

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CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0280	204.0210 REMOVING MANHOLES	2.000 EACH	.		.	
0290	204.0220 REMOVING INLETS	8.000 EACH	.		.	
0300	204.0245 REMOVING STORM SEWER (SIZE) 008. 18-INCH **P**	153.000 LF	.		.	
0310	204.0245 REMOVING STORM SEWER (SIZE) 022. 29 X 45-INCH **P**	7.000 LF	.		.	
0320	204.0280 SEALING PIPES	1.000 EACH	.		.	
0330	204.9060.S REMOVING (ITEM DESCRIPTION) 001. GATE	2.000 EACH	.		.	
0340	205.0100 EXCAVATION COMMON	410,291.000 CY	.		.	
0350	205.0501.S EXCAVATION, HAULING, AND DISPOSAL OF PETROLEUM CONTAMINATED SOIL	425.000 TON	.		.	
0360	208.1100 SELECT BORROW	7,530.000 CY	.		.	

SCHEDULE OF ITEMS

CONTRACT:

20130212004

PROJECT(S):

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CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0370	213.0100 FINISHING ROADWAY (PROJECT) 012. 1030-11-77	1.000 EACH	.		.	
0380	213.0100 FINISHING ROADWAY (PROJECT) 014. 1030-11-78	1.000 EACH	.		.	
0390	213.0100 FINISHING ROADWAY (PROJECT) 016. 1030-11-70	1.000 EACH	.		.	
0400	213.0100 FINISHING ROADWAY (PROJECT) 018. 1030-11-74	1.000 EACH	.		.	
0410	213.0100 FINISHING ROADWAY (PROJECT) 020. 1030-25-77	1.000 EACH	.		.	
0420	213.0100 FINISHING ROADWAY (PROJECT) 022. 1030-25-78	1.000 EACH	.		.	
0430	214.0100 OBLITERATING OLD ROAD **P**	35.000 STA	.		.	
0440	305.0110 BASE AGGREGATE DENSE 3/4-INCH	20,513.000 TON	.		.	
0450	311.0110 BREAKER RUN	11,965.000 TON	.		.	
0460	415.0095 CONCRETE PAVEMENT 9 1/2-INCH **P**	13,600.000 SY	.		.	

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CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0470	415.0210 CONCRETE PAVEMENT GAPS	3.000 EACH	.		.	
0480	415.1095 CONCRETE PAVEMENT HES 9 1/2-INCH	770.000 SY	.		.	
0490	416.0160 CONCRETE DRIVEWAY 6-INCH **p**	155.000 SY	.		.	
0500	416.1010 CONCRETE SURFACE DRAINS **p**	6.300 CY	.		.	
0510	440.4410.S INCENTIVE IRI RIDE	31,482.000 DOL	1.00000		31482.00	
0520	455.0105 ASPHALTIC MATERIAL PG58-28	4,299.000 TON	.		.	
0530	455.0115 ASPHALTIC MATERIAL PG64-22	30.000 TON	.		.	
0540	455.0605 TACK COAT	5,858.000 GAL	.		.	
0550	460.1101 HMA PAVEMENT TYPE E-1	1,830.000 TON	.		.	
0560	460.1103 HMA PAVEMENT TYPE E-3	67,831.000 TON	.		.	

SCHEDULE OF ITEMS

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CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0570	460.1110 HMA PAVEMENT TYPE E-10	1,800.000 TON	.		.	
0580	460.2000 INCENTIVE DENSITY HMA PAVEMENT	45,843.000 DOL	1.00000		45843.00	
0590	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	1,801.000 TON	.		.	
0600	465.0310 ASPHALTIC CURB	82.000 LF	.		.	
0610	465.0315 ASPHALTIC FLUMES ***p**	298.000 SY	.		.	
0620	520.0115 CULVERT PIPE CLASS III 15-INCH	50.000 LF	.		.	
0630	520.0118 CULVERT PIPE CLASS III 18-INCH	776.000 LF	.		.	
0640	520.0124 CULVERT PIPE CLASS III 24-INCH	1,019.000 LF	.		.	
0650	520.0130 CULVERT PIPE CLASS III 30-INCH	78.000 LF	.		.	
0660	520.8000 CONCRETE COLLARS FOR PIPE	13.000 EACH	.		.	

