HIGHWAY WORK PROPOSAL

Proposal Number: Ø 1

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

COUNTY	STATE PROJECT ID	FEDERAL PROJECT ID	PROJECT DESCRIPTION	HIGHWAY
Brown	1220-19-72	WISC 2014 033	City of Green Bay, Leo Frigo Brg Irwin Ave - Atkinson Drive	IH 43

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, $ 320,000.00 Payable to: Wisconsin Department of Transportation	Attach Proposal Guaranty on back of this PAGE.
Bid Submittal Due Date: October 29, 2013 Time (Local Time): 9:00 AM	Firm Name, Address, City, State, Zip Code **SAMPLE** **NOT FOR BIDDING PURPOSES**
Contract Completion Time May 11, 2014	
Assigned Disadvantaged Business Enterprise Goal DISC %	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 B-5-158 foundation retrofit, excavation for footings, deep foundations, pier cap extensions, and superstructure repair.	
Notice of Award Dated	Date Guaranty Returned

PLEASE ATTACH
PROPOSAL GUARANTY HERE

Effective with November 2007 Letting

PROPOSAL REQUIREMENTS AND CONDITIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

Effective with August 2007 Letting

BID PREPARATION

Preparing the Proposal Schedule of Items

A General

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

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

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

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

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

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

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

(6) Contractors are responsible for checking on the issuance of addenda and for obtaining the addenda. Notice of issuance of addenda is posted on the department's web site at http://www.dot.wisconsin.gov/business/engrserv/bid-letting-information.htm or by calling the department at (608) 266-1631. Addenda can ONLY be obtained from the departments web site listed above or by picking up the addenda at the Bureau of Highway Construction, Room 601, 4802 Sheboygan Avenue, Madison, WI, during regular business hours.

B Submitting Electronic Bids

B.1 On the Internet

(1) Do the following before submitting the bid:

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

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

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

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

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

(1) Download the latest schedule of items from the Wisconsin pages of the Bid Express™ web site reflecting the latest addenda posted on the department's web site at **http://www.dot.wisconsin.gov/business/engrserv/bid-letting-information.htm**. Use Expedite ™ software to prepare and print the schedule of items. Provide a valid amount for all price fields. Follow instructions and review the help screens provided on the Bid Express™ web site to assure that the schedule of items is prepared properly.

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

Bidder Name

BN00

Proposals: 1, 12, 14, & 22

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

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

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

1. The check code printed on the bottom of the printout of the Expedite™ generated schedule of items is not the same on each page.
2. The check code printed on the printout of the Expedite™ generated schedule of items is not the same as the check code for that proposal provided on the diskette or CD ROM.

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

C Waiver of Electronic Submittal

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

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

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

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

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

PROPOSAL BID BOND

Wisconsin Department of Transportation

DT1303 1/2006

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

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

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

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

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

PRINCIPAL

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

(Signature and Title)

(Company Name)

(Signature and Title)

(Company Name)

(Signature and Title)

(Company Name)

(Signature and Title)

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

Wisconsin Department of Transportation

DT1305 8/2003

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

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

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

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

(Signature of Authorized Contractor Representative) (Date)

March 2010

LIST OF SUBCONTRACTORS

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

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

Name of Subcontractor	Class of Work	Estimated Value

DECEMBER 2000

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

Instructions for Certification

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Special Provisions

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SPECIAL PROVISIONS

1. General.

Perform the work under this construction contract for Project 1220-19-72, City of Green Bay, Leo Frigo Bridge, Irwin Avenue – Atkinson Drive, IH 43, Brown 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.

2. Scope of Work.

The work under this contract shall consist of Structure B-5-158, excavation, foundation repair, drilled shafts, bridge jacking 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. Other Contracts.

Temporary support for Structure B-5-158 was installed as part of Project 1220-19-71 and will be removed under said contract. Two temporary shoring bents near Pier 22 will remain in place as needed for the repair of B-70-158. Coordinate activities with the 1220-19-71 contractor.

Traffic control for the detour route was placed by others and will remain in place for the duration of the bridge closure. Notify the department at least three days in advance of expected interim completion for others to remove detour route traffic control.

4. Contract Award and Execution.

Replace standard spec 103.6(1) with the following:

The bidder shall execute the contract. The principal and the sureties shall execute the contract bond and present the contract, contract bond, 30 Percent Rule document using CMM 2-60 WS1081, erosion control implementation plan (ECIP), and all other department required forms within two days of contract award.

5. Notice to Contractor, Field Survey.

The department will provide field survey and staking services for the contract. Discuss staking needs at weekly progress meeting and notify project leader three days in advance of staking needed.

Maintain a line of sight between prisms mounted to the structure and robotics unit at all times throughout construction.

6. Notice to Contractor, Historic Fill.

The department and others have completed testing for soil and ground water contamination for locations within and in the near vicinity of this project where excavation is required. Soil logs from previous testing indicated that historic fill materials such as ash, cinders, and foundry sand maybe present within the construction limits.

Contractor shall have appropriate personnel on site to oversee the handling of the industrial fill that is encountered on the work.

If contaminated soils are encountered, notify the engineer.

Previous investigation reports are available by contacting: Kathie Van Price, WisDOT, (920) 492-7175.

7. Notice to Contractor, Verification of Asbestos Inspection, No Asbestos Found.

John Roelke, License Number All-119523, inspected Structures B-5-158 for asbestos on September 21, 2011. No regulated Asbestos Containing Material (RACM) was found on this structure. A copy of the inspection report is available from: Kathie Van Price, WisDOT, (920) 492-7175.
107-127 (20120615)

8. Prosecution and Progress.

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

Provide the start date to the engineer in writing within one day after awarding the contract. Assure that the time frame is consistent with the contract completion time. Upon approval, the engineer will issue the notice to proceed within three calendar days before the approved start date.

Prosecution and progress meetings will be held once a week to discuss the near term schedule activities, address any long-term schedule issues, and discuss any relevant technical issues. The contractor's superintendent or appointed representative shall attend and provide a written or linear schedule of the next week's operations and 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 to be performed and identifying issues requiring engineering action or input. Agenda items at the meeting will include review of the contractor's schedule, evaluation of progress, and making revisions if necessary. Plans and specifications for upcoming work will be reviewed to prevent potential problems or conflicts. Outstanding issues will be resolved. Upon the engineer's request, provide an updated linear progress schedule for the remainder of project work.

The contract time for completion is based on an expedited work schedule and shall require extraordinary forces and equipment. Schedule used to develop interim completion dates includes construction activities occurring seven days per week with the exception of December 25, 2013, 20 hours per day, using four drill rigs.

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

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

Foundation Retrofit buttress concrete shall not be placed until all of the post-tensioning bars at that retrofit location have been jacked and locked-off per the Pier XX Post-Tensioning Layout sheet. Contractor shall not commence with Superstructure Jacking until Pier 22 buttress concrete is placed and achieves 4,000 psi compressive strength.

The department will review the structure for delamination and in the event delamination is present the department will authorize installation of a Polymer Modified Asphaltic Concrete Pavement. If required, this work shall occur in Spring 2014.

Do not proceed with milling and asphalt overlay work until receipt of written authorization from the department.

Complete construction operations on B-5-158 to the stage necessary to reopen all lanes IH 43 to through traffic prior to 12:01 AM January 17, 2014. (See article for Incentive/Disincentive for Interim Completion of Work, Item 108.3100.S.) Do not reopen until completing the following work: foundation repair, drilled shafts, pier caps, and bridge jacking.

The department will not grant time extensions to interim or final completions 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 materials deliveries.

9. Winter Maintenance.

Brown County will perform snow removal operations for freeway and ramp lanes that are open to traffic. Provide snow removal to gain access to the piers and as required to facilitate safe construction operations.

10. Holiday Work Restrictions.

Do not perform work on, nor haul materials of any kind along or across any portion of the highway carrying IH 43 traffic during the following special event periods:

From 12:01 AM Wednesday, December 25, 2013 to 6:00 AM on Thursday, December 26, 2013.

11. Construction Over or Adjacent to Navigable Waters.

Supplement standard spec 107.19 with the following:

The Fox River is classified as a navigable waterway.
107-060 (20040415)

12. Utilities.

This emergency bridge repair contract does not come under the provisions of Administrative Rule TRANS 220.

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

Utility	Contact Information	Type of Utility	General Location
American Transmission Company (ATC)	Mike Olsen (920) 338-6582 molsen@atcllc.com	Electric / Overhead	South side
Qwest Communication	Kevin Huff (708) 837-7927 Kevin.huff@centurylink.com	Fiber Optic / Underground	North side
Wisconsin Department of Transportation	Randy Asman (920) 492-7719 Randy.asman@dot.wi.gov	Fiber Optic / Underground	North side
Wisconsin Department of Transportation	Bob Schuurmans (920) 492-5710 Robert.schuurmans@dot.wi.gov	Lighting / Attached to structure	Median
West Shore Pipe Line Company	Casey Schwandt (920) 655-1428 cschwan@buckeye.com	Gas/petroleum / underground	Crosses SW to NE between piers 22 and 23
Green Bay Metropolitan Sewerage District	Nathan Qualls (920) 438-1032 nqualls@newwater.us	Sanitary Sewer	Crosses east of pier 24

Contact Diggers Hotline before any excavation or other work that may affect existing utilities. Field locate all buried utilities prior to the start of construction. The contractor will work around the existing utility facilities, no utility adjustments or relocations are anticipated. The engineer may alter the locations of material being installed under this contract to avoid conflicts with utility facilities.

The following utilities have facilities within the project area:

West Shore Pipe Line Company owns and **Buckeye Pipeline Company** operates an existing underground gas/petroleum pipeline that crosses IH 43 between piers 21 and 22 of the Leo Frigo bridge. Westshore Pipe Line Company requests that an on-site watchdog be present during all work adjacent to this facility. Contact Casey Schwandt at (920) 655-1428 a minimum of 3 working days prior to all work in the vicinity of this underground gas facility.

In case of an emergency contact the Buckeye Control Center at (800) 331-4115 and the Buckeye Green Bay Office at (920) 432-3223.

Wisconsin Department of Transportation maintains electric service in the median bridge parapet for overhead lighting, which is currently in service. Contact Bob Schuurmans at (920) 492-5710 at least 3 business days prior to jacking the superstructure

to discontinue electric service to the lighting system. The Wisconsin Department of Transportation will inspect and repair any disruption of service caused by this project.

13. Railroad Insurance and Coordination.

A Description
Comply with standard spec 107.17 for all work affecting Wisconsin Central Limited Railroad property and any existing tracks.

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

Notify evidence of the required coverage, and duration to Jackie Macewicz, Manager Public Works, 1625 Depot St., Stevens Point, WI, 54481; TELEPHONE (715) 345-2503; FAX (715) 345-2534; email jackie.macewicz@cn.ca at. Include the following information on the insurance document:

Project 1220-19-72
Route Name IH 43
Crossing ID 281 862H
Railroad Subdivision Quincy Street Lead
Railroad Milepost 2.95

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

A.3 Names and addresses of Railroad Representatives for Consultation and Coordination
Contact Jackie Macewicz, Manager Public Works, 1625 Depot St., Stevens Point, WI, 54481; TELEPHONE (715) 345-2503; FAX (715) 345-2534; email jackie.macewicz@cn.ca for consultation on railroad requirements during construction.

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

A.4 Temporary Grade Crossing
None.

A.5 Train Operation
Approximately 2 through freight trains operate daily through the construction site.. Through freight trains operate at up to 10 mph. additional switching moves occur in the area and operate at up to 10 mph.

14. Removing Old Structure Station 843+82.

Supplement standard spec 203 with the following:

The following items of work are required:

Pier 22 Removals for jacking operation
Removal of bolts, welds, longitudinal stiffeners, lateral bracing angles and shelf plates, and grinding.

Pier Footing Masonry Anchor Concrete Preparation
Roughening the existing concrete surface of the pier footings where required for installation of masonry anchors.

Longitudinal Bracing
Removal of existing hangers, diagonals, bumpers, connections, and associated attachments that were installed with the longitudinal stability bracing at Piers 21-23 and 25. None of the bracing may be removed until the foundation retrofit work at the associated pier is completed. Foundation retrofit work is completed when the buttress concrete fc' = 4 ksi.

15. Environmental Protection, Decontamination of Construction Equipment.

Exotic invasive organisms such as 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 30.715, "Placement of Boats, Trailers, and Equipment 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. The cleaning procedures outlined below must be followed for equipment that comes in contact with waters of the state and/or infested water or potentially infested water in other states.

All equipment that has come into contact with potentially infested material must be thoroughly disinfected before use in this project. Use the following inspection and removal procedures (guidelines from the Wisconsin Department of Natural Resources) for disinfection:

- Wash machinery so that it is free of soils, etc. that could possibly contain exotic invasive species prior to leaving the contaminated site;
- Drain all water from boats, 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
- Complete the inspection and removal procedure before equipment is brought to the project site and before the equipment leaves the project site.

16. QMP Drilled Shafts.

A General

Perform this work in accordance to the requirements of standard specs 501, 502, 701, 710 and 715 (conform to QMP Concrete Structures) except as deleted or additionally stipulated herein. This specification applies to all drilled shaft concrete placed under the following bid items:

SPV.0090.01	Drilled Shaft Foundation 60-Inch Diameter
SPV.0105.02	Trial Drilled Shaft Foundation 60-Inch

B Materials

B.1.1 Concrete Mix Physical Requirements

For drilled shaft construction, use high compressive strength concrete, and relatively high cement content in the concrete mix with 565 to 660 pounds of cementitious material per cubic yard. Additives or admixtures, when they are used, shall be clearly indicated. The concrete shall be a flowable, non-segregating, self-consolidating concrete mix that does not exhibit rapid slump loss.

Use Type II Portland cement. A minimum of 35% and a maximum of 50% of the cementitious material shall be Grade 100 ground granulated blast furnace slag.

Unit Weight of Concrete, AASHTO T 121: Weight must be between 140 to 160 lb/ft^3.

The slump requirements in standard spec 501 do not apply. The fresh concrete for slump flow retention testing will be sampled at the point of discharge into the tremie or pumpline and stored in a sealed container that is not exposed to direct sunlight or vibration. The concrete for slump flow retention testing shall be stored for a minimum of one hour longer than the duration of the concrete placement operations as indicated in the contractor's installation plan. The SCC shall be in accordance to the criteria included in Table 1 for air content, slump flow and visual stability index.

Table 1 – Requirements for SCC for Drilled Shafts

Property	Test Method	Criteria
Fresh Concrete Slump Flow	ASTM C1611 / C1611M-05	18-24 inches
Slump Flow Retention	ASTM C1611 / C1611M-05	14 inches minimum
Visual Stability Index		
Plastic Concrete	ASTM C1611 / C1611M-05	1 maximum
Passing Ability	ASTM C1621 / C1621M-08	1.5" maximum

The water to cementitious materials ratio (W/C) shall be 0.40, after including any reductions for admixtures. The quantity of retarding admixture stipulated in the submitted mix design shall be adjusted as required to accommodate temperature variations. A table stipulating the required retarding admixture for temperature ranges anticipated during concrete placement operations shall be submitted as a shop drawing with the mix design.

MODIFY STANDARD SPEC 710 AS FOLLOWS:

Add the following subsection:

710.5.7 Chloride Penetration Resistance

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

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

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

Add the following subsection:

715.2.3.3 Trial Mixes

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

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

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

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

(4) Laboratory trial mix is subject to the review and approval of the engineer.

715.5.3 Structures

Replace section 715.5.3 of the standard specifications with the following:

(1) The department will adjust pay for each lot using equation "QMP 2.03" as follows:

Percent within Limits (PWL)	Pay Adjustment [1] (dollars per cubic yard)
≥ 90 to 100	0
≥ 50 to < 90	(7/8 x PWL) – 78.75
< 50	-35

(2) For lots with less than four sublots, the department will assess a disincentive based on the individual sublot average strengths. The department will reduce pay for sublots with an average strength below 4000 psi by $35 per cubic yard.

B.1.2 Aggregate

The aggregates shall be proportioned so that the fine aggregate is less than 50 percent by weight of the total aggregate. Fine and coarse aggregate shall conform to the requirements of standard spec 501.2.5 except use only coarse aggregate size No. 1 with the following gradation:

Sieve Size	% Passing by Weight
1-inch	100
3/4-inch	90-100
3/8-inch	20-55
No. 4	5.5-10
No. 8	5.5 – 9.5
No. 16	4.5 – 8.5

B.2 Admixtures

Any chemical admixture(s) to be used, other than air-entraining agents or water reducers from the department approved list, must be approved in advance by the engineer and meet the requirements of AASHTO M 194, as documented by independent laboratory test reports.

The adjustment of dosage rates of concrete admixtures will be permitted without requiring a new mix design.

Achieve required workability through the use of a combination of super plasticizer and other admixtures as required.

Use a water-reducing, high-range admixture (HRWR) to reduce the required water content for a concrete mixture by 5 to 10%. The admixture shall meet the requirements of ASTM C494/ C494M-08(a), Type F. Samples of the admixture necessary for the acceptance tests will be selected at random from stockpiled supplies. The use of air entrainment admixtures will not be required except as noted on the plans.

A viscosity modifying admixture (VMA) may be used and will be evaluated according to the test methods and mix design proportions referenced in ASTM C494/ C494M-08a, Type S. The following physical requirements shall be met:

1. For initial and final set times, the allowable deviation of the test concrete from the reference concrete shall not be more than 1.0 hours earlier or 1.5 hours later.
2. For compressive and flexural strengths, the test concrete shall be a minimum of 90 percent of the reference concrete at 3, 7 and 28 days.
3. The length change of the test concrete shall be a maximum 135 percent of the reference concrete. However, if the length change of the reference concrete is less than 0.030 percent, the length change of the test concrete shall be a maximum 0.01 percentage units greater than the reference concrete.
4. The relative durability factor of the test concrete shall be a minimum 80 percent.

Admixtures shall be free of calcium chlorides or any other chlorides that may initiate or promote corrosion of the reinforcement steel. Locate bulk storage tanks for chemical admixtures inside a heated area with an ambient temperature of not less than 320F. Chemical admixtures that have been allowed to freeze shall not be allowed for use until they have been agitated and retested.

The samples of the admixtures shall be tested as per the requirements of the respective ASTM Standards stated above and the test results shall be submitted to the engineer for approval.

B.3 Verification of Pumpability

A verification of pumpability will be performed at least 3 days before the placing of the SCC in the drilled shaft by pumping a trial batch through the proposed pump for the placement of the SCC into the drilled shaft. The proposed methods for mixing the concrete, including any anticipated time delays, shall be simulated for verification.

Perform slump flow, and visual stability index (plastic concrete), passing ability testing on the verification batch. Make concrete cylinders for compression testing as specified in Section 710.

B.4 Slump

The trial mix design for drilled shaft concrete shall include a Slump Loss Graph, or Slump versus Time after Batching. The Slump Loss Graph of a proposed drilled shaft mix design illustrates the slump reducing slowly and still exceeding a 5-inch slump two hours after batching. Careful attention to concrete mix designs made with retarders or set control admixtures must be exercised, and a close monitoring shall be implemented during construction to preclude rapid slump loss, not given enough time for concreting completion before the concrete mix sets.

Adding water to a ready-mix truck is prohibited. In cases in which part of the water of the concrete mix is added at the batch plant and the remaining water is added at the job site, the amount of water to be added at the job site shall be stated on the mix design sheet

carried by the ready-mix truck driver. Testing of concrete will then be conducted on the resulting mix, and further water cannot be added at any time to increase the mix slump or to bring the mix to a specific slump. If after all the water permitted in the mix design has been added and the slump is still out of these specifications, the contractor must reject the mix. Repair or replace drilled shafts of questionable concrete design mixes at no additional cost to the department.

The following table presents the ranges for the slump.

	Slump Range in Inches		
Installation Method	**Concrete Placed by Free Falling**	**Concrete Placed by Tremie**	**Concrete Placed by Pump**
Dry Installation Method Uncased or Cased Excavations	7 to 9	8 to 9½	7 to 9½
Wet Installation Method Uncased or Cased Excavations	NA	8 to 9½	7 to 9½

B.5 Slurry

B.5.1 General

Slurry shall be a stable suspension of mineral in potable water or polymer slurry. Maintain a stable suspension at all times. Bentonite slurry shall be mineral slurry of powdered Wyoming or Dakota bentonite, with density, viscosity, and pH as specified in the table below:

Property at 68°F Units	**At the Time of Slurry Introduction into the Drilled Shaft**	**Before Concrete Placement in the Drilled Shaft**	**Test Method**
Density in Fresh Water (lb/ft^3) (a)	64 to 69	64 to 75	Density Balance
Viscosity (seconds per quart)	28 to 45	28 to 45	Marsh Funnel
pH	7 to 11	7 to 11	pH paper or meter
Sand Content (%) (b)	4 maximum	10 maximum	200 Sieve Retain

(a) At time of concreting, sand content shall not exceed 6 percent (by volume) at any point in the drilled shaft excavation; test for sand content as determined by the American Petroleum Institute.

(b) Bentonite slurry shall be disposed of offsite in approved manner as accepted by the WDNR.

The contractor may adjust the range of slurry properties when field trials and field tests show that modifications are necessary to bring the slurry to specifications.

Polymer slurry shall be a suspension of powdered polyacrylamide or vinyl polymer with the following characteristics:

Property at 68°F Units	At the Time of Slurry Introduction into the Drilled Shaft	Before Concrete Placement in the Drilled Shaft	Test Method
Density in Fresh Water (lb/ft^3) (a)	63 or less	63 or less	Density Balance
Viscosity (seconds per quart)	50 minimum	50 minimum	Marsh Funnel
pH	8 to 11	8 to 11	pH paper or meter
Sand Content (%)	2 maximum	10 maximum	200 Sieve Retain

(a) At time of concreting, sand content shall not exceed 6 percent (by volume) at any point in the drilled shaft excavation; test for sand content as determined by the American Petroleum Institute.

Obtain slurry samples from the midpoint and bottom of each drilled shaft prior to the placement of the reinforcing steel. Correct the slurry as necessary to meet the specification requirements.

B.5.2 Tests

To ensure that the results are within the ranges stated in the table above, perform the following tests on the mineral slurry supplied to the drilled shaft excavation at different depths within the drilled shaft using a slurry sampler.

B.5.2.1 Wisconsin Method of Test for Density of Slurry (Mud Weight)

Density shall be measured at 68°F. This test is identical to ASTM D 4380 except that the mineral slurry to be tested shall consist of processed attapulgite or bentonite clays, and the temperature of the slurry (using a 0-105°C thermometer) shall be measured and recorded on the drilling Mud Report form.

B.5.2.2 Wisconsin Method of Test for Viscosity of Slurry

The viscosity shall be measured at 68°F or a constant temperature with the Marsh Cone Method.

B.5.2.2.1 Scope

The Marsh Funnel or Marsh Cone is used to measure viscosity of drilling fluids. This test method has been adapted from Section 2 of the American Petroleum Institute (API) Recommended Practice FM8-RP13B-1: Standard Procedure for Field Testing Water-Based Drilling Fluids (FM 8-RP13B-1). Use of a direct-reading viscometer has been eliminated.

B.5.2.2.2 Equipment

Marsh Funnel: A Marsh Funnel is calibrated to out-flow 946 mL (one quart) of fresh water at a temperature of 21 ±3°C (70 ±5°F) in 26 ±0.5 seconds. A graduated cup is used as a receiver.

Specifications:

Funnel Cone Length	305 mm (12.0 in.)
Diameter	152 mm (6.0 in.)
Capacity to bottom of screen	1500 mL
Orifice Length	50.8 mm (2.0 in.)
Inside Diameter	4.7mm (3/16 in.)
Screen	12 mesh
Has 1.6 mm (1/16 in.) openings and is fixed at a level 19.0 mm (3/4 in.)	