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CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0670	521.0118 CULVERT PIPE CORRUGATED STEEL 18-INCH	249.000 LF	.		.	
0680	521.0124 CULVERT PIPE CORRUGATED STEEL 24-INCH	140.000 LF	.		.	
0690	521.0342 APRON ENDWALLS FOR CULVERT PIPE SLOPED CROSS DRAINS STEEL 42-INCH 4 TO 1	3.000 EACH	.		.	
0700	521.0728 PIPE ARCH CORRUGATED STEEL 28X20-INCH	100.000 LF	.		.	
0710	521.1018 APRON ENDWALLS FOR CULVERT PIPE STEEL 18-INCH	12.000 EACH	.		.	
0720	521.1024 APRON ENDWALLS FOR CULVERT PIPE STEEL 24-INCH	7.000 EACH	.		.	
0730	521.1228 APRON ENDWALLS FOR PIPE ARCH STEEL 28X20-INCH	2.000 EACH	.		.	
0740	521.1515 APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS STEEL 15-INCH 6 TO 1	2.000 EACH	.		.	
0750	521.1518 APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS STEEL 18-INCH 6 TO 1	39.000 EACH	.		.	

SCHEDULE OF ITEMS

CONTRACT:	PROJECT(S):	FEDERAL ID(S):
20130212004	1030-11-70	WISC 2013043
	1030-11-74	WISC 2013044
	1030-11-77	WISC 2013045
	1030-11-78	WISC 2013046
	1030-25-77	WISC 2013047
	1030-25-78	WISC 2013048

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0760	521.1524 APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS STEEL 24-INCH 6 TO 1	EACH 47.000	.		.	
0770	521.1530 APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS STEEL 30-INCH 6 TO 1	EACH 4.000	.		.	
0780	522.0115 CULVERT PIPE REINFORCED CONCRETE CLASS III 15-INCH	LF 76.000	.		.	
0790	522.0124 CULVERT PIPE REINFORCED CONCRETE CLASS III 24-INCH	LF 454.000	.		.	
0800	522.0130 CULVERT PIPE REINFORCED CONCRETE CLASS III 30-INCH	LF 212.000	.		.	
0810	522.0136 CULVERT PIPE REINFORCED CONCRETE CLASS III 36-INCH	LF 89.000	.		.	
0820	522.0324 CULVERT PIPE REINFORCED CONCRETE CLASS IV 24-INCH	LF 156.000	.		.	
0830	522.1012 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH	EACH 6.000	.		.	
0840	522.1015 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 15-INCH	EACH 19.000	.		.	

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CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0850	522.1018 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH	EACH 6.000	.		.	
0860	522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH	EACH 36.000	.		.	
0870	522.1030 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH	EACH 5.000	.		.	
0880	522.1036 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH	EACH 16.000	.		.	
0890	522.1042 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 42-INCH	EACH 6.000	.		.	
0900	522.1048 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 48-INCH	EACH 1.000	.		.	
0910	523.0129 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 29X45-INCH	LF 68.000	.		.	

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CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0920	523.0134 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 34X53-INCH	80.000 LF	.		.	
0930	523.0419 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 19X30-INCH	174.000 LF	.		.	
0940	523.0429 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 29X45-INCH	112.000 LF	.		.	
0950	523.0434 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 34X53-INCH	74.000 LF	.		.	
0960	523.0519 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 19X30-INCH	10.000 EACH	.		.	
0970	523.0524 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 24X38-INCH	2.000 EACH	.		.	
0980	523.0529 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 29X45-INCH	17.000 EACH	.		.	

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0990	523.0534 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 34X53-INCH	12.000 EACH				
1000	523.0538 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 38X60-INCH	5.000 EACH				
1010	601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A **p**	3,995.000 LF				
1020	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D **p**	4,220.000 LF				
1030	601.0553 CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE D **p**	11,052.000 LF				
1040	601.0555 CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE A **p**	140.000 LF				
1050	601.0557 CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE D **p**	453.000 LF				
1060	602.0410 CONCRETE SIDEWALK 5-INCH **p**	830.000 SF				
1070	602.2400 CONCRETE SAFETY ISLANDS	4,084.000 SF				

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CONTRACTOR :

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			DOLLARS	CTS	DOLLARS	CTS
1080	606.0100 RIPRAP LIGHT	95.000				
		CY	.		.	
1090	606.0200 RIPRAP MEDIUM	924.000				
		CY	.		.	
1100	608.0315 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH	95.000				
		LF	.		.	
1110	608.0330 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 30-INCH	401.000				
		LF	.		.	
1120	608.0336 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 36-INCH	327.000				
		LF	.		.	
1130	608.0342 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 42-INCH	25.000				
		LF	.		.	
1140	608.0348 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 48-INCH	414.000				
		LF	.		.	
1150	608.0412 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 12-INCH	676.000				
		LF	.		.	
1160	608.0415 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 15-INCH	1,719.000				
		LF	.		.	