B.5.2.3 Wisconsin Method of Test for Sand Content of Slurry

B.5.2.3.1 Scope

The sand content of mud is the volume percent of particles larger than 74 microns. It is measured by a sand-screen set. This test method has been adapted from Section 5 of the American Petroleum Institute (API) Recommended Practice 13B-1: standard Procedure for Field Testing Water-Based Drilling Fluids (RP13B-1).

B.5.2.3.2 Equipment

200-mesh sieve, 63.5 mm (2.5 in.) in diameter.

Funnel to fit sieve.

Glass measuring tube marked for the volume of mud to be added. The tube is graduated from 0 to 20 percent in order to read directly the percentage of sand.

B.5.2.3.3 Procedure

Fill the glass measuring tube with mud to the "mud" mark. Add water to the next mark. Close the mouth of the tube and shake vigorously. Pour the mixture onto the clean, wet screen. Discard the liquid passing though the screen. Add more water to the tube, shake, and again pour onto the screen. Repeat until the tube is clean. Wash the sand retained on the screen to free it of any remaining mud.

Put the funnel upside down over the top of the sieve invert. Slowly tip the assembly and insert the tip of the funnel into the mouth of the glass tube. Wash the sand into the tube by playing a fine spray of water through the screen. Allow the sand to settle. From the graduations on the tube, read the volume percent of the sand.

Report the sand content of the mud by percent volume. Report the source of the mud sample, i.e. above shaker, suction pit, etc. Coarse solids other than sand will be retained on the screen (e.g., lost circulation material) and the presence of such solids should be noted.

B.5.2.4 Wisconsin Method of Test for pH of Slurry

pH shall be measured by the Electric pH meter or pH indicator paper strips.

B.5.2.4.1 Scope

Field measurement of drilling fluid (or filtrate) pH and adjustments to the pH are fundamental to drilling fluid control. This test method has been adapted from Section 7 of the American Petroleum Institute (API) Recommended Practice 13B-1: Standard Procedure for Field Testing Water-Based Drilling Fluids (RP 13B-1).

The recommended method for pH measurement of drilling fluid is with a glass electrode pH meter. This method is accurate and gives reliable pH values, being free of interference if a high quality electrode system is used with a properly designed instrument. Rugged pH instruments are available that automatically temperature compensate the slope and are preferred over the manually adjusted instruments.

NOTE: Color matching pH paper and sticks are used for field pH measurements, but are not the methods recommended. These methods are reliable only in very simple water muds. Mud solids, dissolved salts and chemicals, and dark-colored liquids cause serious errors in pH paper values. Readability is normally about 0.5 pH unit.

B.5.2.4.2 Equipment

pH meter: millivolt range potentiometer calibrated to show pH units for measuring the potential between a glass-membrane electrode and a standard "reference" electrode. The instrument is (preferred) to be water, shock, and corrosion-resistant and portable. Specifications are:

- pH range: 0 to 14.
- Electronics type: solid state (preferred).
- Power source: batteries (preferred).
- Operating temperature range: 0-66°C (32-150°F).
- Readout: digital (preferred).
- Resolution: 0.1 pH unit.
- Accuracy: ±0.1 pH unit.
- Repeatability: 0.1 pH unit.
- Adjustments.
  "Temperature" compensation of electrode system.
  "Slope" of electrode system (preferred).
  "Calibration" setting of readout. (Instrument with the above internal temperature compensation is preferred.)

Electrode system: A combination system of a glass electrode for sensing H^+ ions and a standard voltage reference electrode, constructed as a single electrode (preferred). Body of this probe should be constructed of durable material. A flat-end probe is preferred for better protection and easier cleaning of the electrode. Waterproof connection to the meter is recommended.

Specifications are:

- Glass pH electrode response range: 0 to 14 pH unit.
- Electrodes: a glass electrode and a silver/silver chloride electrode in combination, having a ceramic or a plastic single or double junction.

- Electrolyte in reference electrode: KCl gel.
- Glass composition: suitable for low sodium ion error.
- Sodium ion error: at pH = 13 or at 0.1 mole Na^+ ion, an error less than 0.1 pH unit.
- Buffer solutions: three solutions to calibrate and set slope of pH meter prior to sample measurement.
- pH = 4.0: potassium hydrogen phthalate at 0.05 molar in water. Gives 4.01 pH at 24°C (75°F).
- pH = 7.0: potassium dihydrogen phosphate at 0.02066 molar and disodium hydrogen phosphate at 0.02934 molar in water. Gives 7.00 pH at 24°C (75°F).
- pH = 10.0: sodium carbonate at 0.025 molar and sodium bicarbonate at 0.025 molar in water. Gives 10.01 pH at 24°C (75°F).

NOTE: Buffers may be obtained from supply houses as pre-made solution, dry-powder packages, or a given formula, but must duplicate National Bureau of Standards primary or secondary buffers. Shelf life of all buffers not to exceed six months. Date of preparation of buffer should be shown on bottles used in the field. Bottles should be kept tightly stoppered.
Distilled or deionized water: in spray bottle.
Soft tissues: to blot electrodes.
Thermometer: glass, 0-150°C (32-220°F).

Accessory equipment: Soft-bristle test tube brush: to clean electrode.
Mild liquid detergent: Ivory, or equivalent.
Electrode storage vial: to keep electrode moist.
Sodium hydroxide: 0.1 molar (approximately); to recondition electrode.
Hydrochloric acid: 0.1 molar (approximately); to recondition electrode.
Ammonium bifluoride: 10% solution (approximately); to recondition electrode.
CAUTION: This is a strong and toxic acid.
Hydrofluoric acid: ACS reagent grade.
CAUTION: This is a strong acid.

B.5.2.4.3 Procedure – pH Measurement
Obtain sample of fluid to be tested. Allow it to reach 24±3°C (75±5°F). Allow buffer solution to also reach the same temperature as the fluid to be tested.

NOTE: For accurate pH measurement; the test fluid, buffer solution, and reference electrode must all be at the sample temperature. The pH of the buffer solution indicated on the container label is the correct pH only at 24°C (75°F). If attempting to calibrate at another temperature, the actual pH of the buffer at this temperature must be used. Tables of buffer pH values at various temperatures are available from the suppliers and should be used in the calibration procedure.

Clean electrodes by washing with distilled water and blot dry. Place probe into pH 7.0 buffer.

Turn on meter; wait 60 seconds for reading to stabilize. Measure temperature of pH 7 buffer solution. Set this temperature on “temperature” knob. Set meter reading to “7.0” using “calibration” knob. Rinse probe with distilled water and blot dry.

Repeat operations using either pH 4.0 or pH 10.0 buffer. Use pH 4.0 if “acidic” sample, or pH 10.0 if “alkaline” sample is to be tested. Set meter to number “4.0” or “10.0” respectively, using “slope” adjustment knob. (If no “slope” knob exists, use the “temperature” knob to set “4.0” or “10.0” on meter). Check the meter with pH 7 buffer again. If it has changed, reset to “7.0” with “calibration” knob. Repeat procedures to ensure equipment is properly calibrated.

NOTE: Discard and do not reuse the sample of buffer solutions used in calibration. Meter should be fully calibrated every day using two buffers. Check with pH 7 buffer every three hours. If meter calibrates properly, rinse electrode with distilled water and blot dry. Place electrode in sample to be tested and stir gently. Allow 60 to 90 seconds for reading to stabilize.

Record sample pH to nearest 0.1 pH unit and the temperature of sample tested. Carefully clean the electrode in preparation for next usage. Store in vial of pH 4 buffer. NEVER let the probe tip become dry. Turn meter off and close cover to protect instrument. Avoid storing instrument at extreme temperatures (below 0°C (32°F) or above 49°C (120°F)).

Care of Electrode: Cleaning the electrode will be necessary periodically, especially if oil or clay particles coat the face of the glass electrode or the porous frit of the reference electrode. Clean electrode with a soft-bristle brush and a mild detergent. Reconditioning the electrode may be necessary if plugging becomes sever, as indicated by slow response, drifting of readings, or if “slope” and “calibration” cannot be mutually set. Recondition by soaking electrode for 10 minutes in 0.l M HCl followed by rinsing in water and soaking for 10 minutes in 0.1 M NaOH and rinsing again. Check electrode for response by performing calibration. If electrode continues to perform poorly, soak electrode for two minutes only in 10% $NH_4F \cdot HF$ solution. (CAUTION: This is strong and toxic acid). Replace electrode system if above steps fail to recondition it.

C (Vacant)

D (Vacant)

E Payment

Costs for furnishing allsampling, testing, and documentation required under this special provision and all other associated work 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.

17. Concrete Maturity Testing.

A Description

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

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

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

B Materials

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

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

C Construction

Develop a strength/maturity relationship for each concrete mix design used under the contract. Base that relationship on strength results of cylinders from structural masonry units incorporated into the work and using those same mixes. Submit the maturity test results to the engineer for approval before proceeding with the next pour using that mix. Develop a new strength/maturity relationship every time the mix changes, when average daily temperature changes by 30º F (17º C) or more, or if engineer verification cylinder strength varies more than 10 percent from the required opening strength when tested at the calibrated opening maturity.

Conform to the department's procedure for developing the strength/maturity relationship, field calibration of the resulting curve, and for all maturity testing. Use a mix-specific datum temperature per Annex A1 of ASTM C1074. Develop data points for the strength/maturity relationship up to 120 percent of the highest required opening strength for each mix design.

Each work week provide a set of three verification cylinders to the engineer for each strength/maturity field calibration curve currently in use on the project. The engineer will designate the sampling location for the verification cylinders. Provide two cylinders for compressive strength testing and one with a data-encrypted sensor embedded in its center for maturity evaluation. Cast and cure these cylinders on-site as the engineer directs and conforming to the requirements of ASTM C31 for field curing. Deliver them to the engineer promptly after attaining 50 percent of their opening maturity so the engineer can perform verification testing as closely as possible to the opening maturity level.

D (Vacant)

E Payment
No additional payment will be made by the department for maturity testing

18. Aggregate Quality Testing for Drilled Shaft Foundation Concrete Masonry, Foundation Concrete and High-Performance Concrete (HPC).

A Description
This provision describes additional requirements for testing the quality of coarse aggregates being used in drilled shaft, foundation and high-performance concrete mixes for structures.

Conform to the standard specifications and drilled shaft foundation concrete, foundation concrete and high-performance concrete provisions contained within the contract, as modified in this provision.

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

B.2 Laboratory
Perform testing at a department-qualified laboratory. Obtain information on the Wisconsin laboratory qualification program from:

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

B.3 Equipment
Furnish the necessary equipment and supplies for performing quality control testing. The engineer may inspect the measuring and testing devices to confirm both calibration and condition. Calibrate all testing equipment according to the CMM and maintain a calibration record at the laboratory.

B.4 Records
Document all observations, inspection records, and test results. Submit testing records to the engineer.

B.5 Contractor Testing
Perform all quality control tests necessary to control the production processes applicable to this special provision. Use the test methods identified below, or other methods the engineer approves, to perform the following tests:

LA Wear (100 and 500 revolutions) ..... AASHTO T 96
Sodium Sulfate Soundness (R-4, 5 cycles) .....AASHTO T 104
Freeze-Thaw Soundness .....AASHTO T 103
Chert[1] .....
[1]Material classified lithologically as chert and having a bulk specific gravity (saturated surface-dry basis) of less than 2.45. Determine the percentage of chert by dividing the weight of chert in the sample retained on the 3/8-inch sieve by the weight of the total sample.

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

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

Randomly test the percentage of chert at least once per 10,000 tons during production of coarse aggregates to be used in high-performance concrete mixes or at least once per 10,000 cubic yards during placement of high performance concrete pavement.

B.6 Department Testing
The department will have a HTCP certified technician, or ACT working under a certified technician, perform verification testing. The department will sample randomly at locations independent of the contractor's QC work. In all cases, the department will conduct the verification tests with separate personnel and equipment from the contractor's QC tests. The department will perform verification testing of chert at a frequency of 10 percent of the random quality control tests or a minimum of once per project, or at greater frequency if determined to be necessary by the engineer.

C Construction
Conform to the pertinent requirements of standard spec 501 and 502.

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.

19. Incentive/Disincentive for Interim Completion of Work, Item 108.3100.S.

A General
This item shall consist of either an incentive payment or a disincentive pay reduction as specified below.

Complete all work on B-5-158 to the stage necessary to open all lanes of IH 43 to through traffic prior to 12:01 AM January 17, 2014, or within such extended time as may be allowed. The completion time allowed for this contract is based on an expedited work schedule.

Under this Incentive/Disincentive plan, no time extensions will be granted for adverse weather conditions; for delays in material deliveries or for labor disputes unless it can be shown that such disputes are industry wide.

Each day shall be defined as a 24 hour period beginning at 12:01 AM, broken into one-quarter day increments.

The maximum incentive payment, as shown on the Schedule of Items, is for department accounting purposes. The actual incentive payment the contractor may receive shall be in accordance to section B of this provision.

Incentive payments will not be considered as part of the money value of the work completed for computing time extensions.

B Incentive Payment
The contractor shall be entitled to an incentive payment for completion of all foundation repair, drilled shaft, pier caps, and bridge jacking work necessary to re-open all lanes of the IH 43 Leo Frigo Bridge under this contract prior to 12:01 AM, January 17, 2014.

The incentive payment shall be paid at the rate of $50,000 per calendar day for each day or portion thereof, of completion prior to 12:01 AM January 17, 2014. The maximum amount of incentive payment shall not exceed $750,000.

C Disincentive Pay Reduction
Should the contractor fail to complete all foundation repair, drilled shaft, pier caps, and bridge jacking work necessary to re-open all lanes of the IH 43 Leo Frigo Bridge under this contract prior to 12:01 AM, January 17, 2014 or within such extended time as may be allowed, the contractor shall be liable to the department for a pay reduction in the amount of $50,000 per day or portion thereof, for each calendar day after 12:01 AM, January 17, 2014 that work remains incomplete.

If contract time expires before completing all work specified in the contract, additional liquidated damages according to standard spec 108.11 will be affixed in addition to the disincentive pay reduction.

D Measurement

The department will measure Incentive/Disincentive for Interim Completion of Work by the calendar day.

E Payment

The department will pay for incentives and disincentives at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
108.3100.S	Incentive/Disincentive for Interim Completion of Work	Calendar Day

The unit price per day based on the incentive pay adjustment shall be compensation in full for completing the work as hereinbefore specified.

The unit price per day based on the disincentive pay reduction shall be assessed for failing to complete all the work as hereinbefore specified.

20. QMP Base Aggregate.

A Description

A.1 General

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

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

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

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

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

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

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

A.2 Contractor Testing for Small Quantities

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

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

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

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

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

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

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

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

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

B Materials

B.1 Quality Control Plan

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

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

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

B.2 Personnel

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

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

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

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

B.3 Laboratory

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

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

B.4 Quality Control Documentation

B.4.1 General

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

B.4.2 Records

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

B.4.3 Control Charts

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

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

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

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

B.5 Contractor Testing

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

(2) Test gradation once per 3000 tons of material placed. Determine random sample locations and provide those sample locations to the engineer. Obtain samples after the material has been bladed, mixed, and shaped but before compacting; except collect 3-

inch samples from the stockpile at load-out. Do not sample from material used to maintain local traffic or from areas of temporary base that will not have an overlying pavement. On days when placing only material used to maintain local traffic or only temporary base that will not have an overlying pavement, no placement testing is required.

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

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

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

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

B.6 Test Methods

B.6.1 Gradation

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

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

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

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

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

B.6.2 Fracture

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

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

B.6.3 Liquid Limit and Plasticity

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

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

B.7 Corrective Action

B.7.1 General

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

B.7.2 Placement Corrective Action

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

(2) Notify the engineer whenever the running average exceeds a warning limit. When 2 consecutive running averages exceed a warning limit, the engineer and contractor will discuss appropriate corrective action. Perform the engineer's recommended corrective action and increase the testing frequency as follows:

1. For gradation, increase the QC testing frequency to at least one randomly sampled test per 1000 tons placed.
2. For fracture, increase the QC testing frequency to at least one test per gradation test.

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

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

(5) For individual test results significantly outside the control limits, notify the engineer, stop placing base, and suspend other activities that may affect the area in question. The engineer and contractor will jointly review data, data reduction, and data analysis; evaluate sampling and testing procedures; and perform additional testing as required to determine the extent of potentially unacceptable material. The engineer may direct the contractor to remove and replace that material. Individual test results are significantly outside the control limits if meeting one or more of the following criteria:

1. A gradation control limit for the No. 200 sieve is exceeded by more than 3.0 percent.
2. A gradation control limit for any sieve, except the No. 200, is exceeded by more than 5.0 percent.
3. The fracture control limit is exceeded by more than 10.0 percent.

B.8 Department Testing

B.8.1 General

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

B.8.2 Verification Testing

B.8.2.1 General

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

(2) The department will conduct QV tests of each base aggregate size, source or classification, and type during placement conforming to the following:

1. One non-random test on the first day of placement.
2. At least one random test per 30,000 tons, or fraction of 30,000 tons, placed.

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

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

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

B.8.3 Independent Assurance

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

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

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

B.9 Dispute Resolution

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

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

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

C (Vacant)

D (Vacant)

E Payment

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

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

301-010 (20100709)

21. Removing Asphaltic Concrete Deck Overlay B-5-158, Item 509.9010.S.01.

A Description

Remove the asphaltic concrete overlay with or without an underlayment of waterproof membrane by milling the entire bridge deck in accordance to standard spec 204, the plans, and as hereinafter provided.

B (Vacant)

C Construction

C.1 Milling

Use a self-propelled milling machine that is specially designed and constructed for milling bridge decks. It shall mill without tearing or gouging the concrete masonry underlying the deck overlay. The machine shall consist of a cutting drum with carbide or diamond tip teeth. Space the teeth on the drum to mill a surface finish that is acceptable to the engineer.

Shroud the machine to prevent discharge of any loosened material into adjacent work areas or live traffic lanes. Equip the machine with electronic devices that provide accurate depth, grade and slope control, and an acceptable dust control system.

Perform milling in a manner that precludes damage to the bridge floor and results in a uniform textured finish that:

- Is free of sharp protrusions;
- Has uniform transverse grooves that measure up to ¼-inch vertically and transversely; and
- If applicable, is acceptable to the manufacturer of the sheet waterproof membrane.

Windrowing or storing of the removed milled asphaltic concrete on the bridge is only permitted in connection with the continuous removal and pick-up operation. During nonworking hours, clear the bridge of all materials and equipment.

C.2 Cleaning
Blast-clean the entire surface of the deck, the vertical faces of curbs, sidewalks, and parapets to the depth of the adjoining overlay.

Clean the surface on which the new overlay will be placed to remove all loose particles and dust by either brooming and water pressure using a high-pressure nozzle, or by water and air pressure. Use water for cleaning that conforms to specifications for water under standard spec 501.2.4.

The removed asphaltic concrete shall become the property of the contractor; properly dispose of it in accordance to standard spec 204.

D Measurement
The department will measure Removing Asphaltic Concrete Deck Overlay in area by the square yard acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
509.9010.S.01	Removing Asphaltic Concrete Deck Overlay B-5-158	SY

Payment is full compensation for removing the asphaltic concrete with or without an underlayment of waterproof membrane; cleaning the concrete surfaces; and for properly disposing of all materials.
509-010 (20110615)

22. Pavement Marking Grooved Wet Reflective Tape 4-Inch, Item 646.0881.S.

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

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

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

C Construction

C.1 General

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

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

C.2 Groove Depth

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

C.3 Groove Width – Longitudinal Markings

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

C.4 Groove Position

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

C.5 Groove Cleaning

C.5.1 Concrete

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

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

C.5.2 New Asphalt

Groove pavement five or more days after paving.

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

C.5.3 Existing Asphalt

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

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

C.6 Tape Application

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

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

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

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

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

2) For the remainder counties:

   · Apply either adhesive.

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

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

D Measurement

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

E Payment

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

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

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)

23. High Performance Concrete (HPC) Masonry Structures, Item SPV.0035.01.

This special provision describes specialized material and construction requirements for high-performance concrete used in bridge structures. Conform to standard specification sections 501 and 502 as modified in this special provision. Conform to section 715 of the standard specifications for QMP, as modified in this special provision.

MODIFY STANDARD SPEC 501 AS FOLLOWS:

501.2.5.4.1 General
Replace the entire text with the following:

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

(2) Use virgin aggregates only.

501.2.5.4.2 Deleterious Substances
Replace paragraph one with the following:

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

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

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

501.2.5.4.3 Physical Properties
Replace paragraph one with the following:

(1) The department will ensure that Los Angeles wear testing conforms to AASHTO T 96, soundness testing conforms to AASHTO T 104 using 5 cycles in sodium sulfate solution on aggregate retained on the No. 4 sieve, and freeze-

thaw soundness testing conforms to AASHTO T 103. The percent wear must not exceed 30, the weighted soundness loss must not exceed 6 percent, and the weighted freeze-thaw average loss must not exceed 15 percent.

501.2.9 Concrete Curing Materials

Replace paragraph 3 with the following:

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

501.3.2.4.3.3 Extended Delivery Time

Delete paragraph one.

501.3.5.1 General

Replace paragraph one with the following:

(1) Use central-mixed concrete as defined in standard spec 501.3.5.1(2) for all work under this special provision.

501.3.7.1 Slump

Replace the entire text with the following:

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

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

502.5.1 General

Replace paragraph one with the following:

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.01	High Performance Concrete (HPC) Masonry Structures	CY

MODIFY STANDARD SPEC 710 AS FOLLOWS:

Add the following subsection:

710.5.7 Chloride Penetration Resistance

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

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

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

MODIFY STANDARD SPEC 715 AS FOLLOWS:

715.2.3.2 Structures

Replace paragraph two with the following:

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

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

Add the following subsection:

715.2.3.3 Trial Mixes

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

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

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

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

(4) Laboratory trial mix is subject to the review and approval of the engineer.

715.5.3 Structures

Replace standard spec 715.5.3 with the following:

(1) The department will adjust pay for each lot using equation "QMP 2.03" as follows:

Percent within Limits (PWL)	Pay Adjustment [1] (dollars per cubic yard)
≥ 90 to 100	0
≥ 50 to < 90	(7/8 x PWL) – 78.75
< 50	-35

(2) For lots with less than four sublots, the department will assess a disincentive based on the individual sublot average strengths. The department will reduce pay for sublots with an average strength below 4000 psi by $35 per cubic yard.

24. Foundation Concrete Masonry, Item SPV.0035.02.

A General

Perform this work in accordance to the requirements of standard specs 501, 502, 701, 710 and 715 (conform to QMP Concrete Structures) except as deleted or additionally stipulated herein. This specification applies to all foundation concrete placed under the following bid items:

SPV.0035.02 Foundation Concrete Masonry

B Materials

B.1 Concrete Mix Physical Requirements

For foundation construction, use high compressive strength concrete, and relatively high cement content in the concrete mix with 565 to 660 pounds of cement per cubic yard. Additives or admixtures, when they are used, shall be clearly indicated. The concrete shall be a flowable, non-segregating concrete mix that does not exhibit rapid slump loss.

Use Type II Portland cement. A minimum of 35% and a maximum of 50% of the cementitious material shall be Grade 100 ground granulated blast furnace slag.

Unit Weight of Concrete, AASHTO T 121: Weight must be between 140 to 160 lb/ft^3.

Maximum water/cementitious ratio of 0.40.

Fine and coarse aggregate shall conform to the requirements of standard spec 501.2.5 except use only coarse aggregate size No. 1.

Any chemical admixture(s) to be used, other than air-entraining agents or water reducers from the department approved list, must be approved in advance by the engineer and meet the requirements of AASHTO M 194, as documented by independent laboratory test reports.

The adjustment of dosage rates of concrete admixtures will be permitted without requiring a new mix design.

Achieve required workability through the use of a combination of super plasticizer and other admixtures as required.