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CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1170	608.0418 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 18-INCH	1,418.000 LF	.		.	
1180	608.0424 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 24-INCH	1,859.000 LF	.		.	
1190	608.0430 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 30-INCH	681.000 LF	.		.	
1200	608.0436 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 36-INCH	1,541.000 LF	.		.	
1210	608.0442 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 42-INCH	568.000 LF	.		.	
1220	608.0448 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 48-INCH	1,877.000 LF	.		.	
1230	608.0454 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 54-INCH	14.000 LF	.		.	
1240	608.0512 STORM SEWER PIPE REINFORCED CONCRETE CLASS V 12-INCH	2,000.000 LF	.		.	
1250	610.0124 STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 24X38-INCH	933.000 LF	.		.	

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CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1260	610.0129 STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 29X45-INCH	496.000 LF				
1270	610.0134 STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 34X53-INCH	642.000 LF				
1280	610.0138 STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 38X60-INCH	417.000 LF				
1290	610.0419 STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 19X30-INCH	438.000 LF				
1300	610.0424 STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 24X38-INCH	17.000 LF				
1310	610.0429 STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 29X45-INCH	282.000 LF				
1320	611.0420 RECONSTRUCTING MANHOLES	1.000 EACH				

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CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1330	611.0430 RECONSTRUCTING INLETS	1.000 EACH	.		.	
1340	611.0535 MANHOLE COVERS TYPE J-SPECIAL	100.000 EACH	.		.	
1350	611.0606 INLET COVERS TYPE B	1.000 EACH	.		.	
1360	611.0612 INLET COVERS TYPE C	6.000 EACH	.		.	
1370	611.0624 INLET COVERS TYPE H	24.000 EACH	.		.	
1380	611.0627 INLET COVERS TYPE HM	33.000 EACH	.		.	
1390	611.0642 INLET COVERS TYPE MS	67.000 EACH	.		.	
1400	611.0651 INLET COVERS TYPE S	2.000 EACH	.		.	
1410	611.0654 INLET COVERS TYPE V	2.000 EACH	.		.	
1420	611.2004 MANHOLES 4-FT DIAMETER	8.000 EACH	.		.	

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CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1430	611.2005 MANHOLES 5-FT DIAMETER	14.000 EACH	.		.	
1440	611.2006 MANHOLES 6-FT DIAMETER	11.000 EACH	.		.	
1450	611.2007 MANHOLES 7-FT DIAMETER	18.000 EACH	.		.	
1460	611.2008 MANHOLES 8-FT DIAMETER	11.000 EACH	.		.	
1470	611.3004 INLETS 4-FT DIAMETER	16.000 EACH	.		.	
1480	611.3220 INLETS 2X2-FT	1.000 EACH	.		.	
1490	611.3225 INLETS 2X2.5-FT	2.000 EACH	.		.	
1500	611.3230 INLETS 2X3-FT	36.000 EACH	.		.	
1510	611.3901 INLETS MEDIAN 1 GRATE	13.000 EACH	.		.	
1520	611.3902 INLETS MEDIAN 2 GRATE	18.000 EACH	.		.	

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CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1530	611.3903 INLETS MEDIAN 3 GRATE	2.000 EACH	.		.	
1540	611.3904 INLETS MEDIAN 4 GRATE	1.000 EACH	.		.	
1550	611.9800.S PIPE GRATES	10.000 EACH	.		.	
1560	612.0106 PIPE UNDERDRAIN 6-INCH	7,395.000 LF	.		.	
1570	612.0206 PIPE UNDERDRAIN UNPERFORATED 6-INCH	1,195.000 LF	.		.	
1580	612.0208 PIPE UNDERDRAIN UNPERFORATED 8-INCH	480.000 LF	.		.	
1590	612.0210 PIPE UNDERDRAIN UNPERFORATED 10-INCH	480.000 LF	.		.	
1600	612.0212 PIPE UNDERDRAIN UNPERFORATED 12-INCH	480.000 LF	.		.	
1610	612.0700 DRAIN TILE EXPLORATION	7,500.000 LF	.		.	

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CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1620	612.0806 APRON ENDWALLS FOR UNDERDRAIN REINFORCED CONCRETE 6-INCH	6.000 EACH	.		.	
1630	614.0230 STEEL THRIE BEAM	275.000 LF	.		.	
1640	614.0396 GUARDRAIL MOW STRIP ASPHALT	1,746.000 SY	.		.	
1650	614.0920 SALVAGED RAIL	6,377.000 LF	.		.	
1660	614.0925 SALVAGED GUARDRAIL END TREATMENTS	12.000 EACH	.		.	
1670	614.2300 MGS GUARDRAIL 3 **p**	4,439.000 LF	.		.	
1680	614.2500 MGS THRIE BEAM TRANSITION **p**	79.000 LF	.		.	
1690	614.2610 MGS GUARDRAIL TERMINAL EAT	18.000 EACH	.		.	
1700	616.0100 FENCE WOVEN WIRE (HEIGHT) 001. 4-FT MANDATORY SUB	43,458.000 LF	.		.	

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CONTRACTOR :

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			DOLLARS	CTS	DOLLARS	CTS
1710	616.0329 GATES CHAIN LINK (WIDTH) 001. 12-FT MANDATORY SUB	3.000 EACH	.		.	
1720	616.0700.S FENCE SAFETY MANDATORY SUB	13,110.000 LF	.		.	
1730	618.0100 MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 012. 1030-11-70	1.000 EACH	.		.	
1740	618.0100 MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 013. 1030-11-74	1.000 EACH	.		.	
1750	618.0100 MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 014. 1030-25-77	1.000 EACH	.		.	
1760	618.0100 MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 015. 1030-25-78	1.000 EACH	.		.	
1770	618.0100 MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 016. 1030-11-77	1.000 EACH	.		.	
1780	618.0100 MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 017. 1030-11-78	1.000 EACH	.		.	

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CONTRACTOR :

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			DOLLARS	CTS	DOLLARS	CTS
1790	619.1000 MOBILIZATION	1.000				
		EACH	.		.	
1800	620.0300 CONCRETE MEDIAN SLOPED NOSE **P**	764.000				
		SF	.		.	
1810	621.0100 LANDMARK REFERENCE MONUMENTS	71.000				
		EACH	.		.	
1820	623.0200 DUST CONTROL SURFACE TREATMENT	269,880.000				
		SY	.		.	
1830	624.0100 WATER	2,023.000				
		MGAL	.		.	
1840	625.0500 SALVAGED TOPSOIL **P**	450,960.000				
		SY	.		.	
1850	627.0200 MULCHING **P** MANDATORY SUB	404,070.000				
		SY	.		.	
1860	628.1104 EROSION BALES MANDATORY SUB	4,100.000				
		EACH	.		.	
1870	628.1504 SILT FENCE MANDATORY SUB	21,739.000				
		LF	.		.	
1880	628.1520 SILT FENCE MAINTENANCE MANDATORY SUB	21,739.000				
		LF	.		.	

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CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1890	628.1905 MOBILIZATIONS EROSION CONTROL MANDATORY SUB	21.000 EACH	.		.	
1900	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL MANDATORY SUB	19.000 EACH	.		.	
1910	628.1920 CLEANING SEDIMENT BASINS MANDATORY SUB	4.000 CY	.		.	
1920	628.2004 EROSION MAT CLASS I TYPE B MANDATORY SUB	157,061.000 SY	.		.	
1930	628.2027 EROSION MAT CLASS II TYPE C MANDATORY SUB	25,753.000 SY	.		.	
1940	628.6510 SOIL STABILIZER TYPE B	9.000 ACRE	.		.	
1950	628.7005 INLET PROTECTION TYPE A MANDATORY SUB	188.000 EACH	.		.	
1960	628.7015 INLET PROTECTION TYPE C MANDATORY SUB	63.000 EACH	.		.	
1970	628.7020 INLET PROTECTION TYPE D MANDATORY SUB	15.000 EACH	.		.	
1980	628.7504 TEMPORARY DITCH CHECKS MANDATORY SUB	6,865.000 LF	.		.	

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1990	628.7555 CULVERT PIPE CHECKS MANDATORY SUB	382.000 EACH	.		.	
2000	628.7560 TRACKING PADS	38.000 EACH	.		.	
2010	628.7570 ROCK BAGS MANDATORY SUB	80.000 EACH	.		.	
2020	629.0210 FERTILIZER TYPE B MANDATORY SUB	313.000 CWT	.		.	
2030	630.0120 SEEDING MIXTURE NO. 20 MANDATORY SUB	12,329.000 LB	.		.	
2040	630.0140 SEEDING MIXTURE NO. 40 MANDATORY SUB	1,170.000 LB	.		.	
2050	630.0160 SEEDING MIXTURE NO. 60 MANDATORY SUB	311.000 LB	.		.	
2060	630.0200 SEEDING TEMPORARY MANDATORY SUB	13,738.000 LB	.		.	
2070	631.0300 SOD WATER MANDATORY SUB	218.000 MGAL	.		.	
2080	631.1000 SOD LAWN MANDATORY SUB	5,650.000 SY	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
2090	631.1100 SOD EROSION CONTROL MANDATORY SUB	700.000 SY	.		.	
2100	633.0100 DELINEATOR POSTS STEEL MANDATORY SUB	129.000 EACH	.		.	
2110	633.0500 DELINEATOR REFLECTORS MANDATORY SUB	231.000 EACH	.		.	
2120	633.1000 DELINEATOR BRACKETS MANDATORY SUB	3.000 EACH	.		.	
2130	633.5200 MARKERS CULVERT END MANDATORY SUB	130.000 EACH	.		.	
2140	634.0612 POSTS WOOD 4X6-INCH X 12-FT MANDATORY SUB	8.000 EACH	.		.	
2150	634.0614 POSTS WOOD 4X6-INCH X 14-FT MANDATORY SUB	55.000 EACH	.		.	
2160	634.0616 POSTS WOOD 4X6-INCH X 16-FT MANDATORY SUB	201.000 EACH	.		.	
2170	634.0618 POSTS WOOD 4X6-INCH X 18-FT MANDATORY SUB	21.000 EACH	.		.	