MODIFY STANDARD SPEC 710 AS FOLLOWS:

Add the following subsection:

710.5.7 Chloride Penetration Resistance

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

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

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

Add the following subsection:

715.2.3.3 Trial Mixes

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

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

1. AASHTO T 119 Slump of Hydraulic Cement Concrete.
2. AASHTO T 121 Mass per Cubic Foot, Yield
3. AASHTO T 152 Air Content.
4. AASHTO T 22 Compressive Strength.

5. AASHTO T 277 Rapid Determination of the Chloride Permeability of Concrete, using the modified curing procedure according to 710.5.7(3) herein.
6. AASHTO T 309 Temperature.
7. Water Cement Ratio.

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

(4) Laboratory trial mix is subject to the review and approval of the engineer.

715.5.3 Structures

Replace standard spec 715.5.3 with the following:

(1) The department will adjust pay for each lot using equation "QMP 2.03" as follows:

Percent within Limits (PWL)	Pay Adjustment [1] (dollars per cubic yard)
≥ 90 to 100	0
≥ 50 to < 90	(7/8 x PWL) – 78.75
< 50	-35

(2) For lots with less than four sublots, the department will assess a disincentive based on the individual sublot average strengths. The department will reduce pay for sublots with an average strength below 4000 psi by $35 per cubic yard.

B.2 Slump

The trial mix design for Foundation Concrete shall include a Slump Loss Graph, or Slump versus Time after Batching. The Slump Loss Graph of a proposed drilled shaft mix design illustrates the slump reducing slowly and still exceeding a 5-inch slump two hours after batching. Careful attention to concrete mix designs made with retarders must be exercised, and a close monitoring shall be implemented during construction to preclude rapid slump loss, not given enough time for concreting completion before the concrete mix sets.

Adding water to a ready-mix truck is prohibited. In cases in which part of the water of the concrete mix is added at the batch plant and the remaining water is added at the job site, the amount of water to be added at the job site shall be stated on the mix design sheet carried by the ready-mix truck driver. Testing of concrete will then be conducted on the resulting mix, and further water cannot be added at any time to increase the mix slump or to bring the mix to a specific slump. If after all the water permitted in the mix design has been added and the slump is still out of these specifications, the contractor must reject the mix. Repair or replace drilled shafts of questionable concrete design mixes at no additional cost to the department.

The following table presents the ranges for the slump.

	Slump Range in Inches		
Installation Method	Concrete Placed by Free Falling	Concrete Placed by Tremie	Concrete Placed by Pump
Dry Installation Method Uncased or Cased Excavations	7 to 9	8 to 9½	7 to 9½
Wet Installation Method Uncased or Cased Excavations	NA	8 to 9½	7 to 9½

C (Vacant)

D Measurement

The department will measure Foundation Concrete Masonry by the cubic yard acceptably completed. The department will not measure work or material for forms, falsework, cofferdams, unless specified otherwise, pumping, bracing, or other incidentals necessary to complete the work as required in the these specifications..

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.02	Foundation Concrete Masonry	CY

Payment is full compensation for providing forms and falsework; for placing, finishing, curing, protecting, and heating concrete; for measuring concrete opening strength, including fabricating and testing cylinders, and evaluating maturity; and for treating joints, including sealing; and for furnishing all labor, equipment, tools and incidentals necessary to complete the work.

If the contractor pours foundations wholly or in part without forms, the department will only pay for material placed with the foundation dimensions the plans show.

25. Vibration Monitoring, Item SPV. 0045.01.

A Description

This special provision describes seismic monitoring in the vicinity of the Buckeye 10-Inch diameter gas pipeline at Station 841+00 NB to 843+00 NB.

B (Vacant)

C Construction

C.1 Equipment

Monitor the following operations with a seismograph meeting the requirements of Wisconsin Department of Safety and Professional Services SPS307.43.

Any activities that may cause vibration damage to utilities.

C.2 Preconstruction Survey

Contractor has the option to conduct and document pre-construction surveys of utilities that have a potential for vibration damage. Make these records available to the engineer for review. Any damage resulting from excessive vibration-causing operations is the responsibility of the contractor. The contractor may, at their own expense, monitor vibrations that are not part of the vibration monitoring plan for their own record keeping purposes.

C.3 Monitoring and Recording

Ensure that a trained person who has been approved by the engineer performs vibration monitoring. Obtain approval of seismograph locations from the engineer. Continuously monitor between the vibration-causing work and the closest pipeline and as close as practical to the pipeline. The seismograph should record any peak velocities exceeding 0.16 in. /sec and the frequency of the event. Monitor vibration and if any vibration levels exceed 2 in/sec, immediately halt the vibration-causing work and notify the engineer. Update the mitigation plan to reduce vibration levels to below the above limit.

Perform 24-hour baseline vibration monitoring for the pile driving construction operations at each seismograph recording location to establish baseline vibrations. Record peak particle velocity and frequency in three mutually perpendicular directions for a 24-hour period.

Furnish data recorded for each construction operation to the engineer and the gas utility representative prior to the next vibration-causing workday. Include the following:

- Serial number of vibration monitoring instrument used and record of latest calibration.
- Description of contractor's equipment.
- Name of qualified observer and interpreter.
- Distance and direction of recording station from vibration-causing area.
- Type of ground, from boring log, at recording station and material on which the instrument is sitting.
- Principal frequency, amplitude and particle velocity in each component direction.
- Copy of records of seismograph readings, dated and signed by the person approved by engineer to perform vibration monitoring.
- Contractor documentation of any operational changes necessary to reduce vibration levels below 2 in/sec levels.

D Measurement

The department will measure Vibration Monitoring by the day, acceptably completed. The measured quantity will equal the number of days each seismograph is in use for a 24 hour period.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV. 0045.01	Vibration Monitoring	Day

Payment of the item Vibration Monitoring is full compensation for developing a 24-hour baseline, monitoring and recording vibrations, and reporting.

26. Bar Couplers No. 11 Bar Special, Item SPV.0060.01.

A Description

This special provision describes furnishing and installing bar couplers for connection of reinforcing bars in accordance to standard spec 505, as shown on the plans, and as hereinafter provided.

B Materials

The contractor may use the following pre-approved alternative coupler systems, such as:

- Sleeve-Swaged (Deformation Dependent)
- Sleeve-Forged
- Sleeve-Lock Shear Bolts

When splicing epoxy-coated reinforcing bars, clean and coat couplers and any exposed metal with epoxy. Couplers may be coated with epoxy before or after installation. Use an epoxy that is compatible with the touchup epoxy used on coated reinforced bars.

The alternative coupler system shall be capable of developing 125 percent of the yield strength of the bar being spliced. Couplers shall conform/not exceed the slip values listed in the table below.

Reinforcing Bar Size	Total Slip (inch)
#4 - #6	0.020
#7 - #9	0.028
#10 - #11	0.036
#14	0.048
#18	0.060

C Construction

Submit a proposed alternative coupler system to the department for review and approval. Provide 3 sample splices (of each bar size to be used) to the department for proof testing. Do not install the alternative bar coupler system without the engineer's written approval. Conform to the manufacturer's installation instructions and provide a copy of those instructions to the engineer.

D Measurement
The department will measure Bar Couplers No. 11 Bar Special as each individual unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.01	Bar Couplers No. 11 Bar Special	Each

Payment is full compensation for providing, transporting, and placing all bar couplers; and for furnishing all materials, labor, equipment and incidentals necessary to complete the work.

27. Sedimentation Basin, Item SPV.0060.02.

A Description
Design, supply and maintain a sedimentation basin used to de-water the excavations in the vicinity of piers 21 through 25.

B (Vacant)

C Construction
Design a sedimentation basin to treat the water to remove suspended sediments by filtration, settlement, or other appropriate best management practice prior to discharge. The design of the sedimentation basin shall be submitted for approval as part of the Erosion Control Implementation Plan for dewatering at each location it is required. The submittal shall also include how the intake will be managed to not cause an increase in the background level turbidity prior to treatment and any additional erosion control devices necessary to remove sediments prior to reaching the project limits or wetlands and waterways. Guidance on dewatering can be found on the Wisconsin Department of Natural Resources website located in the Storm Water Management Technical Standards, Dewatering Code #1061 and Sedimentation basins #1064. Maintain the sedimentation basin at regular intervals or as directed by the engineer.

D Measurement
The department will measure Sedimentation Basin as each individual basin, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.02	Sedimentation Basin	Each

Payment is full compensation for design and approval; furnishing and maintaining each basin, additional erosion control devices necessary to achieve acceptable water quality; for any polymers required; for removal of the basin; and for furnishing all labor, tools, equipment, materials, and incidentals necessary to complete the contract work.

28. Drilled Shaft Obstructions, Item SPV.0075.01.

A.1 General
The work included herein consists of removing, drilling, or coring through unknown, and unidentified, man-made subsurface obstructions when encountered for construction of drilled shaft foundations.

A.2 Definitions
Surface obstructions are defined as any objects, man-made or naturally deposited, encountered within 6 feet of the ground surface. Subsurface obstructions are defined as man-made obstructions that are encountered by the drilling equipment at a depth greater than 6 feet below the ground surface. Obstructions include only man-made materials, such as old concrete foundations or abandoned utilities. Known obstructions are man-made obstructions that are shown or identified in the plans. Unknown obstructions are man-made obstructions that are not shown or identified in the plans. Naturally occurring deposits such as rock, boulders, cobbles, nested cobbles and nested boulders, are not considered obstructions and therefore are not applicable to the provision of this pay item.

B (Vacant)

C Construction
Remove surface and subsurface obstructions at drilled shaft locations. Special tools and/or procedures shall be used when the contractor cannot advance the hole more than 12 inches in 60 minutes using conventional rock augers fitted with teeth, drilling buckets, or under reaming tools operating at maximum power, torque, and down thrust. Special procedures and/or tools may be required but are not limited to chisels, breakers, core barrels, air hammer tools, and hand excavation. Other methods for obstruction removal can be employed to aid in the removal if acceptable to the engineer. Blasting is not permitted.

When an unknown subsurface obstruction is encountered, notify the engineer prior to beginning any work to remove the obstruction.

D Measurement
The department will measure Drilled Shaft Obstructions by the hour for each hour the contractor actively spends removing or coring through unknown man-made subsurface obstructions. A quantity of one hour will be paid upon the determination that a subsurface obstruction is encountered based on lack of hole advancement with conventional tools as set forth in this specification. Upon removal of the unknown man-made subsurface obstruction, portions of the final hour measured will be rounded up to the next whole hour. Down time spent planning for subsurface obstruction removal or delays caused by the mobilization of special equipment and tools not readily available at the site will not be measured for payment.

	Measurement Example	Paid Obstruction Hours
1	Drilling encounters possible obstruction. Contractor notifies engineer. Start clock.	0.00
2	Conventional drilling equipment does not advance 1 foot after attempting to do so for at least 60 minutes.	1.00
3	Contractor resumes work clearing obstruction the following day. Assume the obstruction is cleared in aggregate total of 1 hour and 15 minutes of time. Obstruction is identified to be a previously unknown and unidentified man-made obstruction.	2.00

Only unknown (not identified in the plans), man-made subsurface obstructions, will be measured for payment. Work to clear and remove surface obstructions, known obstructions identified on the plans, and any natural deposits (rock, boulders, cobbles, nested cobbles and nested boulders) will not be measured separately for payment and shall be included in the applicable item for Drilled Shaft Foundation 60-inch included in the contract.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0075.01	Drilled Shaft Obstructions	HRS

Payment is full compensation for removal of unknown, man-made subsurface obstructions; and for furnishing all materials, labor, equipment, additional concrete, and incidentals necessary to complete the work.

29. Street Sweeping, Item SPV.0075.02.

A Description
Remove small dirt and dust particles from the roadway using a street sweeper periodically during the project as directed by the engineer.

B (Vacant)

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

D Measurement
The department will measure Street Sweeping by the hour that the street sweeper is on the project picking up and removing debris from the roadway, 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.0075.02	Street Sweeping	HRS

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

30. Post-Tensioning Pier Footing, Item SPV.0085.01.

A Description
The work under this section shall consist of furnishing, installing, post-tensioning, and grouting of post-tensioning tendons in accordance to the details shown on the plans, standard spec 503, and these special provisions

Post-tensioned concrete members consist of the furnishing, installing, stressing, and grouting of prestressing tendons. In this process prestressing steel, which may be strands, wires, or bars, is installed through preformed or drilled voids or ducts in the concrete, is stressed up to a predetermined load, and is anchored directly against the hardened concrete, initially imparting stresses through end bearing. Grout is then injected into the ducts to completely fill all remaining voids and to seal the permanently stressed tendons.

Because a high level of corrosion protection is needed in this particular job, epoxy coated thread bars and plastic corrugated ducts shall be used. The contractor also shall use permanent plastic grout caps as an inlet for grouting and also to protect of the thread bar ends with a water-tight fully encapsulated corrosion protective system.

A.1 Terms Used
Post-Tensioning: The application of a compressive force to the concrete by stressing tendons or bars after the concrete has been cast and cured. The force in the stressed tendons or bars is transferred to the concrete by means of anchorages.

Post-Tensioning Scheme or Layout: The pattern, size, and locations of post-tensioning tendons provided by the designer on the contract plans.

Post-Tensioning System: A proprietary system where the necessary hardware (anchorages, wedges, strands, bars, couplers, etc.) is supplied by a particular manufacturer or manufacturers of post-tensioning components.

Tendon: A high strength steel member made up of a number of strands, wires or bars.

Strand: An assembly of several high strength steel wires wound together. Strands usually have six outer wires helically wound around a single straight wire of a similar diameter.

Wire: A single, small diameter, high strength steel member and normally the basic component of strand, although some proprietary post-tensioning systems are made up of individual or groups of single wires.

Bar: Post-tensioning bars are high strength steel bars, normally available from 0.625 to 2.5 inches (15 mm to 64 mm) dia. and usually threaded with very coarse thread.

Coupling: The means by which the prestressing force may be transmitted from one partial - length prestressing tendon to another.

Anchorage: An assembly of various hardware components, which secure a tendon at its ends after it has been stressed and imparts the tendon force into the concrete. One of these components shall be a permanent plastic grout cap to provide a water-tight, fully encapsulated tendon.

Anchor Plate: That part of the anchorage, which bears directly on the concrete and through, which the tendon force is transmitted.

Wedges: A small conically shaped steel component placed around a strand to grip and secure it by wedge action in a tapered hole through a wedge plate.

Wedge Plate: A circular steel component of the anchorage containing a number of tapered holes through which the strands pass and are secured by conical wedges.

Set (Also Anchor Set or Wedge Set): Set is the total movement of a point on the strand just behind the anchoring wedges during load transfer from the jack to the permanent anchorages. Set movement is the sum of slippage of the wedges with respect to the anchorage head and the elastic deformation of the anchor components. For bars, set is the total movement of a point on the bar just behind the anchor nut at transfer, and is the sum of slippage of the bar and the elastic deformation of the anchorage components.

Anticipated Set: Anticipated set is that set which was assumed to occur in the design calculation of the post-tensioning forces immediately after load transfer.

Grout: A mixture of cementitous materials and water, with or without mineral additives, admixtures or fine aggregate, proportioned to produce a material that can be pumped without segregation of the constituents; injected into the duct to fill the space around the tendon.

Vent: Tubing or duct, which can be used for the injection of grout to allow air, water, grout and bleed water from the duct.

Duct: Material forming a conduit to accommodate the tendon installation and provide an annular space for the grout which protects the steel.

A.2 Alternate Post-Tensioning Designs

Alternate designs using a post-tensioning scheme other than that shown on the plans may be submitted by the contractor for the engineer's approval provided that the proposed alternate scheme fulfills the following requirements:

1. The prestress system is a type described in Section A.3.
2. The net compressive stress in the concrete after all losses is at least as large as that provided by the scheme shown on the plans.
3. The distribution of individual tendons at each cross section generally conforms to the distribution shown on the plans.
4. The ultimate strength of the structure with the proposed post-tensioning scheme meets the requirements of Section 5 of the AASHTO LRFD Bridge Design Specifications, current Edition including all Interim Specifications; and shall be equivalent to the ultimate strength provided by the original design.
5. Stresses in the concrete and prestressing steel at all sections and at all stages of construction meet the requirements of the design criteria noted on the plans.
6. All provisions of the design criteria noted on the plans shall be satisfied.
7. The contractor fully redesigns and details, as required, the elements where the alternate post-tensioning scheme is proposed to be used.
8. The contractor submits complete shop drawings including post-tensioning scheme and system, reinforcing steel, and concrete cover; and design calculations (including short and long term prestress losses) for the engineer's approval. These drawings and calculations shall be certified by a registered professional engineer in the State of Wisconsin who can show experience with the proposed alternate scheme to the satisfaction of the engineer.
9. Any alternate post-tensioning scheme or system must provide layers for corrosion protection by epoxy coating of the thread bars, use of grout and the use of permanent plastic duct grout cap at the thread bar ends
10. Any alternate post-tensioning scheme or system approved by the engineer, which results in a change in quantity from that shown on the plans, shall be paid based on the quantity actually used and accepted or the plan quantity, whichever is less, at the unit bid price.

A.3 Shop Drawings

Prepare shop drawings for the post-tensioning system. Prepare in accordance to the following provisions as well as standard spec 105.2.

Submit checked detailed shop drawings, which include, but are not limited to, the following:

1. A complete description of all details covering each of the post-tensioning systems to be used for permanent tendons.
2. Designation of the specific post-tensioning steel, anchorage devices, sheathing material, and accessory items to be used.

3. Size and type of ducts for all post-tensioning tendons and their horizontal and vertical profiles shall be clearly detailed. Duct supports and grout tubes and vents shall be shown including size, type and location.
4. The details of the anchorage systems.
5. A table giving jacking sequence, jacking forces and initial elongation, and estimates of anchor sets of the tendons at each stage of erection for all post-tensioning.
6. Parameters to be used to calculate the typical tendon force such as expected friction coefficients, anchor set, and post-tensioning relaxation curves.
7. Details and a complete description of the post-tensioning system to be used. Prestressing details shall include method, sequence, and procedure of prestressing, securing tendons, release procedures and equipment.
8. Certified copies of reports covering tests performed on post-tensioning steel and anchorages devices as required by Section B.2.2 of this specification.
9. Information regarding the grout mix design, the method of mixing and placing the grout and the type and capacity of equipment to be used.

B Materials

Furnish material that is according to the following specifications.

B.1 Prestressing Material

B.1.1 Prestressing Steel

The proper use of strand, bars and wires is predicated upon the use of suitable accessory materials. Details for the use of these materials shall be furnished by the manufacturer in connection with shop and working drawing submittals.

Strand: Unless otherwise noted on the plans, strand shall be uncoated, Grade 270 (1860 MPa), low relaxation 7-wire strand conforming to the requirements of AASHTO M 203.

Bar: Unless otherwise noted on the plans, bar shall be epoxy coated, Grade 150 (1035 MPa), high strength, coarse thread bar conforming to the requirements of AASHTO M 275.

B.1.2 Prestress Anchorages

All prestressing steel shall be secured at the ends by anchoring devices meeting the approval of the engineer. The anchoring devices shall effectively distribute tendon forces to the concrete and shall satisfy the anchor efficiency test and acceptance test in accordance to Article 10.3.2 of AASHTO LRFD Construction Specifications current edition and latest interim. The anchorages shall develop at least 95 percent of the minimum specified ultimate tensile strength of the prestressing steel, tested in an unbonded state without exceeding the anticipated set. Certified copies of test results for the anchorage system of each different anchor type or size shall be supplied to the engineer at no additional cost. The anchorage shall be so arranged that the prestressing force in the tendon may be verified prior to the removal of the stressing equipment.

For single plate anchors the design shall conform to the following requirements (A and B):

A. The concrete bearing stress shall not exceed the allowables specified in Section 5.10.9.3 “Design 0f the General Zone” of ASSHTO LRFD Bridge Design Specifications current edition and interims. Calculations shall be furnished to the engineer for each bearing type and/or size of anchor device supplied.

B. The bending stresses in the plates or assemblies induced by the pull of the prestressing steel shall not exceed the yield point of the material or cause visible distortion of the anchorage plate when 95 percent of the ultimate strength of the tendon is applied. Certified test reports from an approved independent testing laboratory, verifying compliance with this requirement, shall be provided to the engineer for each type and/or size of anchoring device.

Alternatively, multi-plane anchorage devices which do not meet with the above requirements (A and B) may be accepted based upon previously approved usage by the department, or on the basis of new or previous tests performed in accordance to and meeting the requirements of the 1999 AASHTO Guide Specifications for the Design and Construction of Segmental Concrete Bridges, Division II, Section 4.2 "Special Anchorage Devices", all at no cost to the department. Also, in such cases, any additional confinement reinforcement or modifications to existing reinforcement required for satisfactory performance of the anchorage devices shall be incorporated in the structure at no additional cost. Certified test reports from an approved independent testing laboratory, verifying compliance with this requirement, shall be provided to the engineer for each type and/or size of anchoring device.

The contractor's use of an anchorage design using two part wedges shall be immediately discontinued if these wedges show any sign of slippage, or if they fail to grip the tendon without exceeding the anticipated set. The contractor shall be required to furnish and use acceptable three part wedges for anchoring post-tensioning strands if two part wedges are rejected at no additional cost to the department.

All anchorage hardware shall be epoxy coated.

B.1.3 Grout Caps

Use permanent grout caps made from approved polymer. The approved resins for use in the polymer are nylon, acrylonitrile butadiene styrene (ABS), or polyester. For products made from nylon, the cell class of the nylon according to ASTM D5989 shall be S-PA0141 (weather-resistant), S-PA0231, or S-PA0401 (ultimate strength not less than 10,000 psi with ultraviolet [UV] stabilizer added). Seal the cap to the bearing plate with “O”-ring seals, gaskets, or precision-fitted flat gaskets. Place a grout vent on the top of the cap. Grout caps shall be pressure tested prior to grout injection and certified to a minimum pressure of 150 psi by the post-tensioning supplier. Use ASTM F593 Type 316 stainless steel bolts to attach the cap to the anchorage.

B.1.4 Bar Couplers

For permanent applications, the use and location of bar couplers shall be subject to approval by the engineer. Where bars are extended by the use of couplers, the assembled units shall develop at least 95 percent of the manufacturer's minimum specified ultimate tensile strength of the bar, tested in an unbonded state without exceeding the anticipated set.

B.1.5 Ducts

Unless specifically noted on the plans or otherwise approved by the engineer, ducts for post-tensioning shall conform to the requirements of this Specification.

Ducts embedded in the concrete for prestressing steel shall be corrugated high density plastic sheathing. Ducts shall be sufficiently strong and durable for fabrication, transportation, installation, concrete placement and tendon stressing. Ducts and all connections shall be capable of withstanding the pressure required for pre-grouting air pressure test and for flushing the ducts in the event of an aborted grouting operation. Duct material shall not react with the concrete, grout, or enhance corrosion of the prestressing steel.

B.1.5.1 Size of Ducts

Ducts for single bar tendons shall have an inside diameter at least 0.5 inches larger than the nominal diameter of the bar, as shown on the plans.

B.1.6 Grout Vents, Injection and Ejection Pipes

Vents shall be ¾ inch (20 mm) minimum diameter plastic pipe. Plastic components shall not react with the concrete or enhance corrosion of the prestressing steel. Plastic components shall be free of water soluble chlorides.

Grout injection pipes shall be fitted with positive mechanical shut-off valves. Vents and ejection pipes shall be fitted with valves or other devices capable of withstanding the grout pumping pressures.

B.1.7 Grout

Grouts shall be prebagged in plastic lined or coated bags. Stamp grout bags with date of manufacture, lot number and mixing instructions. Any change of materials or material sources requires retesting and certification of the conformance of the grout with the physical properties requirements. A copy of the Quality Control Data Sheet for each lot number and shipment sent to the job site shall be provided to the contractor by the grout supplier and furnished to the engineer.