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REVISED:

CONTRACT:

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CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2180	634.0814 POSTS TUBULAR STEEL 2X2-INCH X 14-FT MANDATORY SUB	EACH 4.000	.		.	
2190	634.0816 POSTS TUBULAR STEEL 2X2-INCH X 16-FT MANDATORY SUB	EACH 2.000	.		.	
2200	637.0202 SIGNS REFLECTIVE TYPE II MANDATORY SUB	SF 2,460.300	.		.	
2210	637.0402 SIGNS REFLECTIVE FOLDING TYPE II MANDATORY SUB	SF 20.000	.		.	
2220	638.2102 MOVING SIGNS TYPE II MANDATORY SUB	EACH 22.000	.		.	
2230	638.2602 REMOVING SIGNS TYPE II MANDATORY SUB	EACH 190.000	.		.	
2240	638.3000 REMOVING SMALL SIGN SUPPORTS MANDATORY SUB	EACH 165.000	.		.	
2250	638.4000 MOVING SMALL SIGN SUPPORTS MANDATORY SUB	EACH 2.000	.		.	
2260	642.6001 FIELD LABORATORY	EACH 1.000	.		.	

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CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2270	643.0100 TRAFFIC CONTROL (PROJECT) 012. 1030-11-77 MANDATORY SUB	EACH 1.000				
			.		.	
2280	643.0100 TRAFFIC CONTROL (PROJECT) 014. 1030-11-78 MANDATORY SUB	EACH 1.000				
			.		.	
2290	643.0100 TRAFFIC CONTROL (PROJECT) 016. 1030-11-70 MANDATORY SUB	EACH 1.000				
			.		.	
2300	643.0100 TRAFFIC CONTROL (PROJECT) 018. 1030-11-74 MANDATORY SUB	EACH 1.000				
			.		.	
2310	643.0100 TRAFFIC CONTROL (PROJECT) 020. 1030-25-77 MANDATORY SUB	EACH 1.000				
			.		.	
2320	643.0100 TRAFFIC CONTROL (PROJECT) 022. 1030-25-78 MANDATORY SUB	EACH 1.000				
			.		.	
2330	643.0300 TRAFFIC CONTROL DRUMS MANDATORY SUB	26,164.000 DAY				
			.		.	
2340	643.0420 TRAFFIC CONTROL BARRICADES TYPE III MANDATORY SUB	13,310.000 DAY				
			.		.	

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CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2350	643.0453 TRAFFIC CONTROL BARRICADES PERMANENT TYPE III MANDATORY SUB	14.000 EACH	.		.	
2360	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A MANDATORY SUB	26,391.000 DAY	.		.	
2370	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C MANDATORY SUB	1,520.000 DAY	.		.	
2380	643.0800 TRAFFIC CONTROL ARROW BOARDS MANDATORY SUB	185.000 DAY	.		.	
2390	643.0900 TRAFFIC CONTROL SIGNS MANDATORY SUB	27,379.000 DAY	.		.	
2400	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II MANDATORY SUB	30.000 EACH	.		.	
2410	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE MANDATORY SUB	662.000 SF	.		.	
2420	643.1050 TRAFFIC CONTROL SIGNS PCMS MANDATORY SUB	413.000 DAY	.		.	
2430	643.2000 TRAFFIC CONTROL DETOUR (PROJECT) 001. 1030-11-70 MANDATORY SUB	1.000 EACH	.		.	

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CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2440	643.2000 TRAFFIC CONTROL DETOUR (PROJECT) 002. 1030-11-74 MANDATORY SUB	1.000 EACH	.		.	
2450	643.3000 TRAFFIC CONTROL DETOUR SIGNS MANDATORY SUB	65,840.000 DAY	.		.	
2460	645.0111 GEOTEXTILE FABRIC TYPE DF SCHEDULE A **p**	4,115.000 SY	.		.	
2470	645.0120 GEOTEXTILE FABRIC TYPE HR **p**	1,800.000 SY	.		.	
2480	645.0130 GEOTEXTILE FABRIC TYPE R **p**	255.000 SY	.		.	
2490	646.0106 PAVEMENT MARKING EPOXY 4-INCH MANDATORY SUB	206,778.000 LF	.		.	
2500	646.0126 PAVEMENT MARKING EPOXY 8-INCH MANDATORY SUB	2,660.000 LF	.		.	
2510	646.0600 REMOVING PAVEMENT MARKINGS MANDATORY SUB	27,360.000 LF	.		.	
2520	646.0805.S PAVEMENT MARKING OUTFALL MANDATORY SUB	6.000 EACH	.		.	

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CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2530	646.0841.S PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH MANDATORY SUB	825.000 LF	.		.	
2540	646.0843.S PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH MANDATORY SUB	1,715.000 LF	.		.	
2550	646.0881.S PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH MANDATORY SUB	8,180.000 LF	.		.	
2560	646.0883.S PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 8-INCH MANDATORY SUB	7,466.000 LF	.		.	
2570	646.0900.S PAVEMENT MARKING LATE SEASON MANDATORY SUB	72,977.000 LF	.		.	
2580	647.0166 PAVEMENT MARKING ARROWS EPOXY TYPE 2 MANDATORY SUB	15.000 EACH	.		.	
2590	647.0176 PAVEMENT MARKING ARROWS EPOXY TYPE 3 MANDATORY SUB	6.000 EACH	.		.	
2600	647.0356 PAVEMENT MARKING WORDS EPOXY MANDATORY SUB	15.000 EACH	.		.	

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CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2610	647.0456 PAVEMENT MARKING CURB EPOXY MANDATORY SUB	250.000 LF	.		.	
2620	647.0566 PAVEMENT MARKING STOP LINE EPOXY 18-INCH MANDATORY SUB	186.000 LF	.		.	
2630	647.0606 PAVEMENT MARKING ISLAND NOSE EPOXY MANDATORY SUB	9.000 EACH	.		.	
2640	647.0726 PAVEMENT MARKING DIAGONAL EPOXY 12-INCH MANDATORY SUB	2,335.000 LF	.		.	
2650	647.0746 PAVEMENT MARKING DIAGONAL EPOXY 24-INCH MANDATORY SUB	390.000 LF	.		.	
2660	648.0100 LOCATING NO-PASSING ZONES ***P*** MANDATORY SUB	7.910 MI	.		.	
2670	649.0300 TEMPORARY PAVEMENT MARKING REFLECTIVE TAPE 4-INCH MANDATORY SUB	6,600.000 LF	.		.	
2680	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	2,080.000 LF	.		.	
2690	652.0335 CONDUIT RIGID NONMETALLIC SCHEDULE 80 3-INCH	60.000 LF	.		.	

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CONTRACT:

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CONTRACTOR :

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			DOLLARS	CTS	DOLLARS	CTS
2700	652.0605 CONDUIT SPECIAL 2-INCH	220.000 LF	.		.	
2710	653.0140 PULL BOXES STEEL 24X42-INCH MANDATORY SUB	15.000 EACH	.		.	
2720	654.0215 CONCRETE CONTROL CABINET BASES TYPE 9 MANDATORY SUB	1.000 EACH	.		.	
2730	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG MANDATORY SUB	1,320.000 LF	.		.	
2740	655.0620 ELECTRICAL WIRE LIGHTING 8 AWG MANDATORY SUB	4,455.000 LF	.		.	
2750	655.0625 ELECTRICAL WIRE LIGHTING 6 AWG MANDATORY SUB	5,330.000 LF	.		.	
2760	656.0400 ELECTRICAL SERVICE MAIN LUGS ONLY METER PEDESTAL (LOCATION) 001. HL-51-RJ MANDATORY SUB	LUMP	LUMP		.	
2770	659.0802 PLAQUES SEQUENCE IDENTIFICATION MANDATORY SUB	4.000 EACH	.		.	
2780	690.0150 SAWING ASPHALT	2,094.000 LF	.		.	

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CONTRACTOR :

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			DOLLARS	CTS	DOLLARS	CTS
2790	690.0250 SAWING CONCRETE	3,658.000				
	LF		.		.	
2800	ASP.1T0A ON-THE-JOB TRAINING APPRENTICE AT \$5.00/HR	800.000	5.00000		4000.00	
	HRS					
2810	ASP.1T0G ON-THE-JOB TRAINING GRADUATE AT \$5. 00/HR	3,000.000	5.00000		15000.00	
	HRS					
2820	SPV.0035 SPECIAL 001. POND LINING CLAY	2,570.000				
	CY		.		.	
2830	SPV.0035 SPECIAL 003. ABANDONING SEWER SPECIAL	256.000				
	CY		.		.	
2840	SPV.0060 SPECIAL 001. BOX SPILLWAY 5' X 5'	1.000				
	EACH		.		.	
2850	SPV.0060 SPECIAL 002. ROOTSTOCK VEGETATION MANDATORY SUB	1,170.000				
	EACH		.		.	
2860	SPV.0060 SPECIAL 003. COVER PLATES LEFT IN PLACE	4.000				
	EACH		.		.	
2870	SPV.0060 SPECIAL 005. SALVAGE EXISTING RAMP GATE SYSTEM	2.000				
	EACH		.		.	