Materials with a total time from manufacture to usage in excess of six months shall be retested and certified by the supplier before use or shall be removed and replaced.

Only manufacturers of post-tensioning grout approved by WisDOT Materials Laboratory for testing are qualified for this project. .

The material shall be mixed in accordance to the manufacturer's recommendations.

Grouts shall achieve a non-bleeding characteristic.

Grouts shall contain no aluminum powder.

The water content shall be the minimum necessary for proper placement, and shall not exceed a water-cement ration of 0.35.

Grouts and temporary corrosion protection methods shall not involve toxic substance.

Grout shall meet or exceed the specified physical properties stated herein as determined by the following standard and modified ASTM test methods.

Property	**Test Value**	**Test Method**
Total Chloride Ions	Max. 0.08% by weight of cementitious material	ASTM C 1152
Fine Aggregate (if utilized)	Max Size <= No. 50 Sieve (300 micron)	ASTM C 33
Volume Change @ 28 days	0.0% Shrinkage @ 24 hours <=0.3% Expansion @ 28 days	ASTM C 1090 *
Expansion	<= 2.0% for up to 3 hours	ASTM C 940
Compressive Strength @ 28 days (Average of 3 cubes)	>= 5,000 psi (34.5 Mpa)	ASTM C 942
Initial Set of Grout	Min. 3 hours Max. 12 hours	ASTM C 953
Fluidity Test ** Efflux Time from Flow Cone		
(a) Immediately after mixing	Min. 11 sec. Max. 30 sec.	ASTM C 939 ASTM C 939 ***
	or Min. 9 sec. Max. 20 sec.	ASTM C 939 ***
(b) 30 minutes after mixing with remixing for 30 sec.	Max. 30 sec.	ASTM C 939
	Or Max. 30 sec.	ASTM C 939 ***
Bleeding @ 4 hours	Max. 0% Max. 2% at 43.5 psi (300 kPa)	ASTM C 940 **** Schupack *****
Permeability @ 28 days	Max. 2500 coulombs at 30 V for 6 hours	ASTM C 1202

* Modify ASTM C 1090 to include verification at both 24 hours and 28 days.

** Adjustments to flow rates will be achieved by strict compliance with the manufacturer's recommendations.

*** Grout fluidity shall meet either the standard ASTM C 939 flow cone test or the modified test described herein. Modify the ASTM C 939 test by filling the cone to the top instead of the standard level. The efflux time is the time to fill a one quart (one liter) container placed directly under the flow cone.

**** Modify ASTM C 940 to conform with the wick induced bleed test described below.

a. Condition dry ingredients, mixing water, prestressing strand and test apparatus overnight at 70 to 75^{o}F (21 to 24^{o}C).
b. Insert 0.21 gal (800 ml) of mixed conditioned grout with conditioned water into the 0.26 gal (1,000 ml) graduated cylinder. Mark the level of the top of the grout.
c. Wrap the strand with 2 inch (50.8 mm) wide duct or electrical tape at each end prior to cutting to avoid splaying of the wires when it is cut. Degrease (with acetone or hexane solvent) and wire brush to remove any surface rust on the strand before temperature conditioning. Insert completely a 20 inch (508 mm) length of conditioned, cleaned, AASHTO M203, Grade 270 (1860 MPa), seven wire strand (1/2 inch (13 mm) diameter) into the 0.26 gal (1,000 ml) graduated cylinder (possibly using a centralizer). Mark the level of the top of the grout.
d. Store the mixed grout at the temperature range listed above in (a).
e. Measure the level of the bleed water every 15 minutes for the first hour and hourly afterward for four hours.
f. Calculate the bleed water, if any, at the end of the four hour test period and the **resulting** expansion per the procedures outlined in ASTM C 940, with the quantity of bleed water expressed as a percent of the initial grout volume. Note if the bleed water remains above or below the top of the grout.

***** Schupack Pressure Bleed Test Using the Gelman Filtration Funnel

a. Grouts shall be mixed in accordance to ASTM C938, "Practice for Proportioning Grout Mixtures for Preplaced-Aggregate Concrete.
b. Fill the filtration funnel hand tight, while keeping funnel in upright position.
c. Place funnel in frame.
d. Connect air supply (air pressure at 0 psi (0 kPA)).
e. Allow grout to rest in funnel for 10 minutes.
f. Increase pressure to 43.5 psi (300 kPa).
g. Hold at specified pressure for 5 minutes and record bleed volume to the nearest 0.00005 gal (0.2 ml) at the end of hold time.
h. Bleed volume shall be reported as a percentage of the sample volume:
    1. % bleed = [bleed (gal) x 100] / 0.053 gal
    2. (% bleed = [bleed (ml) x 100] / 200 ml)

If a loss of pressure occurs prior to completion of step (h), the test is considered to have failed for the given pressure level.

B.2 Testing

Testing shall conform to the applicable ASTM Specifications for the prestressing material used. All material samples for testing shall be furnished by the contractor at no cost to the department. Job site or site referred to herein shall be considered the location where the prestressing steel is to be installed whether at the bridge site or a remote casting yard.

B.2.1 Testing of Prestressing Steel and Components

Certified mill reports on the prestressing steel used shall be submitted to the engineer for each lot of post-tensioning steel, and shall show the ultimate strength, modulus of elasticity, and percent elongation at rupture. These reports are required for strand as well as bars.

Two certified test reports as required in Section B.1.2 are required for each anchor type and size. This is required for both strand and bar anchors. The first report verifies that the anchor can support 95 percent of the ultimate force for that tendon in a unbonded state. The second submission depends on the anchor type. If the anchor is a single plate anchor, then calculations are required to verify the anchor satisfies the bearing stresses defined in Section B.1.2. If the anchor is a multi-plate type, then certified test reports are required showing the anchor satisfied the "Special Anchorage Devices" in Section B.1.2.

B.2.2 Lots and Identification

A lot is that parcel of components as described herein. All bars, anchorage assemblies, and couplers of each size from each mill heat of steel, and all strand from each manufactured reel to be shipped to the site shall be assigned an individual lot number and shall be tagged in such a manner that each such lot can be accurately identified at the job site. Records shall be submitted to the engineer identifying assigned lot numbers with the heat, coil, or reel of material represented. All unidentified prestressing steel, anchorage assemblies or bar couplers received at the site will be rejected. Loss of positive identification of these items at any time will also be cause for rejection.

B.2.3 Release of Materials

The release of any material by the engineer shall not preclude subsequent rejection if the material is damaged in transit or later damaged or found to be defective.

B.2.4 Testing by the Contractor

B.2.4.1 In-Place Friction Test

This test is intended to demonstrate that the friction characteristics, losses, and resulting tendon forces are in agreement with the design assumptions. This test is only required if authorized by the engineer in order to resolve discrepancies between actual and theoretical elongations in excess of 5 percent.

The test procedure shall consist of stressing the tendon at an anchor assembly with a load cell at the dead end. The test specimen shall be tensioned to 80 percent of ultimate tendon strength in eight equal increments and detensioned in eight equal decrements. For each increment and decrement, the gauge pressure, elongations, and load cell force shall be recorded. Account shall be taken of any wedge seating in both the live end (i.e., back of jack) and the dead end (i.e., back of load cell) and of any friction within the anchorages, wedge plates, and jack as a result of slight deviations of the strands or bars through these assemblies. For long tendons requiring multiple jack pulls with intermediate temporary anchoring, care shall be taken to keep an accurate account of the elongation at the jacking end allowing for intermediate wedge or nut seating and slip of the jacks' wedges.

The test shall be conducted using the lubricants required, if any, to meet the expected friction coefficient.

If, for the contractor's expected friction coefficients, the elongations fall outside the plus or minus 5 percent range, the contractor shall investigate the reason and make revisions to their post-tensioning operations such that the final tendon forces are in agreement with the plans.

In reconciling theoretical and actual elongations, the value of the expected friction and wobble coefficients shall not be varied by more than plus or minus 10 percent. Significant shortfall in elongations is indicative of poor duct alignments and/or obstructions which the contractor shall correct or compensate for in a manner to be proposed by the contractor and reviewed and approved by the engineer, at no additional cost to the department.

If, during the course of routine stressing operations, there are irreconcilable differences between forces and elongations, or other difficulties, the engineer reserves the right to require additional in place friction tests or lift off tests on any or all of the tendons.

The apparatus and methods used to perform the test shall be proposed by the contractor and shall be subject to the approval of the engineer. Furthermore, this test shall be conducted by the contractor in the presence of the engineer.

Correction or adjustment of elongations as a consequence of the results of the friction test are the responsibility of the originator of the stressing and elongation calculations.

B.2.5 Tests Reports Required

Two test reports of the In Place Friction Test shall be submitted to the engineer within five days after the test has been performed. Revisions to the theoretical elongations shall be submitted to the engineer for approval.

B.2.6 Payment for Testing

Testing by the contractor will not be paid for separately but shall be incidental to the price paid for the post-tensioning.

C Construction

C.1 Protection of Prestressing Steel.

C.1.1 Shipping, Handling, and Storage

Protect all prestressing steel against physical damage and corrosion at all times from manufacturer to final grouting or encasing in the concrete. Prestressing steel that has sustained physical damage at any time shall be rejected. Any reel that is found to contain broken wires shall be carefully inspected during use and lengths of strand containing broken wires shall be removed and discarded. The wire shall be bright and uniformly colored, having no foreign matter or pitting on its surface.

Package prestressing steel in containers or shipping forms for protection of the steel against physical damage and corrosion during shipping and storage. A corrosion inhibitor, which prevents rust or other results of corrosion, shall be placed in the package or form, or shall be incorporated in a corrosion inhibitor carrier type packaging material, or when permitted by the engineer, may be applied directly to the steel. The corrosion inhibitor shall have no deleterious effect on the steel or the concrete or bond strength of steel to concrete. Inhibitor carrier type packaging material shall conform to the provisions of Federal Specification MIL-P-3420. Packaging or forms damaged by any cause shall be immediately replaced or restored to the original condition.

The shipping package or form shall be clearly marked with a statement that the package contains high-strength prestressing steel, the care to be used in handling, and the type, kind, and amount of corrosion inhibitor used, including the date when placed, safety orders, and instructions for use. Low relaxation (stabilized) strand shall be specifically designated per requirements of AASHTO M 203. All such strand not so designated shall be rejected.

C.1.2 During Installation in the Structure

When acceptable prestressing steel for post-tensioning is installed in the ducts after completion of concrete curing and if stressing and grouting are completed within twenty calendar days after the installation of the prestressing steel, rust which may form during these twenty days will not be cause for rejection of the steel. Post-tensioning steel installed, tensioned, and grouted in this manner, all within twenty calendar days, will not require the use of a corrosion inhibitor in the duct following installation of the prestressing steel.

For post-tensioning steel installed in ducts prior to concrete placement, the above time shall be reckoned from the day of first installation in the ducts.

Post-tensioning steel installed as above but not grouted within twenty calendar days shall have an approved water soluble oil corrosion inhibitor (emulsified rust passivator) applied in the ducts and shall be subject to all the requirements in this section pertaining to corrosion protection and rejection because of rust. Immediately prior to grouting, the water soluble oil shall be thoroughly flushed from the ducts with water, and the ducts and tendons shall then be thoroughly dried by air blown into the ducts.

Within 30 calendar days after installation of the post-tensioning steel, ducts shall be grouted in accordance to these specifications. Except when approved by the engineer in writing, failure to grout tendons within the 30 calendar days specified shall result in stoppage of the affected work and no invoices shall be processed for payment of that affected work.

C.2 Fabrication of Post-tensioning Ducts and Anchorages in the Final Structure.
All post-tensioning anchorages, ducts, vent pipes, miscellaneous hardware, reinforcing bars, and other embedments shall be accurately and securely fastened at the locations shown on the plans, on the approved shop or working drawings, or as otherwise approved by the engineer.

C.2.1 Ducts
Ducts shall be accurately aligned and positioned at the locations shown on the plans, according to the approved shop or working drawings, or as otherwise approved by the engineer. All internal ducts shall be securely fastened in position at regular intervals not exceeding three feet to prevent movement, displacement, or damage from concrete placement and consolidation operations. The method and spacing of duct supports shall be shown on appropriate shop drawings.

All alignments, including curves and straight portions, shall be smooth and continuous with no lips, kinks, or dents. All ducts shall be carefully checked and repaired as necessary before the placing of any concrete commences. The tolerance on the location of the ducts for the tendons shall be as specified below.

After installation in the forms, all ends of ducts, connections to anchorages, splices, vents, and the like shall at all times be sealed to prevent the entry of water and debris.

C.2.2 Splices and Joints
At splices and joints, and connections to anchorages, ducts shall be smoothly aligned and secured with no lips or kinks. They shall be joined in a manner, which positively prevents the entrance of cement paste and water from the concrete or unwanted leakage of grout during subsequent grouting operations.

C.2.3 Grout Vents, Injection and Ejection Pipes
All ducts or anchorage assemblies for permanent post-tensioning shall be provided with pipes or other suitable connections at each end for the injection of grout after prestressing. Vents shall be placed in the following locations:

a) At the anchorage area of the tendon.
b) At the high points of the duct, when the vertical distance between the highest point and lowest point is more than 20 inches (500 mm).
c) An vent shall be placed at or near the lowest point of a tendon.
d) Outlets shall be placed at all low points, and shall be free draining.
e) At major changes in the cross-section of the duct, such as couplers and anchorages. In addition, one grout vent shall be placed approximately 3 feet (1 m) downstream from the high point vent.

The contractor may use additional injection and vent pipes only when shown on the approved shop drawings.

All connections to ducts shall be made with metallic or plastic structural fasteners. Waterproof tape shall be used at all connections to include vent and grouting pipes. Vents shall be mortar tight, taped as necessary, and shall provide means for injection of grout through the vents and for sealing the vents.

Grout injection pipes shall be fitted with positive mechanical shut-off valves. Vents and ejection pipes shall be fitted with valves, caps, or other devices capable of withstanding the grout pumping pressures.

All grout caps used must be installed to prevent entrapment of air or water voids and must provide 100 percent coverage of all tendons.

C.2.4 Tolerances

Post-tensioning ducts shall be positioned within the tolerances given below:

Table of Duct Position Tolerances		
Tolerances in inches (mm) for:	Vertical position	Lateral position
Longitudinal Tendons in Integral Bent Cap	± 1/4 (±6)	± 1/2 (±12)

Entrance and exit angles of tendon paths at anchorages and/or at faces of concrete shall be within 3 degrees (5 percent) of desired angle measured in any direction.

Angle changes at duct joints shall not be greater than 3 degrees (5 percent) in any direction.

Anchorages shall be located within ± ¼ inches (±6 mm) of desired position laterally and ±1 inch (±25 mm) along the tendon except that minimum cover requirements to ends of cut off tendons and anchor components must be maintained.

Anchorage confinement reinforcement in the form of spirals, multiple U shaped bars or links, shall be positioned to start within ½ inches (12 mm) of the back of the main anchor plate, providing the anchorage is to be encased or sealed later in the construction, and shall be properly centered around the duct.

In the event of conflicts between the reinforcement and post-tensioning duct, in general, the position of the post-tensioning duct shall prevail and the reinforcement shall be adjusted locally to the approval of the engineer.

C.3 Placing Concrete

C.3.1 Precautions

The contractor shall exercise great care when placing and consolidating concrete so as not to displace or damage any of the post-tensioning ducts, anchorage assemblies, splices and connections, reinforcement, or other embedments.

C.3.2 Proving of Post-Tensioning Ducts

Upon completion of concrete placement, the contractor shall verify that the post-tensioning ducts are free and clear of any obstructions or damage and will be able to accept the intended post-tensioning tendons. If the ducts are found to be deformed such that the tendons cannot be placed, the member shall be rejected unless a workable repair can be made to clear the duct, all to the satisfaction of the engineer.

C.3.3 Problems and Remedies

If the ducts or any part of the work is found to be deficient, it will be rejected. No remedial or repair work will be permitted without the approval of the engineer. Any remedial work will be completed at no additional cost to the department.

C.4 Installing Tendons.

Post-tensioning strands may be pushed or pulled through the ducts to make up a tendon. Pushing shall be done with care so as to avoid snagging on any lips or joints in the ducts. The contractor shall take precautions by rounding off the end of the strand or fitting it with a smooth protective cap for this purpose.

Alternatively, strands may be assembled into the tendon, which then may be pulled through the duct together using a special steel wire sock ("Chinese finger") or other device attached to the end. Also, the ends of the strands may be welded together for this purpose. If so, then the end of the bundle must be rounded for smooth passage and the entire welded end together with at least 30 inches (750 mm) of tendon beyond the end of the last weld shall be cut off and wasted. Cutting shall be done with an abrasive saw or similar. Flame cutting shall not be allowed.

In accordance to these Specifications, the time requirements for corrosion protection shall commence from the time the strands were first placed in the ducts and not from the time of concrete placement.

C.5 Post-Tensioning Operations.

Post-tensioning forces shall not be applied until the concrete has attained the specified compressive strength as determined by cylinder tests.

The stressing of post-tensioning tendons shall be under the immediate supervision of a qualified representative of the post-tensioning specialty contractor, who shall exercise rigid control of the operations as necessary for full compliance with all requirements. As a minimum, the representative shall be present at the beginning of each different type of post-tensioning operation. If the representative determines that the contractor's crew is thoroughly familiar with one type of operation, he may deliver a signed statement of

competence for the crew to the engineer. In such case, the presence of the representative shall not be required again until a different type of post-tensioning operation occurs. The statement shall list the names of the contractor's crew and crew leader. The stressing operations shall be overseen by the contractor's crew leader, who shall demonstrate competence in supervising the stressing operations and performing elongation measurements and calculations, and shall preferably be an engineer. No stressing operations shall be performed without direct supervision of the representative or the contractor's approved crew leader.

C.5.1 Stressing Tendons

All post-tensioning steel shall be tensioned by means of hydraulic jacks so that the post-tensioning force shall not be less than that required by the plans, approved shop drawings, or as otherwise approved by the engineer. Monostrand jacks shall not be utilized for stressing tendons unless approved by the engineer.

The maximum temporary stress (jacking stress) in the post-tensioning steel shall not exceed 80 percent of its specified minimum ultimate tensile strength. Tendons shall not be overstressed to achieve the expected elongation.

The post-tensioning steel shall be anchored at initial stresses that will result in the long term retention of permanent stresses or forces of not less than those shown on the plans or the approved shop drawings. Unless otherwise approved by the engineer, the initial stress after anchor set shall not exceed 70 percent of the specified ultimate tensile strength of the post-tensioning steel.

Permanent stress and permanent force are the stress and force remaining in the post-tensioning steel after all losses, including long term creep and shrinkage of concrete, elastic shortening of concrete, relaxation of steel, losses in the post-tensioning steel from the sequence of stressing, friction and unintentional wobble of the ducts, anchor set, friction in the anchorages, and all other losses peculiar to the post-tensioning system.

C.5.2 Stressing Sequence

The plans show the sequence, the phase and the end from which tendons must be stressed. The contractor shall not modify the stressing sequence shown on the plans without approval from the engineer.

C.5.3 Stressing Equipment

Equipment for tensioning the tendons shall be furnished by the manufacturer of the post-tensioning system (tendons, hardware, anchorages, etc.).

C.5.4 Stressing Jacks and Gauges

Each jack used to stress tendons shall be equipped with a pressure gauge for determining the jacking pressure. The pressure gauge shall have an accurately reading dial at least 6 inches (150 mm) in diameter.

Each jack and its gauge shall be calibrated as a unit, with the cylinder extension in the approximate position it will be in at the final jacking force. Calibration shall be done when the jack is connected to the equipment (pumps and gauges) in the identical configuration to be used on the job site, e.g. with the same length hydraulic lines. Initial calibration of the jacks and gauges shall be performed by an independent laboratory using a proven load cell. For each jack and gauge unit used on the project, certified calibration charts shall be furnished by the contractor from the independent laboratory prior to stressing the first tendon.

Certified calibration shall be made at the start of the work and at every six months thereafter, or as requested by the engineer. At the option of the contractor, calibrations subsequent to the initial calibration with a load cell may be accomplished by the use of a master gauge. The master gauge shall be supplied by the contractor in a protective waterproof container capable of protecting the calibration of the master gauge during shipment to a laboratory. The contractor shall provide a quick-attach coupler next to the permanent gauge in the hydraulic lines, which enables the quick and easy installation of the master gauge to verify the permanent gauge readings. The master gauge shall be calibrated by and shall remain in the possession of the engineer for the duration of the project.

Any repair of the jacks, such as replacing seals or changing the length of the hydraulic lines, is cause for recalibration of the jacks using a load cell.

No extra compensation shall be allowed for the initial or subsequent calibrations, or for the use and required calibrations of the master gauge.

C.5.6 Elongations and Agreement with Forces

The post-tensioning operation shall be so conducted that the forces being applied to the tendon and the elongation of the post-tensioning tendon can be measured at all times.

Elongations shall be measured to the nearest 1/16 inch (2 mm).

For the required tendon force, the observed elongation shall agree within seven percent of the theoretical elongation, or the entire operation shall be checked and the source of error determined and remedied to the satisfaction of the engineer before proceeding further. The tendon shall not be overstressed to achieve the theoretical elongation.

In the event that agreement between the observed and theoretical elongations at the required force falls outside the acceptable tolerances, the engineer may, at their discretion and without additional compensation to the contractor, require "In Place Friction Test" in accordance to Section B.2.1.

C.5.7 Friction

The contract plans were prepared based on the assumed friction and wobble coefficients and anchor set noted on the plans. The contractor shall submit calculations and show a typical tendon force diagram, after friction, wobble, and anchor set losses, on the shop

drawings based upon the expected actual coefficients and values for the post-tensioning system to be used. These coefficients and values shall be given on the Shop Drawings.

If, in the opinion of the engineer, the actual friction significantly varies from the expected friction, the contractor shall revise their post-tensioning operation such that the final tendon force is in agreement with the plans.

When friction must be reduced, water soluble oil or graphite may be used as a lubricant subject to the approval of the engineer. Lubricants shall be flushed from the duct as soon as possible after stressing is completed by use of water pressure. These ducts shall be flushed again just prior to the grouting operations. Each time ducts are flushed, they shall be immediately blown dry with oil free air.

C.5.8 Wire Failures in Post-Tensioning Tendons

Multi-strand post-tensioning tendons having wires, which failed by breaking or slippage during stressing, may be accepted provided the following conditions are met:

a) The completed structure shall have a final post-tensioning force of at least 98 percent of the design total post-tensioning force.
b) Any single tendon shall have no more than a five percent reduction in cross-sectional area of post-tensioning steel due to wire failure.

As an exception, any of the above conditions may be waived as approved by the engineer when conditions permit the contractor to propose acceptable alternative means of restoring the post-tensioning force lost due to wire failure.

C.5.9 Cutting of Post-Tensioning Steel

Post-tensioning steel shall be cut by an abrasive saw within ¾ to 1½ inches (20 to 40 mm) away from the anchoring device. Flame cutting of post-tensioning steel is not allowed.

C.5.10 Record of Stressing Operations

The contractor shall keep a record of the following post-tensioning operations for each tendon installed:

a) Project name, number.
b) Contractor and/or subcontractor.
c) Tendon location, size, and type.
d) Date tendon was first installed in ducts.
e) Reel number for strands and heat number for bars.
f) Assumed and actual cross-sectional area.
g) Assumed and actual Modulus of elasticity.
h) Date Stressed.
i) Jack and Gauge serial numbers per stressing operation.
j) Required jacking force.
k) Gauge pressures.
l) Elongations (anticipated and actual).
m) Anchor sets (anticipated and actual).
n) Stressing sequence.

o) Stressing mode (one end/ two ends/ simultaneous).
p) Witnesses to stressing operation (contractor and inspector).
q) Date grouted, days from stressing to grouting, grouting pressure applied, and injection end.

Any other relevant information shall also be recorded. The contractor shall provide the engineer with a complete copy of all stressing and grouting operations.

C.6 Grouting Operations

Within 20 calendar days after installation of the post-tensioning steel, ducts shall be grouted in accordance to these specifications. Except when approved by the engineer in writing, failure to grout tendons within the 20 calendar days specified shall result in stoppage of the affected work and no invoices shall be processed for payment of that affected work.

After stressing and prior to grouting, tendons shall be protected against corrosion or harmful effects of debris by temporarily plugging or sealing all openings and vents until the tendon is grouted.

When stressing has been completed and the stressed tendons have been accepted by the engineer, the annular space between the tendons and the duct shall be grouted.

Grouting operations shall be supervised, inspected and documented by qualified technician(s) and/or engineer(s) who have received training and certification under the ASBI Grout Certification Program.

C.6.1 Equipment

The grouting equipment shall include a colloidal grout mixer capable of continuous mechanical mixing, and shall produce a grout free of lumps and undispersed cement. The equipment shall be able to pump mixed grout in a manner, which will comply with all the provisions specified herein. Accessory equipment, which will provide for accurate solid and liquid measures, shall be provided to batch all materials.

Grout pumps shall be positive displacement type and shall be able to produce an outlet pressure of at least 150 psi (1035 kPa). Pumps shall have seals adequate to prevent oil, air, or other foreign substances entering into the grout and to prevent loss of grout or water. A pressure gauge having a full scale reading of no more than 300 psi (2070 kPa) shall be placed at some point in the grout line between the pumping outlet and the duct inlet. The grouting equipment shall contain a screen having clear openings of 1/8 inches (3 mm) maximum size to screen the grout prior to its introduction into the grout pump. If grout with an additive is used, a screen opening of 0.20 inches (5 mm) is satisfactory. This screen shall be easily accessible for inspection and cleaning. The grouting equipment shall utilize a gravity feed to the pump inlet from a hopper attached to and directly over it. The hopper must be kept at least partially full at all times during the pumping operation to prevent air from being drawn into the post-tensioning duct. Under normal conditions, the

grout equipment shall be capable of continuously grouting the longest tendon on the project in not more than 20 minutes.

C.6.2 Mixing

Mix the grout in accordance to the manufacturer's instructions to obtain a homogenous mixture. Perform a fluidity test on the mixed grout, in accordance to Section 603.19.1.5-1.6, prior to beginning the injection process. Obtain target flow rates as a function of mixer type used and ambient temperature from the grout manufacturer. Do not begin the grouting process until the proper grout properties have been obtained.

Batches shall be placed within 30 minutes of mixing.

C.6.3 Grout Injection

All grout vents and high point vent openings shall be open when grouting starts. Injection and ejection vents shall be provided with positive shut-offs. Grout shall be allowed to flow from the first vent after the injection vent until any residual flushing water or entrapped air has been removed, at which time the vent shall be closed. Remaining vents shall be closed in sequence in the same manner except that at intermediate crests, outlet placed a short distance downstream of the crest shall be closed before their associated crest outlet. Grout shall be injected from the near the lowest end of a tendon in uphill direction.

The pumping pressure at the injection vent shall not exceed 250 psi (1725 kPa); however, normal operations shall be performed at approximately 75 psi (520 kPa). If the actual grouting pressure exceeds the maximum allowed, the injection vent shall be closed and the grout shall be injected at the next vent, which has been, or is ready to be, closed as long as a one way flow is maintained. Grout shall not be injected into a succeeding vent from which grout has not yet flowed. If this procedure is used, then the vent, which is to be used for injection, shall be fitted with a positive shut-off. When one-way flow of grout cannot be maintained as outlined above, the grout shall be immediately flushed out of the duct with water.

Grout shall be pumped through the duct and continuously wasted at the ejection vent until no visible slugs of water or air are ejected. To ensure that the tendon remains filled with grout, the ejection and injection vents shall be closed in sequence, respectively, under pressure when the tendon duct is completely filled with grout. The positive shut-offs at the injection and ejection vents shall not be removed or opened until the grout has set.

C.6.4 Temperature Restrictions

In temperatures below 32°F (0°C), ducts shall be kept free of water to avoid damage due to freezing. Ducts shall not be warmed with steam. Dry air (60% humidity or less) shall be blown through the ducts to extract trapped water, or the ducts may be filled with antifreeze mixed with nonaggressive additives. It shall be ensured that such measures remain effective throughout the given time and do not affect the bond of the grout.

When the ambient temperature may be expected to fall below 4°C (40°F). accurate temperature records shall be kept covering maximum and minimum air temperatures, and temperatures of the structures adjacent to the ducts to be grouted. No materials in which frost is present shall be used, and the ducts and equipment shall be completely free of frost and ice. Careful records of the dry ingredient temperatures shall be obtained daily. Grouting operations shall be postponed if frost is expected within the next 2 days. However, if grouting has been performed, the temperature of the grout in the duct shall be kept above 2°C (35°F) for three consecutive days after grouting, or until job-cured 50 mm (2 in.) cubes of grout reach a minimum compressive strength of 5.5 MPa (800 psi). To achieve this, the contractor may use methods such as the installation of electric heating coils in the concrete, insulating the structure, or applying external heat. However, all methods of heating shall be subject to the approval of the engineer.

When low temperatures are expected and grouting cannot be postponed, special admixtures shall be used, or the water must be removed and the cavity regrouted using an approved technique.

When it is anticipated that temperatures in the concrete surrounding the duct may fall to below 2°C (35°F) within 48 hours, no grouting should be carried out using a normal grout mixture. During this period of potential freezing temperatures, a freeze-resistant grout may be used, or the water must be removed and the cavity regrouted using an approved technique.

The temperature of the concrete shall be 36°F (2°C) or higher from the time of grouting until job cured 2 inch (50 mm) cubes of grout reach a minimum compressive strength of 800 psi (5500 kPa). Grout shall not be above 90°F (32°C) during mixing or pumping. If necessary, the mixing water shall be cooled.

C.6.5 Finishing

Valves, caps, and vent pipes shall not be removed or opened until the grout has set. The ends of steel vents shall be removed at least 1 inch (25 mm) below the concrete surface after the grout has set. Ends of plastic vents shall be removed to the surface of the concrete after the grout has set. All miscellaneous material used for sealing grout caps shall be removed prior to carrying out further work to protect end anchorages or filling in concrete anchorage blockouts and the like. Miscellaneous materials include paper, tie wire, duct tape, etc.

C.6.6 Protection of End Anchorages for Tendons

Within 54 hours after grouting is completed, exposed end anchorages, strands, and other metal accessories shall be cleaned of rust, misplaced mortar, grout, and other such materials. Immediately following the cleaning operation, a heavy unbroken coating of an epoxy bonding compound shall be applied to all such dry metal surfaces. Epoxy bonding compound shall conform to AASHTO M 235, Class III.

Tight fitting forms shall be installed and held in place securely against the previously placed concrete. After application of the epoxy bonding agent, the void between the form and the anchorage shall be filled with a non-shrink grout mix to protect the anchorage. This non-shrink grout may be Embeco, Chem-Comp, Five Star, or approved equal. The non-shrink grout shall be placed within the "tack time" period of the epoxy bonding agent/compound.

Only non-chloride bearing non-shrink grout mixes shall be used for anchorage protection. After grout patches have been finished and cured, two heavy brush coats of bituminous protective coating material conforming with AASHTO M 115 shall be applied to the grout patch in a manner and thickness recommended by the manufacturer.

C.6.7 Inspection of Grouted Anchorages

Physical probing and inspection of anchorages shall be conducted during the construction of the first 3 footing bar tendons to ensure that there are no bleed water or subsidence voids. Subsequent spot inspections of one footing bar tendon per pier location may be conducted if directed by the engineer. Any voids discovered should be filled immediately with the approved grout. The presence and recurrence of significant voids or bleed water shall be investigated and remedial measures proposed for the engineer's acceptance. The engineer may suspend further work until the cause and remedial measures is submitted to their satisfaction. The contractor shall advise the engineer the time at which the probings and inspections are to take place in order that the engineer's representative may witness the process and results.

D Measurement

The department will measure Post-Tensioning Pier Footing by the pound, acceptably completed. The quantity of post-tensioning tendons to be paid for under this Section shall be the computed weight, in pounds, of permanent post-tensioning steel tendons entered into the completed structure and accepted. Measurement shall be the theoretical plan length measured from anchor plate bearing face to anchor plate bearing face with no allowance made for waste or extension past the anchor plate faces. No measurement will be made for temporary post-tensioning, which shall be considered incidental to the item "Post Tensioning Pier Footing."

For quantity determination the following unit weights shall be used:

Prestressing System	**Weight per Unit Length**
2.5 inch (66 mm) high strength deformed bar	18.20 plf (26.36 kg/m)

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0085.01	Post-Tensioning Pier Footing	LB

Payment is full compensation for furnishing, installing, stressing, grouting all post-tensioning tendons, and probing and inspecting grouted anchorages. Payment shall also include anchorage assemblies and post-tensioning system hardware which is not embedded in concrete, external ducts, grout and grouting, all testing, anchorage protection systems, and all labor, materials, tools, equipment, and incidentals necessary for completing the work in accordance to these specifications and the plans. This payment shall also include lubricants in the tendon ducts for friction control and flushing the lubricant from the tendon ducts after stressing. No separate measurement and payment will be made for anchorage components, local anchorage zone reinforcement supplied as an integral part of a proprietary anchorage system, nor ducts for similar post-tensioning system hardware. Anchorage components, ducts, and similar items of post-tensioning system hardware, which are embedded within precast components or cast-in-place concrete, shall be deemed to be included in the cost of the precast components or cast-in-place concrete. No separate measurement and payment will be made for cold weather protection.

In the event that the contractor constructs the structure with an accepted alternate not detailed on the plans, the payment shall be based on the unit price bid extended by either the quantities shown on the plans or the actual quantities used and accepted, whichever is less.

31. Structural Steel Carbon Special, Item SPV.0085.02.

Conform to the requirements of the standard spec 506 and as hereinafter provided.

A Description
This special provision describes fabricating, furnishing, installing, delivering and erecting the specialized structural steel required for the superstructure jacking operation at Pier 22, as shown on the plans and as hereinafter provided.

B Materials
B.1 Structural Steel
All structural high-strength low-alloy weathering steel required for bridge repair and jacking operations shall confirm to ASTM A709, as described in the standard specification. The steel grade shall be 50W, unless otherwise shown on the plans.

B.2 Metal Shims
Steel used for metal leveling shims shall be high-strength low-alloy weathering steel shall conform to ASTM A709, Grade 50W.

B.3 High Strength Bolts, Nuts and Washers
All high strength bolts, nuts and washers shall conform to standard spec 506.2.5.

B.4 Paint
Paint for the structural steel bolsters shall be the first two coats of the department three coat epoxy system, conforming to standard spec 517, or an alternative paint system compatible with the existing paint system, submitted to the department for review, and approved by the engineer.

B.5 Grout
Grout shall be a non-shrink, non-metallic hydraulic cement meeting the requirements of ASTM C 1107.

C Construction
Field measure and verify the existing conditions to determine the required bolster heights, before fabrication.

Provide a statement on the bolster shop drawings that the required dimensions have been verified by field measurements.

Elevation adjustments between the new support bolsters may be achieved with metal shims.

Do not re-use the nuts and washers removed from the existing anchor bolts. Provide and install new nuts and washers.

Bolt holes for the new jacking stiffeners shall be field-drilled using the corresponding angle as a template. Weathering steel shims may be used under the jacking stiffeners to provide full bearing to the structural steel plate below.

No flame cutting of existing structural steel will be allowed.

All field welding shall conform to the AWS D 1.5, Bridge Welding Code.

Furnish and install an engineer-approved, premixed, non-shrink commercial grout under the base plates of the lower bolster sections. Place grout in accordance to the manufacturer's instructions.

Apply the prime and intermediate coats of paint for bolsters the shop.

D Measurement
The department will measure Structural Carbon Special by the pound, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0085.02	Structural Steel Carbon Special	LB

Payment is full compensation for providing, fabricating, casting, machining, or otherwise preparing, transporting, and erecting all materials, for furnishing and installing non-shrink grout, field verifying existing conditions, determining required bolster heights, shop painting structural steel bolsters after fabrication, providing and installing metal shims, furnishing and

installing nuts and washers for the existing anchor bolts, and for providing all tools, equipment, labor and incidentals.

32. Drilled Shaft Foundation 60-Inch Diameter, Item SPV.0090.01.

A Description
Install drilled shafts for bridge foundations, as shown on the plans, as directed by the engineer, and as hereinafter provided.

A.1 Qualifications of the Contractor
One of the following listed preapproved drilling contractors or entities must perform the work associated with the installation of drilled shafts as described in these special provisions:

1. Case Foundation Company
   1325 West Lake Street
   PO Box 40
   Roselle, IL 60172
   Contact: Eric Risberg
   Phone: (630) 529-2911
   Email: info@casefoundation.com

2. Malcolm Drilling Company, Inc.
   10 W. 100 South, Suite 703
   Salt Lake City, UT 84101
   Contact: Scott Chambers
   Phone: (801) 359-2757
   Email: schambers@malcolmdrilling.com

3. Walsh Construction Company
   929 West Adams Street
   Chicago, Il 60607
   Contact: Tim Polk
   Phone: (312) 563-5400 ext. 6413
   Email: tpolk@walshgroup.com

Contractors or entities not listed and not preapproved are only permitted to perform the work as a second tier subconsultant under the primary preapproved contractors or entities listed above.

Submit the name(s) of preapproved drilling contractor(s) that will perform installation of drilled shafts on the project to the department within 24 hours after the bid opening. Submit to:

Scott Lawry / Chief Proposal Management Engineer
Wisconsin Department of Transportation
Division of Transportation System Development
Phone: (608) 266-3721
Fax: (608) 266-8459
Email: scott.lawry@dot.wi.gov

B Materials

B.1 General

Concrete, drilling fluid, reinforcement and formwork shall be in accordance to the requirements of QMP Drilled Shafts, the standard specifications, as shown on the plans, and as hereinafter provided.

In the event that the provisions of other specification clauses cause ambiguity or conflict with the requirements of these special provisions, these special provisions shall take precedence unless otherwise accepted by the engineer.

B.2 Fiberglass Reinforced Polymer Mortar Pipe

Provide fiberglass reinforced polymer mortar (FRPM) pipe and fittings conforming to the requirements of ASTM D3262, except where modified and supplemented by this Specification. Pipe shall be manufactured by the Filament Wound process to result in a dense, nonporous, corrosion-resistant, consistent composite structure.

Test pipe stiffness in accordance to ASTM D2412. Minimum stiffness shall be as determined by the pipe manufacturer, but not less than 72 psi. The pipe must also have the necessary hoop tensile strength to resist rupture during installation as it will be used as a form for the concrete drilled shafts. Submit to engineer the pipe manufacturer's design calculations and supporting documentation for the recommended stiffness. Maximum allowable long-term deflection is 3 percent of the initial diameter.

The reinforcing glass fibers used to manufacture FRPM components shall be of the highest quality commercial grade E-CR (Corrosion Resistant) glass filaments with binder and sizing compatible with impregnating resins. Silica sand shall be minimum 98 percent silica with a maximum moisture content of 0.2 percent. Resin additives, such as curing agents, pigments, dyes, fillers, and thixotropic agents, when used, shall not detrimentally affect the performance of the product.

Provide pipe with minimum wall thickness as required to properly handle and place the pipe.

Supply pipe in nominal lengths of 30 feet. Pipe casing shall be manufactured as one complete piece. Laminated joints are not allowed. Lifting brackets shall be supplied at one end of the pipe casing as a means to install the casing in a vertical position.

Pipe ends shall be square to the pipe axis with a maximum tolerance of 1/8-inch.

B.3 Equipment

Equipment used for excavation, drilling, and cleaning operations shall have adequate capacity including power, torque, and down thrust to excavate a hole to a depth equal to the maximum depth of the drilled shafts shown in the plans plus 15 feet, or plus 20 percent of their maximum depth, whichever is greater. Anticipate and make available at the job site all equipment necessary and essential to penetrate soft and hard soils, as well as obstructions, during the construction of the drilled shafts.

The overhead rotary drive equipment shall be capable of installing and extracting the full depth temporary casing by means of rotational or oscillatory motion. Installation or removal of temporary casing by impact driving or vibration is not permitted. Advancing and installing the temporary casing by means of excavation ahead of the casing is not permitted.

When hard soils, or other material encountered cannot be drilled using conventional earth augers with soil or rock teeth, drilling buckets, and/or over reaming tools, provide drilling equipment including, but not limited to, rock core barrels, rock tools, air tools, or any other equipment necessary to construct the drilled shaft excavation to the depth and size as shown on the plans.

When applicable, or required by the engineer, provide equipment that produces a stable slurry suspension, mechanical agitation, and a pipeline or other safe methods of transporting the slurry to the drilled shaft.

B.4 Casing

Permanent casing shall be steel; rigid, smooth, clean, watertight, and of ample strength to withstand both handling and driving stresses and the pressure of both concrete and the surrounding earth materials. The outside diameter of casing shall not be less than the specified size of the drilled shaft. All casing diameters shown on the plans refer to outside diameter, O.D. dimensions. The dimensions of casings are subjected to American Pipe Institute tolerances applicable to regular steel pipe.

B.5 Reinforcing Steel and Spacers

Deformed reinforcing bars shall comply with the size, dimension, spacing, and details shown on the plans. In addition, they shall conform to AASHTO M31, Grade 60, and all the pertinent requirements of standard spec 505. Non-corrosive wheel type spacers and boots shall be used to properly position the reinforcing steel. All reinforcing steel shall be 100% wire tied between the vertical reinforcement and ties.

B.6 Crosshole Sonic Logging (CSL) Tubes

All drilled shafts shall be equipped with access tubes for Crosshole Sonic Logging (CSL) test at 100% of the locations and distribution shown in the plans and as herein modified. Access tubes for CSL testing shall be 2-inches I.D. schedule 40 epoxy-coated steel pipe conforming to ASTM A53, Grade A or B, Type E, F, or S. Pipes shall have a round,

regular internal diameter, free of defects or obstructions; including any defect at the pipe joints, so to permit the free unobstructed passage of source and receiver probes. Each tube or steel pipe shall be fitted with a watertight shoe onto the bottom and a removable cap at the top. Both shoe and cap shall be watertight and free from corrosion, and the internal and external faces of the tubes clean to ensure passage of the probes and good bond with the concrete.

C Construction

C.1 Drilled Shaft Installation Plan

C.1.1 General

Prepare a Drilled Shaft Installation Plan and submit it at the preconstruction meeting or at least 4 calendar days prior to beginning drilled shaft foundation construction, whichever date is earlier. Submit the Drilled Shaft Installation Plan to the engineer for review; do not start any drilled shaft installation until the engineer accepts the Drilled Shaft Installation Plan. Acceptance of the installation plan does not relieve the contractor of responsibility for successful completion of the drilled shafts.

C.1.2 Submittals

The submitted Drilled Shaft Installation Plan shall include the following:

a. **Job Site Visit**. The contractor shall acknowledge that the job site was visited to verify the site conditions with regard to entrance, access, overhead lines, subsurface features, clearing and grubbing, permitting, and collecting all information necessary to plan and execute the installation of the drilled shafts.
b. **Plan to Protect Existing Structures and Facilities**. Outline the steps to be taken during drilled shaft installation to protect adjacent or nearby structures and utilities.
c. **Details of Environmental Control Procedures**. Provide plan to prevent loss of slurry or concrete into waterways, project areas, or protected areas. Detail method to ensure the compliance with state and federal environmental regulations during drilled shaft construction.
d. **List of Proposed Equipment**. Include details of proposed templates; number and sizes of cranes; number and sizes of drills, include rotary torque, crowd force drills, and maximum drilling depth; diameter, length, and reach of augers, bailing buckets, guide walls, templates, and roller bits; cleaning equipment including cleaning buckets, submersible pumps, or air-lifted pumps; size of de-sanding equipment and slurry pumps; soil/rock-coring sampling equipment; inspecting drilled shaft apparatus; length and diameter of tremies or size of concrete pumps; size, length, and thickness of casings; over reaming equipment; and all relevant equipment necessary to complete the drilled shaft installation. Acceptance of the installation plan by the department does not relieve the contractor responsibility to provide other equipment, if necessary, to achieve satisfactory shaft installations meeting the requirements of this special provision.

e. **Details of Sequence of Drilled Shaft Installation and Time for Construction Operations**. Include a layout of the drilled shaft installation sequence and setting template(s). Include time for installing casings, sealing casing, excavation and/or drilling time, drilled shaft cleaning, rock coring, drilled shaft inspection, concrete placement. The contractor should consider the effect of construction operations of one drilled shaft onto the adjacent drilled shaft(s) and avoid construction conflicts that will affect the quality or integrity of the completed work. Indicate when and what construction sequence modifications shall be performed under atypical situations, i.e., weekend or holiday shutdowns, or unanticipated shutdowns due to equipment issues.

f. **Proposed Drilled Shaft Installation Method(s)**. Details of the proposed method of installation, including drilling rock or obstructions or steep sloping surfaces, when required, and meeting the minimum installation requirements set forth in subsection C.2. Method for identification of the competent or bearing material before finalizing the excavation. Method for monitoring verticality of the drilled shaft walls during excavation, and details of proposed corrective measures to be implemented for shafts out of tolerance. Details of the means and methods of preventing displacement of the casing and/or drilled shaft during installation.

g. **Details of Slurry Operations.** Include slurry type, methods to mix, circulation, de-sanding, and test the slurry to comply with these special provisions. Submit proposed laboratories for testing and documenting test results.

h. **Inspection and Cleaning**. Methods to clean and inspect the drilled shaft excavation prior to reinforcement placement.

i. **Crosshole Sonic Logging (CSL).** Method to install and secure the crosshole sonic logging (CSL) pipes to the reinforcing cage along with the proposed selection of pipe and size.

j. **Details of Steel Reinforcement Placement During Construction**. Include methods to ensure cage centering and cover; cage integrity while lifted during placement, number of cranes, number of lift points, and number of spreader bars; number and location of bottom and side spacers; cage support; and tie downs during concrete placement.

k. **Concrete Placement Plan**. The purpose of the Concrete Placement Plan is to ensure that sufficient concrete is at the job site or in transit to the job site so that the entire pour can be done without delay. Include location of the concrete plant, number of trucks, estimated delivery times, estimated time between trucks, and number of trucks at the site before placement begins. Indicate the use of tremie or concrete pump lines and details of the seal to be used at the bottom end of the tremie or concrete pump line. Breakdowns of concrete plants, trucks, or traffic problems shall be considered under this Concrete Placement Plan. Contractor must be aware of batch, travel, and concrete placement times. Include an estimate of the concrete placement and over pouring time per drilled shaft. When applicable, detail excavation to grade and finishing of the drilled shafts.

l. **Casing Removal**. Include the details and means by which the contractor intends to remove surface casings and provide information about staged temporary casing removal when applicable.

m. **Methods of Handling and Disposal of Spoil Excavation, Waste Slurry, Waste Concrete, and Drilled Shaft Cutoffs**. Present sufficient details to the engineer to evaluate the adequacy and compliance of the contractor's methods of disposal with the standard specifications, including all related environmental permits and local regulations.
n. **Other Information** requested on the plans or by the engineer.

C.1.3 Acceptance

The department will evaluate the Drilled Shaft Installation Plan for conformance with the requirements of these special provisions. Within three calendar days after receipt of the Drilled Shaft Installation Plan, the engineer will notify the contractor of the acceptance of the plan, or of additional information and/or changes required. Any unacceptable part of the Drilled Shaft Installation Plan will require resubmission. The contractor shall resubmit the necessary changes or additional information of the Drilled Shaft Installation Plan for evaluation and review. The engineer will provide a written notice of acceptance or rejection of contractor's resubmitted Drilled Shaft Installation Plan within 3 calendar days after its receipt. The accepted contractor's Drilled Shaft Installation Plan will be subjected to trial and satisfactory performance in the field, and the engineer will grant final acceptance of the plan after its satisfactory field performance.