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CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2880	SPV.0060 SPECIAL 006. SALVAGING EXISTING ACCESS GATE	1.000 EACH	.		.	
2890	SPV.0060 SPECIAL 009. EROSION CONTROL FILTER BAGS MANDATORY SUB	95.000 EACH	.		.	
2900	SPV.0060 SPECIAL 012. EXPOSING EXISTING UTILITY MANDATORY SUB	20.000 EACH	.		.	
2910	SPV.0060 SPECIAL 014. BOX SPILLWAY 2'X2.5'	1.000 EACH	.		.	
2920	SPV.0060 SPECIAL 015. BOX SPILLWAY 2'X4'	1.000 EACH	.		.	
2930	SPV.0060 SPECIAL 017. PERMANENT BARRICADES TYPE III MANDATORY SUB	8.000 EACH	.		.	
2940	SPV.0060 SPECIAL 018. BARRICADE RACK MANDATORY SUB	2.000 EACH	.		.	
2950	SPV.0060 SPECIAL 024. SEALING PIPE STUBS	7.000 EACH	.		.	
2960	SPV.0060 SPECIAL 027. MANHOLES 10-FT DIAMETER	6.000 EACH	.		.	

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CONTRACTOR :

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			DOLLARS	CTS	DOLLARS	CTS
2970	SPV.0060 SPECIAL 030. SILT FENCE DRAINAGE OUTLET EROSION CONTROL FILTER BAGS MANDATORY SUB	EACH 37.000				
2980	SPV.0060 SPECIAL 031. SILT FENCE DRAINAGE OUTLET ROCK BAGS MANDATORY SUB	EACH 34.000				
2990	SPV.0060 SPECIAL 060. SURFACE SETTLEMENT MARKERS	EACH 3.000				
3000	SPV.0060 SPECIAL 062. ABANDONMENT OF GEOTECHNICAL INSTRUMENTATION	EACH 1.000				
3010	SPV.0060 SPECIAL 072. FLEXIBLE TUBULAR MARKER BASES LEFT IN PLACE MANDATORY SUB	EACH 40.000				
3020	SPV.0060 SPECIAL 073. FLEXIBLE TUBULAR MARKER POSTS LEFT IN PLACE MANDATORY SUB	EACH 40.000				
3030	SPV.0060 SPECIAL 077. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS MANDATORY SUB	EACH 24.000				
3040	SPV.0060 SPECIAL 080. RECONSTRUCTING MANHOLES SPECIAL	EACH 2.000				

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CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
3050	SPV.0060 SPECIAL 081. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2 MANDATRY SUB	29.000 EACH	.		.	
3060	SPV.0060 SPECIAL 084. INLETS MEDIAN 4 GRATE MODIFIED	2.000 EACH	.		.	
3070	SPV.0060 SPECIAL 100. INSTALLING STATE FURNISHED DISTRIBUTION CENTERS MANDATORY SUB	1.000 EACH	.		.	
3080	SPV.0060 SPECIAL 102. REMOVING LIGHTING UNITS MANDATORY SUB	4.000 EACH	.		.	
3090	SPV.0060 SPECIAL 103. LAMP DISPOSAL HIGH INTENSITY DISCHARGE MANDATORY SUB	4.000 EACH	.		.	
3100	SPV.0060 SPECIAL 108. TEMPORARY WOOD POLE LIGHTING UNITS MANDATORY SUB	12.000 EACH	.		.	
3110	SPV.0075 SPECIAL 001. TRUCK MOUNTED ATTENUATOR	60.000 HRS	.		.	
3120	SPV.0075 SPECIAL 002. BOULDER OBSTRUCTIONS	5.000 HRS	.		.	