After assessment or reassessment of the Drilled Shaft Installation Plan has been made and the engineer has granted its acceptance, do not make any changes to the plan without written consent of the engineer.

C.2 Drilled Shaft Installation

C.2.1 General

Construct drilled shaft foundations in accordance to the accepted Drilled Shaft Installation Plan. The resulting installation plan shall include grouting or other methods to stop loss of drilling fluid or concrete or collapse of soil**,** details of the constituent materials of any drilling fluid used for stabilization, the method of inspection, details of the concrete design mix, concreting method, the minimum time between the completion of one shaft and the commencement of the next, and the pattern of construction.

Ensure that damage does not occur to the completed shafts through their working methods. Submit to the engineer a drilled shaft installation sequence. The proposed sequence and timing of shaft installation shall be such that the installation work shall not cause any damage to adjacent shafts. The shaft installation shall not commence until acceptance of the engineer has been obtained.

C.2.2 Ground Conditions

Neither the department nor the engineer will accept responsibility for any opinions or conclusions given in any factual or interpretative site investigation reports. Report immediately to the engineer any circumstance, which indicates that in the contractor's opinion the ground conditions differ from those reported in or which could have been inferred from the ground investigation reports or test results.

C.2.3 Sequence of Shaft Installation

The engineer reserves the right and the contractor shall recognize such right to direct the installation of working shafts in any sequence the engineer deems necessary for the satisfactory completion of the work.

C.2.4 Templates

The contractor may elect the use of templates, which will be used in the installations of the shafts to meet the tolerances specified in these special provisions.

C.2.5 Temporary Working Surface

The contractor should use a temporary working surface to provide a level surface at the top of shafts for drilling where needed.

C.2.5.1 Forcible Correction

Where shafts have not been positioned within the specified limits no method of forcible correction will be permitted.

C.2.6 Records

Keep a record of all shafts installed. Give a copy of the record of the work done each day to the engineer within 24 hours of that day's work being completed. Immediately incorporate any comment by the engineer into the record form. Note all unexpected drilling or installation conditions in the records.

C.2.7 Drilled Shaft Installation Methods

C.2.7.1 General

The dry method or wet method can be used as necessary to produce a sound and durable structure foundation free of defects. When a particular installation method is required in the special provisions, only that method of construction shall be used. If no particular method is specified for use, select and use one of the methods of construction cited above as determined by the site conditions and needed to properly accomplish the work. Submit to the engineer for acceptance the selected method of construction in the Drilled Shaft Installation Plan described in these special provisions.

Where soil and groundwater conditions vary along the site, a single method of construction may not be appropriate for the entire job site, and one, two, or a combination of methods may be used.

Consider using temporary casing at all sites where the use of the slurry installation method is not possible and where the use of casing, other than surface casing, is necessary to keep the shaft excavation stable.

In other cases, where drilling through materials having a tendency to squeeze or cave and caving or squeezing cannot be controlled by the drilling fluid, advance permanent casing through the unstable condition(s) and to the projected depth by twisting, drilling, or vibrating. Obtain prior approval from the engineer for vibrating the casing. After the casing is in place, excavate inside the casing to the projected shaft tip elevation using the

dry or wet excavation techniques described below. Clean the bottom of the excavation; test the drilling fluid for compliance with these special provisions, if applicable. Before withdrawing the temporary casing, ensure that the level of fresh concrete inside the casing is at such level that the pressure of its hydrostatic head displaces up and out the fluid trapped between the annular space between the casing and the drilled shaft wall. The engineer may require the contractor to over-ream the outside diameter of the drilled shaft before placing the permanent casing.

C.2.7.2 Dry Method

The dry method of drilled shaft installation shall be considered only in conjunction with permanent casing.

The dry installation method consists of drilling the shaft excavation, removing, and cleaning all accumulated loose material from within the cased excavation, placing the reinforcement cage, and pouring the concrete in the dry excavation. This method may be used below the water table when 1½-inches or less of seepage accumulates at the bottom of the drilled shaft excavation over a 1-hour period, and when the sides and bottom of the shaft remain stable without detrimental caving, sloughing, or swelling for a minimum of a 4-hour period. Seepage is defined as the cumulative inflow of groundwater through the voids of the saturated soil mass into the drilled shaft excavation. Measurement of the seepage quantity (depth at bottom of hole) shall be done without any seepage water being pumped out of the shaft excavation by a pump or similar device. Should seepage water accumulate and be present inside the excavation to a depth of greater than 3 inches at any time prior to concreting, then free fall concrete cannot be placed; instead, employ the tremie or pump procedures to direct the concrete into the excavation.

C.2.7.3 Wet Method

Use the wet installation method, or the casing installation method, for drilled shafts that do not meet the requirements of the dry installation. The wet installation method shall be considered also at all sites where it is impractical to provide a dry excavation for drilling and placing concrete in the drilled shaft. Use the wet method for excavations above or below the water table and with or without casings, depending upon soil type and groundwater conditions. When using the wet method below the groundwater table, all drilled shaft operations shall be accomplished while maintaining a positive head of fluid above the water table. A temporary surface casing may be provided to aid in positioning and aligning the drilled shaft and to prevent sloughing of the superficial material.

When using the wet installation method, follow the following steps:

a. Drill the excavation and keep the drilled shaft always filled with fluid such as water, natural slurry, or slurry.
b. During excavation, test the properties of the fluid for compliance with these specifications, clean or de-sand the fluid as applicable.
c. Clean the bottom of the excavation with a bailing bucket, an airlift, a submersible pump, or other devices after the excavation is completed.

d. Just before lowering the reinforcing cage, test the fluid for compliance with the specifications.
e. Pour the concrete with a tremie pipe or a pump line extending to bottom of the excavated shaft to displace the fluid up and out of the shaft.

C.2.8 Excavations

C.2.8.1 General

Excavations required for the drilled shafts shall be performed through whatever materials encountered, of the dimensions, and to the elevations shown in the plans, or as directed by the engineer. The excavation and installation method shall be suitable for the intended results and materials encountered. Blasting is not permitted.

Maintain a construction log during the drilled shaft excavation. Include on the construction log information such as ground elevation, groundwater elevation, sequence number, method of installation, machines and tools employed, drilling fluids employed, drilling times, excavated materials and their particular elevations, soil/rock-cores samples and their particular elevations, rock sockets and their elevation, bells plus their size and elevations, and all other information relevant to the excavation process that will assist the engineer in evaluating the foundation. Information shall also include proposed methods for disposal of excavated material and slurry in accordance to state and local environmental regulations, codes and ordinances, the standard specifications, or as directed by the engineer.

Sidewall overreaming shall be required when the sidewall of a drilled shaft as determined by the engineer have either softened due to, but not limited to, excavation methods, swelled due to delays in concreting, or degradation because of slurry cake buildup. The engineer shall direct the thickness and extent of sidewall overreaming. However, overreaming thickness shall be 1/2-inch minimum and 3-inches maximum. The contractor shall bear all the costs associated with sidewall overreaming and concrete required to fill the additional overreaming volume of excavation.

C.2.8.2 Templates

Templates will be required for the installation of drilled shaft foundations if the contractor cannot demonstrate and consistently achieve during construction, proper position and alignment of the installed drilled shaft foundations within specified tolerances without templates.

C.2.8.3 Protection of Existing Structures and Facilities

Take all reasonable precautions to prevent damage to existing structures and utilities. These measures shall include, but are not limited to, vibration monitoring or subsidence control during driving of casings, sheets, or drilling operations.

C.2.8.4 Overburden Drilled Shaft Excavation

Provide the necessary equipment to remove and dispose of all materials encountered in forming the drilled shaft excavation to the dimension and elevation as shown on the plans, or as directed by the engineer. Contractor’s equipment may include, but are not limited to, augers and rotary drills. Unless otherwise shown on the plans, the drilled shaft excavations

in overburden materials shall be vertical bored holes extending from the ground surface down to design tip elevation or the competent soil material, whichever is greater, where competent soil material is defined as the soil that will provide support and satisfactory performance to the structure.

In case of groundwater or severe seepage condition, with the flow of water very difficult to control, take appropriate measures including excavation with drilling fluid or excavation through a casing as indicated in the Drilled Shaft Installation Plan.

C.2.8.5 Obstructions

Remove obstructions at drilled shaft locations. Obstructions may include natural and man-made materials, such as old reinforced steel concrete foundations or natural materials such as boulders. Boulders are defined as stones greater than 12 inches. Special tools and/or procedures shall be used when the contractor cannot advance the hole more than one foot in thirty minutes using conventional rock augers fitted with teeth, drilling buckets, or underreaming tools operating at maximum power, torque, and down thrust. Special procedures/tools may be required but are not limited to chisels, boulder breakers, core barrels, air hammer tools, and hand excavation. Other methods for obstruction removal such as temporary casing or hole diameter increase can be employed to aid in the removal. Blasting shall not be permitted.

C.2.8.6 Lost Tools

Drilling tools that are lost in the excavation shall not be considered obstructions and shall be promptly removed. All costs due to removal of lost tools shall be borne by the contractor including costs associated with hole degradation during removal operations or time while the hole remains open.

C.2.8.7 Inspections and Cleanliness of Excavation

Provide the details of drilled shaft inspection and cleanliness within the Drilled Shaft Installation Plan, required by subsection C.1.2 of this specification. Provide equipment and tools for checking the dimensions and alignment of each drilled shaft excavation, and coordinate schedules for inspection of the excavation with the engineer. Determine dimensions, alignment, and final depth of the drilled shafts after final cleaning. When applicable, provide safe access and egress to the engineer for inspection of the walls and bottom of the drilled shaft excavation prior to placement of the rebar cage and concrete. After the drilled shaft excavation has been prepared for inspection, notify the engineer. The cleanliness and the bearing surface of the drilled shafts will be evaluated and accepted by the engineer. Unless the engineer specifies otherwise, the contractor's cleaning operation shall be considered sufficient when no more that 50 percent of the bottom area of each shaft has less than ½-inch of sediment or debris at the time of hole acceptance just prior to steel positioning and concrete placement. The maximum depth of sediment or any debris at any location on the bottom of the shaft shall not exceed 1½-inches before beginning concrete placement.

C.2.8.8 Safety

Do not permit any worker to enter the drilled shaft excavation for any reason unless a suitable casing has been installed, the water level has been lowered and stabilized below the level to be occupied, and an adequate safety equipment and procedures have been provided to the personnel entering the excavation, which includes OSHA certification for confined-entry-space.

C.2.8.9 Test Core

Once the excavation is completed to the required minimum shaft embedment, the drilled shaft shall be cleaned of any mud, loose soils and rock. The shaft bottom should be level and contain no protuberance of rock into the limits of the shaft. Collect a test core of the rock (beginning of the drilled shaft base level) with a core diameter of not less than 2.125-inches (NQ core) and core length of not less than 10 feet and in accordance to ASTM D2113.

The department will verify that this rock core has a recovery of at least 80 percent and a rock quality designation of at least 50% throughout the length cored. If the core does not meet the above requirements, the core shall be extended as directed by the engineer. Subsequently, drilled shaft embedment shall be extended to the engineer directed level. If the rock core drilling is performed prior to excavation of the drilled shaft begin the core when rock is first encountered, then extended the core to the necessary depths that meets the recovery requirements outlined above or as directed by the engineer. Prepare and submit the logs documenting any subsurface investigation borings or rock core holes performed at the drilled shaft foundation locations. Store the collected rock core samples in a wood framed core box.

After the shaft bearing level is established by the engineer, immediately grout the test core hole.

C.2.8.10 Record Information

Provide the department with all of the drilled shaft excavation records and report any unusual observation to the engineer within four hours of discovery. Submit a draft of this form for each completed drilled shaft within 8hours of shaft completion, and submit the final form within five days. Submit relevant information on a daily basis, or more frequently when variation occurs, or as otherwise required by the engineer.

Report the drilled shaft construction progress in accordance to “Inspection and Reporting Forms,” Drilled Shafts: Publication No. FHWA – NHI-10-016 (FHWA GEC 10), Appendix F, pages F-5 through F- 12.

C.2.9 Placement of Reinforcing Steel Cage

Prior to placement of the reinforcing steel and concrete, if slurry fluid was employed during the installation of the drilled shaft, test the slurry for compliance with this specification as described in the QMP, Drilled Shafts special provision. Perform Slurry Tests along the shaft and a minimum of once at the bottom of the shaft. Correct the slurry

as necessary to meet the specifications. Prior to placement of the reinforcement steel and concrete, ensure that C.2.8.7 cleanliness requirements are met.

Use concrete spacers or non-corrosive spacers at sufficient intervals not exceeding 10 feet along the reinforcement cage. Space a minimum of three spacers evenly around the circumference of any shaft with a maximum space along the shaft circumference of 30 inches between any spacer, i.e., at any given level then a 5-foot diameter shaft shall have 5 spacers. Place the first spacers 1.5 feet from the bottom of the shaft with successive spacer intervals every 10 feet, maximum along the shaft. Spacers shall be of an appropriate diameter wheel to eliminate gaps between the shaft excavation walls and the steel reinforcement.

C.2.10 Concrete Placement

C.2.10.1 General

Test the concrete delivered to the job site for compliance with the QMP Drill Shafts special provision, the standard specifications and these special provisions. Maintain the same concrete placement operation from the beginning to the ending of the concrete placement for each shaft.

C.2.10.2 Concrete Placement Time

Place concrete within 48 hours of completing the drilling operation for each shaft. Any variance greater than this completion time requires approval from the Bureau of Technical Services Foundations and Pavement Unit Supervisor, or his designee. Place concrete within three hours after the hole is approved by the engineer, unless otherwise directed by the engineer. If the concrete is not placed within this time frame, the hole will have be re-inspected and accepted by the engineer prior to concrete placement.

C.2.10.3 Concrete Placement by Free Fall

The contractor can place concrete by the free fall method, where the installation of drilled shafts is done by the dry method or the cased method if the seepage criteria is met. Allow concrete to fall a maximum of 60 feet. Do not allow under any circumstance the concrete to strike the rebar cage, steel core, or the sides of the excavation. Direct the concrete to the center of the cage or guide walls using a drop chute or similar device.

C.2.10.4 Concrete Placement by Tremie Pipes

Use tremie pipes to place the concrete inside the excavation under the following conditions:

a. Where the excavation is filled with a drilling fluid such as water or slurry;
b. Where the drilled shaft is installed on a batter; or
c. Where a dry excavation may collapse under the shock of the waves of the free falling concrete.

Always keep the discharge end of the tremie a minimum of 7 feet below the level of the fresh concrete already placed inside the excavation to maintain a seal. The concrete should flow into position by pressure through a tremie with a minimum diameter of ten inches.

Seal the bottom of the tremie before lowering it into the wet excavation. If water/slurry enters the tremie pipe after concrete pouring has started, withdraw the tremie and clean, reseal, and restart the pouring. Seal the bottom of the tremie to prevent flow into the tremie. If for some reason, the tremie is raised out of the fluid concrete or the concrete inside the drilled shaft drops down contaminating the tremie, then completely remove and clean the tremie, then replace the seal at the bottom of the tremie, and lower the tremie back as far below as possible into the already placed concrete.

C.2.10.5 Concrete Placement by Concrete Pumps

Concrete pumps and concrete lines can be used to place concrete in drilled shafts rapidly. Concrete pumps are used to place concrete in shaft excavations filled with water or slurry, to pour large or deep-drilled shafts, or to deliver the concrete from a distant location.

All pump lines and connections shall be watertight and shall guide the concrete to the discharge point at the center of the rebar cage or steel core and drilled shaft excavation. The pump line can be flexible; however, its portion at the end of the line and inside the excavation must be made of rigid and heavy steel so that it will stay straight during concreting. Keep the bottom of the pump line or discharge orifice 7 feet below the surface of fluid concrete already placed to avoid sudden jumping of the pump line out of the excavation. Continue placing concrete until over pouring is evident at the top of the drilled shaft and until dark gray concrete (acceptable concrete) can be distinguished from the drilling fluid.

C.2.10.6 Casting Level

Pour concrete not less than 1-foot above the cut-off level (‘overcast’) to ensure that all concrete at and below cut-off level is homogeneous and free of laitance and deleterious matter.

C.2.10.7 Water Retention

Repair any cracks, joints, defects of shaft where on exposure of the structure foundation, visible running water leaks are found that would result in leakage of the foundation.

C.2.11 Construction Tolerances for Individual Shafts

Completed drilled foundation shafts constructed out of the tolerance are unacceptable. The contractor is responsible for correcting to the satisfaction of the engineer all unacceptable work. Materials, construction, work, engineering analysis, and redesign necessary to complete corrections to out-of-tolerance excavations or completed drilled shafts shall be furnished to the department without either cost or time extension for the project. Comply with the following construction tolerances:

a. The front face (face closest to the cast-in-place facing) of the drilled shaft shall be initially positioned in the theoretical location as shown on the plans. The final, as constructed position of the center of the drilled shaft shall be within a maximum of 2 inches in any direction from the theoretical position shown on the plans, unless otherwise permitted by the engineer prior to construction.

b. The vertical alignment of the drilled shaft excavation shall not vary from the vertical alignment of the drilled shaft more than 1 in 200.
c. When a permanent casing is used, the diameter of the installed drilled shaft shall not be less than the diameter of the drilled shaft shown on the plans. Any conflicts due to a casing that is greater in diameter than the plan-shaft diameter shall be remedied by the contractor. No additional compensation or schedule time shall be granted to the contractor for resolving any conflicts due to oversized casings.
d. Employ equipment and methods of excavation to complete the drilled shaft excavation to a planar bottom; the cutting edges of the equipment used during the excavation shall be normal to equipment's vertical axis within a tolerance of 3/8-inch per foot of diameter. The bottom of the drilled shaft excavation shall be normal to the axis of the drilled shaft within 3/4-inch per foot of drilled shaft diameter.
e. Tolerances outlined in sections a through e herein shall be checked and finally met by the contractor prior to placement of the reinforced rebar cage inside the shaft hole.
f. After the concrete is poured, the top elevation of the built drilled foundation shaft shall be within 1 inch of the top elevation of the corresponding drilled foundation shaft on the plans, and the top of the reinforcing steel cage shall be no more than 6 inches above or no more than 3 inches below the location of the cage shown on the plans. The center of the reinforcing cage shall also be the center of the drilled shaft.

C.2.12 Non-Destructive Testing Program

C.2.12.1 Shaft Integrity Test (PIT)

The Pile Integrity Tester performs low strain integrity testing, alternatively called Sonic Testing, Pulse Echo, or Transient Response. The PIT can detect the presence and location of potentially dangerous defects such as cracks, necking, soil inclusions or voids and can determine shaft length. The equipment and technique are well established, corresponding to ASTM D5882.

Prior to beginning the PIT test, assure that the concrete top is accessible and cleaned. The engineer will perform the test(s). The engineer will evaluate and analyze the PIT test results within 5 business days and provide the contractor with a response regarding the acceptability of the drilled shaft tested. The test will be conducted on shafts that at are at least five days old so that the concrete has attained minimum compressive strength necessary to perform the test.

C.2.12.2 Crosshole Sonic Logging Test

C.2.12.2.1 General

Crosshole Sonic Logging, (CSL), is a nondestructive testing (NDT) method that measures the time for an ultrasonic pulse to travel from a signal source inside an access tube to a receiver inside another access tube and evaluates the integrity of drilled shafts.

Install access tubes intended for Crosshole Sonic Logging CSL testing per provision B.5. The engineer will perform the tests on the first 3 shafts constructed, and thereafter at one shaft per pier location to be determined by the engineer. All CSL testing must be completed at the engineer's discretion but no later than within thirty calendar days of concrete placement.

Prior to beginning the CSL test, the contractor shall ensure that the test probes can pass through and down the tubes to the bottom of every installed tube. If a tube is obstructed, at no additional cost to the department, core a hole within the drilled shaft and near the obstructed tube to the depth as directed by the engineer. The core shall be large enough to accommodate the probe through its full length.

The engineer will evaluate and analyze the CSL test results within five business days of their completion and provide the contractor with a response regarding the acceptability of the drilled shaft tested. The test will be performed in accordance to ASTM D6760.

C.2.12.2.2 Installation Requirements

Drilled shafts must be fitted with CSL test tubes to evaluate their integrity as shown on the plans or as designated by the engineer.

Install the access tubes or pipes as nearly parallel and far as possible from the longitudinal bars. The number of tubes to be installed per each drilled shaft diameter is as indicated in the table below:

Drilled Shaft Diameter	Number of CSL Tubes	Tube Spacing (a)
5.0 foot	5 minimum	72 degrees

(a) Spacing based on a central angle in degrees.

Securely attach the tubes to the interior of the reinforcement cage with a minimum concrete cover of three inches, and they shall be wire-tied to the reinforcing cage every five feet so to secure the tubes in position during placement of the reinforcing steel cage. The tubes may be attached to exterior of the cage when accepted by the engineer in which case the minimum cover requirement of three inches over the tubes shall be maintained. In all cases, the tubes shall be as near to vertical and parallel as possible.

The tubes shall extend from the bottom of the drilled shaft to at least 3 feet above the top of the drilled shaft, or 2 feet above the ground surface for shafts with cut-off below the ground surface. The tubes must be watertight and capped to prevent concrete or debris from entering during manipulation of the cage and concreting. Exercise care during lifting and lowering the steel reinforcement so as not to damage the tubes. Fill the CSL tubes with potable water prior to concrete placement. For production shafts and upon completion of the CSL tests, remove all the water from the access tubes or drilled holes and fill them up with an approved grout.

C.2.13 Acceptance for Constructed Drilled Foundation Shafts

C.2.13.1 General

The engineer will reject any drilled foundation shafts that are not constructed and installed in accordance to these special provisions. Rejected shafts shall be replaced or rectified by the contractor and subject to the acceptance of the engineer. This includes the removal and reinstallation of shafts and construction of additional compensation shafts, at no additional cost to the department. The time required to replace or rectify shafts will not extend the project completion date or the incentive/disincentive date as specified in the contract documents.

C.2.13.2 Based on Specifications

The department will only accept drilled shafts for structure foundations that conform to these special provisions. Drilled shafts and related work construction disregarding any specified requirement will not be accepted including:

a. Drilled shaft excavations constructed out-of-tolerance, as specified in this specification. When repair to an out-of-tolerance shaft is possible, as determined by the engineer, fix the drilled shaft to meet the tolerances before proceeding further with any drilled shaft construction. All repairs must be acceptable to the engineer before the drilled shaft work is resumed.
b. Excavation of a drilled shaft with slurry not conforming to the QMP, Drilled Shafts special provision.
c. Drilled shafts exhibiting cuttings from slurry at the drilled shaft bottom showing soft, incomplete, or unclean bottoms, or presenting side sloughing and sedimentation at the bottom.
d. Shafts with honeycomb intrusions or concrete in which the fines have been washed out or water channels in concrete are present.
e. Horizontal discontinuity or severe necking in the drilled shaft concrete.
f. Quarter-moon-shaped soil intrusions on the sides of a drilled shaft.
g. Folded-in debris inside the drilled shaft.
h. Drilled shafts for which the mix design has been altered without the acceptance of the engineer, including adding of unauthorized water to a mix design to bring it to certain slump.
i. Drilled shafts constructed in a manner where concrete placement has failed to meet the required time and tolerances, or the methods of installation did not have the engineer's acceptance.
j. Drilled shafts constructed with concrete not meeting the minimum 28-day compressive strength (4,000) requirement.

C.2.13.3 Based on the PIT or (CSL) Test

CSL and PIT test results will be evaluated by the engineer. If the engineer determines that CSL or the PIT testing indicates significant anomalies or defects, the engineer will direct the contractor to core the shaft(s) at the location(s) of the defect or anomaly. The coring shall be a minimum of NX-sized double tube core barrel. The engineer will determine the number of cores, length(s), location(s), and testing methodology. If the coring or core sample testing results confirm the presence of significant anomalies or defects, the drilled

shaft will be determined to be unacceptable and rejected by the engineer. Upon rejection of the shaft(s), submit a remedial action plan to the engineer for correcting the rejected work. The remedial action plan shall include detailed shaft repair or replacement procedures if necessary and will be subject to acceptance by the engineer. Any modifications to the drilled shaft, load transfer mechanisms, and elements affected by the proposed remedial actions will require calculations and working drawings, and shall be made and stamped by a professional engineer, registered in the State of Wisconsin.

In the event that the engineer directs the contractor to core through the concrete and the coring and associated core sample tests confirm the presence of anomalies or defects, the cost of coring, hole closure, core sample tests, and all labor and materials to perform the accepted remedial actions shall be provided at no additional cost to the department and with no extension of the contract time originally granted.

In the event that the engineer directs the contractor to core through the concrete and the core or core sample tests do not confirm the presence of anomalies or defects, the cost of the coring, hole closure and associated testing shall be borne by the department.

Frequent defects as determined by the engineer will result in a re-evaluation of the contractor's installation procedure and, depending on the frequency and type of defect, may direct the contractor to change or modify his procedure.

D Measurement

The department will measure Drilled Shaft Foundations (Diameter) of individual shafts by the linear foot, acceptably completed. Larger shaft diameters, additional excavation, and additional concrete placed beyond the limits of the plan dimensions will not be measured for payment unless authorized and agreed to in advance of placement by the engineer.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.01	Drilled Shaft Foundation 60-Inch Diameter	LF

Payment is full compensation for test core/boring including logs, temporary casing, and guide walls; placing and removing temporary working surfaces and/or templates; furnishing and using drilling fluids; furnishing and installing FRP pipe; furnishing documentation; removing all obstructions; removing concrete due to oversizing, blowouts or protrusions from the face of the shafts; drilling the shafts, handling and disposing of the excavated, augered and cored soils, and any drilling fluids; positioning steel, wheel type spacers and boots; providing and placing the concrete for the drilled shafts to the dimensions and elevations as shown on the plans; installing and closing the crosshole logging tubes; rock sockets, and for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the work.

Reinforcement bars are measured and paid under the bid item Bar Steel Reinforcement HS Coated Bridges.

33. Bridge Jacking Special Structure B-5-158, Item SPV.0105.01.

A Description

This special provision describes activities related to raising the bridge at Pier 22, supporting it while the steel bolsters and pedestals are being installed, and lowering the bridge back on bearings or bearing pads in accordance to the standard specifications and as hereinafter provided. This item also includes furnishing and installing jacking stiffeners on all 10 girders, painting the stiffeners, and installation and removal of a temporary transverse stabilization system for the superstructure. It also includes the removal and disposal of the longitudinal bracing brackets that will be in place prior to this contract. Also included are field verification of the required vertical jacking height and modifications to the existing lateral bracing.

Provide the complete design of the bridge lifting procedures and the materials used. Furnish and place all bracing, shoring, blocking, cribbing, temporary structural steel, timber, shims, wedges, hydraulic jacks, and any other materials and equipment necessary for safe and proper execution of the work.

B Materials

Fabricated Structural Steel shall be in accordance to standard spec 506.

C Construction

No jacking work shall commence until construction of the footing extension, the post-tensioning of the footing extension, and construction of the buttress at Pier 22 is completed with a concrete strength of 4000ksi obtained. Jacking shall not start until approval is given by the engineer.

Support jacks on the top of the pier cap of Pier 22. Use a sufficient number of jacks so that the adjacent spans are raised simultaneously.

At any time during the bridge raising operations, the engineer may require the contractor to provide additional supports or measures in order to furnish an added degree of safety.

C.1 Jacking Stiffeners

- Furnish and install jacking stiffeners prior to jacking as indicated. Bolt holes in stiffener angles may be shop drilled. Field drill the holes in the webs to connect the angles using the angles as templates.

C.2 Modifications to Existing Lateral Bracing

- Disconnect, modify, and reconnect lateral bracing at the fascia and first interior girder as indicated and required to install the jacking stiffeners.

C.3 Jacking Requirements

- Temporarily attach the bearings to the girders so that they will remain attached while the girders are being jacked.
- Provide jacks with a minimum rated capacity of 1.5 times the theoretical lifting loads as shown on the plans. The rated capacity of each jack is to be clearly shown on the manufacturer's name plate, and all jacks are to be inspected, tested, and calibrated no earlier than six months prior to use on this project.
- Synchronize jacks using a manifold-controlled hydraulic distribution system to ensure uniform vertical displacement of all jacks at the same time for the 5 girders in each bridge cross-section. Provide pressure gages within the hydraulic systems that are easily accessible and readable. Monitor the pressure continuously during lifting operations. Cease lifting operations immediately and lower the superstructure to its original position when the actual lifting load exceeds 75% of the rated capacity of the jack.
- The first jacking sequence will be to correct the cross slope. This will require different vertical displacements from left to right. Once the correct cross slope is obtained, the subsequent jack stages will be performed by jacking all 5 girders of one bridge the same amount.
- Provide temporary blocking under the existing bearings that will be stable while the jacks are being reset for the next jacking sequence.
- Provide temporary blocking under the jacks that will be stable during the jacking operations.
- Verify in the field that the stiffeners at the jacking points are mill-to-bear in full contact with the bottom flange. If they are not, provide steel shims between the stiffener and flange to provide full contact while the jacking occurs. After jacking is complete and the jacks are removed, remove the shims.
- Determine the required vertical displacement of each girder as per the procedure indicated on the plans.

C.4 Jacking Procedure – Submit for review and approval drawings and calculations for the proposed jacking operation a minimum of four calendar days prior to the anticipated start of lifting operations. Include in this submission, at a minimum, the following items:

- Written narrative describing the jacking procedure and when the work is to be performed.
- Sketches of all required components of the jacking system including the size and capacity of the jacks to be used. Include catalog cuts of any manufactured products that clearly state the capacity, strength, safe working load, allowable stress, etc., for that product or material.
- Calculations performed, sealed, and signed by a professional engineer registered in the State of Wisconsin showing that all components of the jacking system are not overstressed and are stable for all combinations of loading. Show all assumptions and references clearly.

- A method to temporarily attach the bearings to the girders.
- Include the methodology for disconnecting, modifying, and reconnecting lower lateral bracing members.

D Measurement
The department will measure Bridge Jacking Special Structure B-5-158, as a single complete lump sum unit of work consisting of raising one bridge, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.01	Bridge Jacking Special Structure B-5-158	LS

Payment is full compensation for furnishing all equipment and shoring, installation and painting of the jacking stiffeners, modification of existing lower lateral bracing members, raising the bridge, removal and disposal of longitudinal bracing brackets, and lowering the bridge onto the bearings.

34. Trial Drilled Shaft Foundation 60-Inch, Item SPV.0105.02.

A Description
The work included here in consists of installing a non-production, trial drilled shaft foundation 60-Inch to verify the proposed means and methods of drilled shaft foundation installation for construction of drilled shaft foundations shown in the plans.

Engineer acceptance of a successfully constructed trial drilled shaft foundation is required prior to beginning the installation of any other drilled shaft foundations for the contract.

B Materials
All materials for the trial shaft are to be as specified in the bid item Drilled Shaft Foundation 60-Inch.

C Construction
The trial drilled shaft foundation must be installed by the same contractor and work crews who will perform the production drilled shaft foundation installation work on the contract. Use the same equipment and installation procedures intended to be used for the production work on the contract and in accordance to the accepted Drilled Shaft Foundation Installation Plan.

The trail drilled shaft foundation is intended to be installed in the same or similar soil profile as the production drilled shaft foundations included in the contract. Construct the trial drilled shaft foundation at the location shown on the plans or at a revised nearby location mutually agreed to by the engineer and contractor.

The trial drilled shaft foundation shall consist of one 60-inch diameter drilled shaft as shown on the plans for B-5-158. The trial drilled shaft foundation shall be installed to the same depth, and reinforced the same as the production drilled shaft foundations for pier 22 of B-5-158. Include five crosshole sonic logging (CSL) tubes within the trial drilled shaft foundation.

Construction of the trial drilled shaft shall be as specified under the item Drilled Shaft Foundation 60-Inch and the accepted Drilled Shaft Foundation Installation Plan. Dispose of all soil excavation and excess materials removed for construction of the trial drilled shaft foundation in accordance to the requirements of the contract.

Acceptance of the trial drilled shaft foundation will be as specified for Drilled Shaft Foundation 60-Inch including non-destructive testing as specified for Drilled Shaft Foundation 60-Inch. Upon acceptance by the engineer, cutoff the trial drilled shaft foundation and remove as necessary so as to be at least two feet below finished grade, and abandoned in place.

D Measurement

The department will measure Trial Drilled Shaft Foundation 60-Inch as a single lump sum unit of work, acceptably completed.

Unsuccessful or rejected trial drilled shaft foundation installations, or trial drilled shaft foundations not meeting specifications, will not be measured for payment or be cause for additional compensation.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.02	Trial Drilled Shaft Foundation 60-Inch	LS

Payment is full compensation for drilling and excavating the trial drilled shaft foundation; handling and properly disposing of excavated, augured and cored soils; placing the concrete for drilled shaft foundation to the required diameter and depth; furnishing and installing the reinforcing steel; furnishing and placing CSL tubes; meeting QMP drilled shafts special provision; removal, backfilling; site restoring; and for furnishing all labor, equipment, tools and incidentals necessary to complete the work.

35. Stockpile and Place Excavated Material, Item SPV.0105.03.

A Description

The work included herein consists of stockpiling and placing material from excavation for structures and drilled shafts on-site as shown on the plan.

B Material
Clean material is described as material excavated from drilled shafts from approximately 30 feet below ground surface to bedrock.

Waste material is described as excavation for structures item plus the top approximately 30 feet of material from drilled shafts; this may include industrial fill.

C Construction
Construct stockpiles with waste material as shown on the plan. Retain all waste material on-site in the stockpiles.

Construct waste stockpiles between piers 22-23, 23-24, and 24-25; construct berm between piers 18-19 only if needed. Do not place material between piers 19-20.

Maintain a 20 to 30-foot buffer between the stockpiles and piers.

Maximum stockpile height is 10-feet, including clean material and topsoil.

Temporarily stockpile clean material until waste material has been placed. Place a minimum of 6 inches of clean material over the waste material and 6 inches of topsoil over the clean material. The department will field survey the final condition and provide a copy of location to the Wisconsin Department of Natural Resources.

D Measurement
The department will measure Stockpile and Place Excavated Material as a single lump sum 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.0105.03	Stockpile and Place Excavated Material	LS

Payment is full compensation for stockpiling and placing excavated material; re-handling; spreading material for covering the surfaces of the waste berms; and for furnishing all labor, tools, equipment and incidentals necessary to complete this item of work. Excavation for Structures, topsoil, erosion control, mulching, fertilizing, and seeding will be paid separately.

36. Polymer Modified Asphaltic Concrete Pavement, Item SPV.0195.01.

A Description
This special provision describes furnishing, placing and compacting a minimum 2-inch asphalt paving mix modified with a thermoplastic polymeric material, preparing the surface and applying tack coat and edge sealant.

B Materials

Composition of Mixture. Use a mixture composed of course and fine aggregates, mineral filler, asphalt cement, and virgin polymeric concentrate. The final job mix design will be according to the polymer modifier manufacturer requirement and approved by the engineer.

Fine and Coarse Aggregate. Use fine and coarse aggregate which conforms to the requirements of standard spec 460.2.2. Do not use mineral aggregates, which are inherently porous, such as blast furnace, expanded shale, porous limestone, and lightweight aggregates. The final blend will be in accordance to polymer modifier manufacturer requirements and approved by the engineer.

Mineral Filler. Mineral filler, if utilized, shall meet the requirements of standard spec 450.

Asphalt Cement. Use asphalt cement which conforms to the requirements of standard spec 455. The final blend will be in accordance to the polymer modifier manufacturer requirements and approved by the engineer.

Polymer Modifier Additive. Use polymer modifier additive which is a polymer modifier packaged in 10.2kg (22.5 lbs) meltable polyethylene bags, or loose bulk material, supplied in Super Sacks (45 units per sack, 920.5kg (2,025 lbs), or cement type tankers, depending on the method of introduction. The final blend will be in accordance to the polymer modifier manufacturer requirements and approved by the engineer.

Tack Coat. Use a tack coat which is in accordance to the polymer modifier manufacturer requirement and approved by the engineer.

Edge Sealer. Use an edge sealer which is in accordance to the polymer modifier manufacturer requirements and approved by the engineer.

Construction Joint Sealer. Use a rubberized asphalt joint sealer for saw cut construction joints certified to be in accordance to ASTM D3405 or AASHTO M301-85 specifications. Substitution of a 500-mm (20-inch) wide strip of geotextile paving fabric installed in accordance to the manufacturer's recommendations, such as Pave Prep, Dow Corning, Royston or approved equal, may be used at no additional cost if approved by the engineer.

C Construction

C.1 Wearing Surface

C.1.1 Proportioning and Mix Design

Seven days prior to the pre-construction meeting, submit the name and location of the intended sources of supply for all bituminous pavement products. Asphalt concrete will be accepted only from an approved automated plant equipped with interlocks and printouts meeting the requirements of ASTM D995 and SS405.

Formulate and submit to the engineer, through the polymer modifier manufacturer, a Job Mix Formula (JMF) that satisfies the General Limits under this specification. The JMF shall be the actual gradation to be supplied. State in the submittal the mineral aggregate sources and types, the grade and source of bituminous material used in the mixture, and the type and source of all asphalt modifiers. Furnish samples of aggregates to be used for the asphaltic concrete pavement.

Submit a complete HMA Mix Design for the proposed mixture to the engineer, according to the department's test method number 1559 as described in the CMM 8.65.5 and conforming to the requirements below. If for any reason a change in production plant, aggregate, asphalt or asphalt modifier occurs or is contemplated, submit a separate JMF for the review of the engineer.

C.1.2 Verification of the JMF

Should the asphalt content for the proposed JMF, as determined using the Range Methods, not coincide with the asphalt content used in the trial specimens, prepare additional sets of specimens of the proposed JMF asphalt content to verify that the actual gyratory test results duplicate those of the JMF design.

Generic Formulation of the Modified Asphalt Concrete Mixture
(NOT THE FINAL JOB MIX FORMULA)

Sieve Size, metric (imperial)	Nominal size of aggregate/Percent passing	Gradation Control – on JMF
	9.5mm	
12.5 mm (1/2")	100	± 7 %
9.5 mm (3/8")	90 – 100	± 7 %
4.75 mm (#4)	55 – 85	± 7 %
2.36 mm (#8)	32 – 67	± 4 %
1.18 mm (#16)	Report	± 4 %
600 microns (#30)	Report	± 4 %
300 microns (#50)	7 – 23	± 4 %
150 microns (#100)	Report	± 4 %
75 microns (#200)	2 – 10	± 2 %

AC (% Total Mix) 5.0% minimum
Thermoplastic Polymer 2.25% by weight of total mix

Minimum/Maximum Desired Physical Properties of the Design Mixture
(GENERIC, NOT FINAL JOB MIX FORMULA)

Volumetric parameter	Control requirement	Nominal size of aggregate/Percent passing
		9.5mm
Gyratory volumetric requirements		
VMA	Minimum	16.5%
VFA	Minimum	90.0%
$\%G_{mm}$	@ N_{ini} (6 gyrations)	>87.0%
$\%G_{mm}$	@ N_{des} (50 gyrations)	99.0%
$\%G_{mm}$	@ N_{max} (75 gyrations)	>99.0%

Target Void Percentage: 1%

The aggregates for batching shall be weighed and heated in an oven to 205° C - 215° C [401° - 419° F]. The proper amount of polymer modifier is added (45 pounds per ton of mix or 2.25% of total weight per batch). Dry mix the heated aggregate and the polymer modifier for 10 seconds; temperature shall be in the range of 190° C - 195° C [374° - 383° F]. Then the AC-binder is introduced which will have a temperature of 150° C - 160° C [302° - 320° F]; mix together for 90 seconds. If mixture is not uniformly coated continue to mix until aggregates are completely coated. Verify mix temperature of the finished mix is in the range of 175° C - 190° C [347° - 374° F]. After the mixing is completed the material shall be conditioned in accordance to AASHTO R30, prior to compaction.

Compaction temperature shall be targeted at 175° C (374° F), with an acceptable range of 170° C - 180° C [338° - 356° F]. Gyratory specimen shall be evaluated at Nini= 6, Ndes=50, and Nmax=75 gyrations, regardless of class designation or aggregate structure.

After the review of the Job Mix Formula (JMF), the engineer will authorize initial mix placement. Once production begins, provide the engineer with daily certification that all in place asphalt concrete materials are in substantial conformation with the submitted JMF, the project specifications in the contract and contain the materials as stated in the JMF. The polymer modifier manufacturer will have a full time inspector in the plant for the normal time it takes to produce and place the modified asphalt material, at no additional cost to the contractor. For any day lost due to contractor problems such as equipment breakdowns, labor disputes, etc. the contractor will reimburse the polymer modifier manufacturer for established costs per day, per person. Polymer modifier manufacturer personnel will certify the material production, take samples and these personnel shall be fully authorized to reject any material not meeting the specifications. The polymer modifier manufacturer will retain samples for an extended period of time to be looked at or tested by the department at any time. The engineer reserves the right to verify by sampling material or all certifications and to take actions as deemed necessary, under the contract, should quality certifications be found to be in error or disingenuous.

Afford the engineer access to the plant and equipment to review and verify certifications of material conformance and quality. Finding the contractor failed to perform quality control or the submission of an incorrect certification, constitutes grounds for total rejection of the involved paving and/or other action as may be indicated by the finding. Intentional misrepresentation constitutes due cause for termination under this contract.

The engineer may at any time, notwithstanding previous sampling and certification, notify and stop the contractor, reject and require the contractor to dispose of any batch of bituminous mix which is rendered unfit for use due to temperature, oxidation, contamination, segregation or incomplete coating of aggregate. Such rejection may be based on visual inspection alone.

C.2 Placement
Prior to placement of the tack coat, the deck moisture needs to be 6% or less. Application rate for the tack coat is 0.07 to 0.15 gallons per square yard without puddles for concrete decks and a rate of 0.04 to 0.1 gallons per square yard for steel decks.

C.3 Thickness
Place the material in a uniform 2" layer.

C.4 Compaction
Acceptance will be based on standard spec 450.3.2.6.2 Ordinary Compaction. Achieve compaction by utilizing rollers in the static mode. A minimum of two rollers will be utilized to do the compaction, one for break down and one to finish rolling. A third roller, the same as the two being utilized to do the work, will be on the job to cover any breakdowns. Use three-wheel and tandem steel-wheel rollers which have a manufacturer's rating of not less than eight tons and a unit compression of not less than 250 pounds per inch of width of the driving rolls. Use three-axle tandem steel-wheel rollers which have a manufacturer's rating of not less than 12 tons and have a unit compression of not less than 250 pounds per inch of width of the driving rolls. The roller's water system must be in perfect working order, and apply even water coverage to the asphalt mat.

The polymer modified asphalt is much hotter than conventional mixes and requires more water to keep the material from sticking to the steel rolls. No pneumatic tired rollers will be used on the polymer modified asphalt mat. A representative of the polymer modifier manufacturer shall be present at all times during the placement of the modified asphalt material and compaction operations, at no additional cost to the contractor. The contractor may use other compaction means in areas where the specified roller can't get to. The use of an asphalt vibrator whacker is acceptable as long as it is in good working order including the water system.

The breakdown rolling will be done closely behind the spreading operation. The finish roller will follow breakdown and be used to remove imperfections in the mat. The rolling pattern will be straight with the paving direction, no turning except what is necessary to move from pass to pass. The polymer modifier manufacturer representative will indicate

the rolling pattern and the frequency of passes. Any changes to the paving and rolling procedures must be approved by the polymer modifier manufacturer representative.

The Quality Management Program, Nuclear Density Specification will be waived for the Polymer Modified Asphaltic Concrete Pavement.

C.5 Special Deck Preparation

Following any required deck patching and prior to placement of the polymer modified asphalt, prepare the concrete deck as follows:

Clean the surface of the concrete deck to remove any milled material or debris which would reduce or prevent bonding. Furnish and apply edge sealer, tack coat, and furnish and place on the cleaned and tack coated bridge deck an impermeable hot-mix waterproofing asphalt course to the lines, grades, width and depth as indicated on the plans. Saw cut and fill any construction joints with rubberized joint sealer. Do all of this work in accordance to the specifications and as directed by the engineer.

The deck must be clean and free of any loose debris and moisture. Use a 100-150 mm (4-6 inch) application of polymer modifier manufacturer edge sealer, at a rate specified by the manufacturer, to seal all edges of the day's placement of the asphalt waterproofing course. Give particular attention to vertical edges of headers, drains, scuppers, expansion joints or wherever compaction may be difficult to achieve. Where vertical edges exist, apply edge sealer 100-150 mm (4-6 inch) out from curb scuppers, joints, etc., on the horizontal and up the top of the finished surface grade. When practical, this should be done the day before or as early as possible to maximize drying time.

Apply polymer modifier manufacturer tack coat to the existing horizontal concrete bridge deck surfaces in a uniform coating at the rate specified by the polymer modifier manufacturer. The polymer modifier manufacturer will oversee the tack coat application.

Butt joints made during paving operations that have cooled below 150° F must have edge sealer applied to the butt surface before the joining asphalt lift. The polymer modifier manufacturer will oversee the applications of edge sealer, wherever it is used. Saw construction joints to a 12.7 mm (½-inch) width and fill to within 3 mm (1/8-inch) of the surface with the rubberized asphalt joint sealer previously specified. Take extreme care so as not to overfill these sawed joints since excess joint sealer material will cause ripples in the surface course necessitating corrective work by the contractor.

D Measurement

The department will measure Polymer Modified Asphaltic Concrete Pavement by the ton, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0195.01	Polymer Modified Asphaltic Concrete Pavement	Ton

Payment is full for providing asphaltic mixture designs; furnishing, preparing, hauling, mixing and placing all materials, including asphaltic materials for plant mixes, tack coat, joint sealers, edge sealer, and polymeric additive materials; for compacting mixtures; for preparation of foundation unless otherwise provided; and for furnishing all labor, tools, equipment and incidentals, including maintenance, necessary to complete the work.

ADDITIONAL SPECIAL PROVISION 1 (ASP 1)
FOR TRANSPORTATION ALLIANCE FOR NEW SOLUTIONS (TrANS)
PROGRAM EMPLOYMENT PLACEMENTS AND APPRENTICESHIPS

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Section 5204(e) – Surface Transportation Workforce Development Training and Education, provides for 100 percent Federal funding if the core program funds are used for training, education, or workforce development purposes, including "pipeline" activities. The core programs includes: Congestion Mitigation and Air Quality Improvement (CMAQ) Program, Highway Bridge Program (HBP), Interstate Maintenance (IM), National Highway System (NHS), and Surface Transportation Program (STP). These workforce development activities cover surface transportation workers, including OJT/SS programs for women and minorities as authorized in 23 U.S.C. §140(b).

TrANS is an employment program originally established in 1995 in Southeastern Wisconsin. Currently TrANS has expanded to include TrANS program locations to serve contractors in Southeast (Milwaukee and surrounding counties), Southcentral (Dane County and surrounding counties including Rock County), and most Northeastern Wisconsin counties from locations in Keshena, Rhinelander and surrounding far Northern areas. TrANS attempts to meet contractor's needs in other geographic locations as possible. It is an industry driven plan of services to address the outreach, preparation, placement and retention of women, minorities and non-minorities as laborers and apprentices in the highway skilled trades. These candidate preparation and contractor coordination services are provided by community based organizations. For a list of the TrANS Coordinators contact the Disadvantaged Business Enterprise Office at (414) 438-4583 in Milwaukee or (608) 266-6961 in Madison. These services are provided to you at no cost.