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CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
3130	SPV.0090 SPECIAL 010. CONCRETE BARRIER PAN REINFORCED 42-INCH	277.000 LF	.		.	
3140	SPV.0090 SPECIAL 025. WET REFLECTIVE REMOVABLE TEMPORARY PAVEMENT MARKING TAPE MANDATORY SUB	6,600.000 LF	.		.	
3150	SPV.0090 SPECIAL 063. MICRO TUNNELING STORM SEWER REINFORCED CONCRETE PIPE CLASS V 54-INCH	243.000 LF	.		.	
3160	SPV.0090 SPECIAL 080. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE 18-IN MNDTRY SUB	506.000 LF	.		.	
3170	SPV.0090 SPECIAL 101. REMOVING OVERHEAD LIGHTING CABLE MANDATORY SUB	1,500.000 LF	.		.	
3180	SPV.0090 SPECIAL 111. OVERHEAD CABLE QUADRUPLX 6 AWG MANDATORY SUB	1,060.000 LF	.		.	
3190	SPV.0105 SPECIAL 001. FIELD OFFICE FIXED	LUMP	LUMP		.	
3200	SPV.0105 SPECIAL 012. SURVEY PROJECT 1030-11-77	LUMP	LUMP		.	

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CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
3210	SPV.0105 SPECIAL 013. PAVEMENT CLEANUP PROJECT 1030-11-77	LUMP	LUMP			.
3220	SPV.0105 SPECIAL 014. SURVEY PROJECT 1030-11-78	LUMP	LUMP			.
3230	SPV.0105 SPECIAL 015. PAVEMENT CLEANUP PROJECT 1030-11-78	LUMP	LUMP			.
3240	SPV.0105 SPECIAL 016. SURVEY PROJECT 1030-11-70	LUMP	LUMP			.
3250	SPV.0105 SPECIAL 017. PAVEMENT CLEANUP PROJECT 1030-11-70	LUMP	LUMP			.
3260	SPV.0105 SPECIAL 018. SURVEY PROJECT 1030-11-74	LUMP	LUMP			.
3270	SPV.0105 SPECIAL 019. PAVEMENT CLEANUP PROJECT 1030-11-74	LUMP	LUMP			.
3280	SPV.0105 SPECIAL 020. SURVEY PROJECT 1030-25-77	LUMP	LUMP			.
3290	SPV.0105 SPECIAL 021. PAVEMENT CLEANUP PROJECT 1030-25-77	LUMP	LUMP			.
3300	SPV.0105 SPECIAL 022. SURVEY PROJECT 1030-25-78	LUMP	LUMP			.

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			DOLLARS	CTS	DOLLARS	CTS
3310	SPV.0105 SPECIAL 023. PAVEMENT CLEANUP PROJECT 1030-25-78	LUMP	LUMP		.	
3320	SPV.0105 SPECIAL 096. FLASHING SOLAR BEACON ASSEMBLY STA 24+00 RT	LUMP	LUMP		.	
3330	SPV.0105 SPECIAL 097. FLASHING SOLAR BEACON ASSEMBLY STA 24+00 LT	LUMP	LUMP		.	
3340	SPV.0105 SPECIAL 111. FREEWAY LIGHTING INTEGRATOR ID 1030-11-70 MANDATORY SUB	LUMP	LUMP		.	
3350	SPV.0105 SPECIAL 112. FREEWAY LIGHTING INTEGRATOR ID 1070-11-74 MANDATORY SUB	LUMP	LUMP		.	
3360	SPV.0105 SPECIAL 601. FLASHING SOLAR BEACON ASSEMBLY STA 57+75 RT	LUMP	LUMP		.	
3370	SPV.0105 SPECIAL 602. FLASHING SOLAR BEACON ASSEMBLY STA 57+75 LT	LUMP	LUMP		.	
3380	SPV.0180 SPECIAL 001. GEOGRID REINFORCEMENT	311,905.000 SY	.		.	
3390	SPV.0180 SPECIAL 002. GEOTEXTILE FABRIC TYPE FF	960.000 SY	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
3400	SPV.0180 SPECIAL 002. GEOTEXTILE FABRIC TYPE FF MANDATORY SUB	720.000 SY	.		.	
3410	SPV.0180 SPECIAL 004. REMOVING RUMBLE STRIPS	400.000 SY	.		.	
3420	SPV.0180 SPECIAL 005. ROOTSTOCK PROTECTION MANDATORY SUB	2,860.000 SY	.		.	
3430	SPV.0180 SPECIAL 006. MULCHING SPECIAL MANDATORY SUB	8,940.000 SY	.		.	
3440	SPV.0195 SPECIAL 002. BASE AGGREGATE DENSE 1 1/4-INCH SPECIAL	236,506.000 TON	.		.	
3450	SPV.0195 SPECIAL 006. SELECT SUBBASE	139,862.000 TON	.		.	
3460	SPV.0200 SPECIAL 001. MANHOLES 4-FT DIAMETER SPECIAL	690.000 VF	.		.	
	SECTION 0001 TOTAL				.	
	TOTAL BID				.	

PLEASE ATTACH SCHEDULE OF ITEMS HERE