I. BASIC CONCEPTS

Training reimbursements to employing contractors for new placements, rehires or promotions to apprentice of TrANS Program graduates will be made as follows:

1) **On-the-Job Training, Item ASP.1T0G, ASP 1 Graduate.** At the rate of $5.00 per hour on federal aid projects when TrANS graduates are initially hired, or seasonally rehired, as unskilled laborers or the equivalent.

   Eligibility and Duration: To the employing contractor, for up to 2000 hours from the point of initial hire as a TrANS program placement.

   Contract Goal: To maintain the intent of the Equal Employment Opportunity program, it is a goal that 10 *(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 under-representation of members of these groups in highway construction skilled crafts.

The OJT Supportive Services (OJT/SS) Program was established in Title 23 Code of Federal Regulations (CFR), Part 230) to supplement the OJT program and support STA training programs by providing services to highway construction contractors and assistance to highway construction apprentices and trainees. The primary objectives of OJT/SS are:

(1) To increase the overall effectiveness of the State highway agencies' approved training programs.
(2) To seek other ways to increase the training opportunities for women, minorities, and disadvantaged individuals.

The STAs are responsible for establishing procedures, subject to the availability of Surface Transportation and Bridge Funds under 23 U.S.C. §140(b*)* (Nondiscrimination), for the provision of supportive services with respect to training programs approved under 23 CFR, Part 230(a*)* (Equal Employment Opportunity on Federal and Federal-aid Construction Contracts – including Supportive Services).

The contractor and subcontractor shall maintain records to demonstrate compliance with these apprenticeship requirements. Reasonable exemptions and modifications to and from any or all of these requirements will be determined by the Wisconsin Department of Transportation-Civil Rights Office. A request for an exemption or modification, with justification, shall be made in writing, addressed to WisDOT Civil Rights Office, 4802 Sheboygan Avenue, P.O. Box 7965, Rm. 451, Madison, WI 53707.

ADDITIONAL SPECIAL PROVISION 3
DISADVANTAGED BUSINESS ENTERPRISE 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		DBE Contractor Contact Person	
Phone:		Phone	
Fax:		Fax	
Email:		Email	

Please circle the jobs and items you will be quoting below

Proposal No.	1	2	3	4	5	6	7
County							

WORK DESCRIPTION:

Clear and Grub	X		X	X		X	X
Dump Truck Hauling	X		X	X		X	X
Curb & Gutter/Sidewalk, Etc.	X		X	X		X	X
Erosion Control Items	X		X	X		X	X
Signs and Posts/Markers	X		X	X		X	X
Traffic Control		X	X	X		X	X
Electrical Work/Traffic Signals		X	X	X		X	
Pavement Marking		X	X	X	X	X	X
Sawing Pavement		X	X	X	X	X	X
QMP, Base	X	X		X	X	X	X
Pipe Underdrain	X			X			
Beam Guard				X	X	X	X
Concrete Staining							X
Trees/Shrubs	X						X

Again please make every effort to have your quotes into our office by time deadline prior to the letting date.

We prefer quotes be sent via SBN but prime's preferred 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 First-Tier Subcontractors

Within 10 calendar days of receiving a progress payment for work completed by a subcontractor, pay the subcontractor for that work. The prime contractor may withhold payment to a subcontractor if, within 10 calendar days of receipt of that progress payment, the prime contractor provides written notification to the subcontractor and the department documenting "just cause" for withholding payment.

The prime contractor may also withhold routine retainage from payments due subcontractors.

Payment to Lower-Tier Subcontractors

Ensure that subcontracting agreements at all tiers provide prompt payment rights to lower-tier subcontractors that parallel those granted first-tier subcontractors in this provision.

Release of Routine Retainage

After granting substantial completion the department may reduce the routine retainage withheld from the prime contractor to 75 percent of the original total amount retained.

When the Department sends the semi-final estimate the department may reduce the routine retainage withheld from the prime contractor to 10 percent of the original total amount retained.

Within 30 calendar days of receiving the semi-final estimate from the department, submit written certification that subcontractors at all tiers are paid in full for acceptably completed work and that no routine retainage is being withheld. The department will pay the prime contractor in full and reduce the routine retainage withheld from the prime contractor to zero when the department approves the final estimate.

This special provision does not limit the right of the department, prime contractor, or subcontractors at any tier to withhold payment for work not acceptably completed or work subject to an unresolved contract dispute.

ADDITIONAL SPECIAL PROVISION 6
ASP 6 - Modifications to the standard specifications

Make the following revisions to the 2013 edition of the standard specifications:

104.4 Requests for Information

Replace paragraph one with the following effective with the July 2013 letting:

(1) Either the department or the contractor may request information that the other party must provide in order for the requesting party to fulfill its contract obligations. The requesting party shall submit requests for information (RFI) on department form DT2502 either in hard copy or via email. RFI must conform to the following:

- Be of reasonable scope.
- Explain why a response is necessary to fulfill contract obligations.
- Provide a requested response time, which must be reasonable in relation to its scope.

106.1 General

Replace the entire text with the following effective with the July 2013 letting:

106.1.1 Materials

(1) Provide materials conforming to the contract. Use new products and materials for items permanently incorporated into the work unless the contract specifies or allows otherwise. Use materials the contract specifies unless the engineer authorizes substitutes under 108.8. Monitor construction operations to identify potential nonconforming materials and prevent their incorporation into the work.

(2) All materials are subject to the engineer's approval before incorporation into the work. The engineer may inspect or test all materials at any time during their preparation, storage, and use. Notify the engineer of the proposed source of materials before delivering those materials to the project site. If the engineer requests, provide samples of material and access to facilities that the engineer needs to assess the acceptability of all materials. The department will, on request, share with the contractor available information on a source or material. The department will maintain a web-based list of approved aggregate sources. Aggregate producers must provide test results as required in the department policy for aggregate source approval to have their source approved and to keep that approval over time.

(3) For fabricated components, the materials and the fabricator are subject to the department's approval before delivery of those components to the project site. The engineer may require the contractor to obtain components from another department-approved source if the department determines a fabricator's product does not conform to the contract.

(4) Do not incorporate materials into the work until the engineer approves those materials. However, the contractor may request permission to incorporate materials not already approved. The engineer will grant this permission only if the contractor can provide convincing evidence that the engineer will subsequently find those materials conforming. Incorporation of materials before approval is at the contractor's risk and permission to do so does not imply that the department will subsequently approve those materials.

(5) Except as required under the contract, ensure that products incorporated into the work, either temporarily or permanently, do not display advertising or messages not directly related to the manufacturer, properties, or function of those products; or advertising or messages in violation of state statutes

106.1.2 Designated Materials Person

(1) Designate one person, either a member of the contractor's own organization or acting as an agent for the contractor responsible for the following:

- Communicating contract sampling and testing requirements to subcontractors at all tiers.
- Reporting out-of-specification test results to the department as soon as the information is available.

- Providing certified reports of test or analysis and manufacturers' certificates of compliance from subcontractors at all tiers and maintaining certification records as specified in 106.3.3.2.

(2) Ensure that the contractor-designated materials person submits materials information required under the contract to a person the engineer designates. Ensure that the contractor-designated materials person communicates with their department counterpart weekly.

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

501.2.1 Portland Cement

Replace paragraph one with the following effective with the March 2013 letting:

(1) Use cement conforming to ASTM specifications as follows:

- Type I portland cement; ASTM C150.
- Type II portland cement; ASTM C150.
- Type III portland cement; ASTM C150, for high early strength.
- Type IP portland-pozzolan cement; ASTM C595, except maximum loss on ignition is 2.0 percent.
- Type IS portland blast-furnace slag cement; ASTM C595.
- Type IL portland-limestone cement; ASTM C595, except maximum nominal limestone content is 10 percent with no individual test result exceeding 12.0 percent.

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.

501.2.6 Fly Ash

Replace paragraph three with the following effective with the March 2013 letting:

(3) Test fly ash using a recognized laboratory, as defined in 501.2.2(1), starting at least 30 days before its proposed use, and continuing at ASTM-required frequencies as the work progresses. The manufacturer shall test the chemical and physical properties listed in tables 1 and 2 of ASTM C618 at the frequencies and by the test methods prescribed in ASTM C311.

501.3.1.1.1 Air-Entrained Concrete

Replace paragraph one with the following effective with the March 2013 letting:

(1) Prepare air-entrained concrete with type I, IL, II, IS, or IP cement and sufficient air-entraining admixture to produce concrete with the air content specified in 501.3.2.4.

501.3.1.3.2 Special Restrictions

Replace paragraph one with the following effective with the July 2013 letting:

(1) If using coarse aggregate composed primarily of igneous or metamorphic materials, provide concrete for concrete pavement, approach slabs, barrier, surface drains, driveways, alleys, sidewalks, curb, gutter, and curb & gutter as follows:

Grade A, A-FA, A-S, and A-T :	If using type II portland cement, or if using Type IL blended cement where the base portland cement meets Type II chemical requirements.
Grade A-IS and A-IP :	If using type I/II blended portland cement.
Grade A-S2 :	If placing by a slip-formed process and using type II portland cement.
Grade C, C-FA, C-S, C-IS, and C-IP :	If using types I or III portland cement.

503.2.2 Concrete

Replace paragraph five with the following effective with the March 2013 letting:

(5) Furnish prestressed concrete members cast from air-entrained concrete, except I-type girders may use non-air-entrained concrete. Use type I, IL, IS, , IP, II, or III cement. The contractor may replace up to 30 percent of type I, IL, II, or III cement with an equal weight of fly ash, slag, or a combination of fly ash and slag, except for prestressed box girders and slabs, the contractor shall replace 20-30 percent of the cement with fly ash, slag, or a combination of fly ash and slag. Ensure that fly ash conforms to 501.2.6 and slag conforms to 501.2.7. Use only one source and replacement rate for work under a single bid item. Use a department-approved air-entraining admixture conforming to 501.2.2 for air-entrained concrete. Use only size No. 1 coarse aggregate conforming to 501.2.5.4.

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.

518.2.1 General

Replace paragraph one with the following effective with the March 2013 letting:

(1) Furnish portland cement and water as specified in 501.2. Unless the engineer allows an alternate, use either type I, IL, IS, or IP cement.

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 AWPA 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)

639.2.1 General

Replace paragraph two with the following effective with the March 2013 letting:

(2) For grout use fine aggregate conforming to 501.2.5.3 and type I, IL, IS, or IP cement.

649.3.1 General

Replace paragraphs three and four with the following effective with the March 2013 letting:

(3) For pavements open to all traffic, apply centerline and no-passing barrier line markings as follows:

- On intermediate pavement layers, including milled surfaces, on the same day the pavement is placed or milled.
- On the upper layer of pavement, on the same day the pavement is placed unless the contractor applies permanent marking on the same day the pavement is placed.

If weather conditions preclude same-day application, apply as soon as weather allows. Do not resume next-day construction operations until these markings are completed unless the engineer allows otherwise.

(4) If required to apply no passing zone temporary pavement marking, reference the beginning and end of all existing no-passing barrier lines. Apply temporary no-passing barrier lines at those existing locations. If the contract contains the Locating No-Passing Zones bid item, relocate permanent no-passing zones as specified in section 648.

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.

715.2.3.1 Pavements

Replace paragraph two with the following effective with the March 2013 letting:

(2) Provide a minimum cement content of 565 pounds per cubic yard, except if using type I, IL, or III cement in a mix where the geologic composition of the coarse aggregate is primarily igneous or metamorphic materials, provide a minimum cement content of 660 pounds per cubic yard.

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 2013 edition of the standard specifications:

102.12 Public Opening of Proposals

Correct 102.12(1) errata by changing htm to shtm in the web link.

(1) The department will publicly open proposals at the time and place indicated in the notice to contractors. The department will post the total bid for each proposal on the Bid Express web site beginning at 9:30 AM except as specified in 102.8. If a proposal has no total bid shown, the department will not post the bid. After verification for accuracy under 103.1, the department will post bid totals on the department's HCCI web site.

http://roadwaystandards.dot.wi.gov/hcci/bid-letting/index.shtm

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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).

204.3.2.2 Removing Items

Correct errata by changing the reference from 490.3.2 to 490.3.

(5) Under the Removing Asphaltic Surface Milling bid item, remove and dispose of existing asphaltic pavement or surfacing by milling at the location and to the depth the plans show. Mill the asphaltic pavement or surfacing as specified for milling salvaged asphaltic pavement in 490.3.

501.2.9 Concrete Curing Materials

Correct errata by changing AASHTO M171 to ASTM C171.

(4) Furnish polyethylene-coated burlap conforming to ASTM C171 for white burlap-polyethylene sheets.

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 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.

614.2.1 General

Correct errata by changing the discontinued AASHTO M298 to ASTM B695.

(4) Furnish steel nuts conforming to ASTM A563, washers conforming to ASTM F436, grade 1, and bolts conforming to ASTM A307. Ensure that the nuts, washers, and bolts are either hot-dip coated according to AASHTO M232 class C or mechanically coated according to ASTM B695 class 50.

643.3.1 General

Correct errata by eliminating the word "continuously".

(6) Review all traffic signs and control devices furnished and erected for location, position, visibility, adequacy, and manner of use under specific job conditions immediately after each setup and at least once every 24 hours and more frequently as necessary, to ensure all the signs and control devices are in compliance with this section. Review the signs and devices from the same direction that approaching traffic views them.

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 updating 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.

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 pages 17-22 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/crc-basic-info.pdf

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are

applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor

will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 “Contract provisions and related matters” with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH–1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or

will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b.(1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/esa/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
(2) the prime contractor remains responsible for the quality of the work of the leased employees;
(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1**. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

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

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

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

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

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

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

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

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

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

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

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

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

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

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

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

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

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

SEPTEMBER 2002

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)

1. The Offeror's or Bidder's attention is called to the "Employment Practices" and "Equal Opportunity Clause" set forth in the Required Contract Provisions, FHWA 1273.

2. The goals and timetables for minority and female participation expressed in percentage terms for the contractor's aggregate work force in each trade, on all construction work in the covered area, are as follows:

Goals for Minority Participation for Each Trade:

County	%	County	%	County	%
Adams	1.7	Iowa	1.7	Polk	2.2
Ashland	1.2	Iron	1.2	Portage	0.6
Barron	0.6	Jackson	0.6	Price	0.6
Bayfield	1.2	Jefferson	7.0	Racine	8.4
Brown	1.3	Juneau	0.6	Richland	1.7
Buffalo	0.6	Kenosha	3.0	Rock	3.1
Burnett	2.2	Kewaunee	1.0	Rusk	0.6
Calumet	0.9	La Crosse	0.9	St. Croix	2.9
Chippewa	0.5	Lafayette	0.5	Sauk	1.7
Clark	0.6	Langlade	0.6	Sawyer	0.6
Columbia	1.7	Lincoln	0.6	Shawano	1.0
Crawford	0.5	Manitowoc	1.0	Sheboygan	7.0
Dane	2.2	Marathon	0.6	Taylor	0.6
Dodge	7.0	Marinette	1.0	Trempealeau	0.6
Door	1.0	Marquette	1.7	Vernon	0.6
Douglas	1.0	Menominee	1.0	Vilas	0.6
Dunn	0.6	Milwaukee	8.0	Walworth	7.0
Eau Claire	0.5	Monroe	0.6	Washburn	0.6
Florence	1.0	Oconto	1.0	Washington	8.0
Fond du Lac	1.0	Oneida	0.6	Waukesha	8.0
Forest	1.0	Outagamie	0.9	Waupaca	1.0
Grant	0.5	Ozaukee	8.0	Waushara	1.0
Green	1.7	Pepin	0.6	Winnebago	0.9
Green Lake	1.0	Pierce	2.2	Wood	0.6

Goals for female participation for each trade: 6.9%

These goals are applicable to all the contractor's construction work, (whether or not it is federal or federally assisted), performed in the covered area. If the contractor performs construction work in the geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

The contractor's compliance with the Executive Order and the Regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from contractor to contractor or from project to project for the sole purpose of meeting the contractor's goals shall be a violation of the contract, the Executive Order and the Regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten (10) working days of award of any construction subcontract in excess of $10,000.00 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor, employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

   As referred to in this section, the Director means:

   Director
   Office of Federal Contract Compliance Programs
   Ruess Federal Plaza
   310 W. Wisconsin Ave., Suite 1115
   Milwaukee, WI 53202

   The "Employer Identification Number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.

4. As used in this notice, and in the contract resulting from solicitation, the "covered area" is the county(ies) in Wisconsin to which this proposal applies.

APRIL 2013

ADDITIONAL FEDERAL-AID PROVISIONS

NOTICE TO ALL BIDDERS

To report bid rigging activities call:

1-800-424-9071

The U.S. Department of Transportation (DOT) operates the above toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m., Eastern Time. Anyone with knowledge of possible bid rigging, bidding collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

APRIL 2013

BUY AMERICA PROVISION

All steel and iron materials permanently incorporated in this project shall be domestic products and all manufacturing and coating processes for these materials from smelting forward in the manufacturing process must have occurred within the United States. Coating includes epoxy coating, galvanizing, painting and any other coating that protects or enhances the value of a material subject to the requirements of Buy America. The exemption of this requirement is the minimal use of foreign materials if the total cost of such material permanently incorporated in the product does not exceed one-tenth of one percent (1/10 of 1%) of the total contract cost or $2,500.00, whichever is greater. For purposes of this paragraph, the cost is that shown to be the value of the subject products as they are delivered to the project. The contractor shall take actions and provide documentation conforming to CMM 2-28.4 to ensure compliance with this “Buy America” provision.

http://roadwaystandards.dot.wi.gov/standards/cmm/cm-02-28.pdf#cm2-28.4

Upon completion of the project certify to the engineer, in writing using department form WS4567, that all steel, iron, and coating processes for steel or iron incorporated into the contract work conform to these "Buy America" provisions. Attach a list of exemptions and their associated costs to the certification form. Department form WS4567 is available at:

http://roadwaystandards.dot.wi.gov/standards/forms/ws4567.doc

Effective with September 2004 Letting

WISCONSIN DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS AND TRANSPORTATION FACILITIES

SUPPLEMENTAL REQUIRED CONTRACT PROVISIONS

I. WAGE RATES, HOURS OF LABOR AND PAYMENT OF WAGES

The schedule of "Minimum Wage Rates" attached hereto and made a part hereof furnishes the prevailing wage rates that have been determined pursuant to Section 103.50 of the Wisconsin Statutes. These wage rates are the minimum required to be paid to the various laborers, workers, mechanics and truck drivers employed by contractors and subcontractors on the construction work embraced by the contract and subject to prevailing hours and wages under Section 103.50, Stats. If necessary to employ laborers, workers, mechanics or truck drivers whose classification is not listed on the schedule, they shall be paid at rates conformable to those listed for similar classifications. Apprentices shall be paid at rates not less than those prescribed in their state indenture contacts.

While the wage rates shown are the minimum rates required by the contract to be paid during its life, this in not a representation that labor can be obtained at these rates. It is the responsibility of bidders to inform themselves as to the local labor conditions and prospective changes or adjustments of wage rates. No increase in the contract price shall be allowed or authorized on account of the payment of wage rates in excess of those listed herein.

Pursuant to Section 103.50 of the Wisconsin Statutes, the prevailing hours of labor have been determined to be up to 10 hours per day and 40 hours per calendar week Monday through Friday. If any laborer, worker, mechanic or truck driver is permitted or required to work more than the prevailing number of hours per day or per calendar week on this contract, they shall be paid for all hours in excess of the prevailing hours at a rate of at least one and one-half (1 1/2) times their hourly rate of pay. All work on Saturday, Sunday and the following holidays is to be paid at time and a half: (1) January 1, (2) the last Monday in May, (3) July 4, (4) the first Monday in September, (5) the fourth Thursday in November, (6) December 25, (7) the day before if January 1, July 4 or December 25 falls on a Saturday and (8) the day following if January 1, July 4 or December 25 falls on a Sunday.

All laborers, workers, mechanics and truck drivers shall be paid unconditionally not less often than once a week. Persons who own and operate their own trucks must receive the prevailing truck driver rate for the applicable type of truck (i.e. 2 axle, 3 or more axle, articulated, eculid or dumptor) he or she operates, plus an agreed upon amount for the use of his or her truck. Every owner-operator MUST be paid separately for their driving and for the use of their truck.

For those projects subject to the requirements of the Davis-Bacon Act, the Secretary of Labor will also have determined "Minimum Wage Rates" for work to be performed under the contract. These rates are, for all or most of the labor, worker, mechanic or truck driver classifications, identical to those established under Section 103.50 of the Wisconsin Statutes. In the event the rates are not identical, the higher of the two rates will govern.

II. PAYROLL REQUIREMENTS

All contractors and subcontractors must submit weekly Certified Payrolls and Compliance Statement verifying that all laborers, workers, mechanics and truck drivers working on the project have been paid the prevailing wage rates for all work performed under the contract required by Section 103.50 of the Wisconsin Statutes.

III. POSTINGS AT THE SITE OF THE WORK

In addition to the required postings furnished by the Department, the contractor shall post the following in at least one conspicuous place at the site of work:

a. "NOTICE TO EMPLOYEES," which provides information required to be posted by the provisions of Section 103.50 of the Wisconsin Statutes.

b. A copy of the State of Wisconsin Minimum Wages Rates. (Four pages.)

c. A copy of the contractor's Equal Employment Opportunity Policy.

d. On any project involving federal aid, in addition to the furnished postings, the contractor shall post a copy of the "Davis-Bacon Act, Minimum Wage Rates". (Three pages.)

IV. WAGE RATE REDISTRIBUTION

The amount specified as the hourly basic rate of pay and the amount(s) specified as the fringe benefit contribution(s), for all classes of laborers, workers, mechanics or truck drivers may be redistributed, when necessary, to conform to those specified in any applicable collective bargaining agreement, provided that both parties to such agreement

request and receive the approval for any such redistribution from both the Department of Transportation and the Department of Workforce Development prior to the implementation of such redistribution.

V. ADDITIONAL CLASSIFICATIONS

Any unlisted laborer or mechanic classification that is needed to perform work on this project, and is not included within the scope of any of the classifications listed in the application prevailing wage rate determination, may be added after award only if all of the following criteria have been met:

1. The affected employer(s) must make a written request to WisDOT Central Office to utilize the unlisted classification on this project.

2. The request must indicate the scope of the work to be performed by the unlisted classification and must indicate the proposed wage/fringe benefit package that the unlisted classification is to receive.

3. The work to be performed by the unlisted classification must not be performed by a classification that is included in the applicable prevailing wage rate determination.

4. The unlisted classification must be commonly employed in the area where the project is located.

5. The proposed wage/fringe benefit package must bear a reasonable relationship to those set forth in the applicable prevailing wage rate determination.

6. The request should be made prior to the actual performance of the work by the unlisted classification.

7. DWD must approve the use of the unlisted classification and the proposed wage/fringe benefit package. USDOL also must approve the use of the unlisted classification and the proposed wage/fringe benefit package on federal aid projects.

8. WisDOT and DWD may amend the proposed wage/fringe benefit package, as deemed necessary, and may set forth specific employment ratios and scope of work requirements in the approval document.

The approved wage/fringe benefit package shall be paid to all laborers, workers, mechanics or truck drivers performing work within the scope of that performed by the unlisted classification, from the first day on which such work is performed. In the event that work is performed by the unlisted classification prior to approval, the wage/fringe benefit package to be paid for such work must be in conformance with the wage/fringe

benefit package approved for such work. Under this arrangement a retroactive adjustment in wages and/or fringe benefits may be required to be made to the affected laborers, workers, mechanics or truck drivers by the affected employer(s).

ANNUAL PREVAILING WAGE RATE DETERMINATION
FOR ALL STATE HIGHWAY PROJECTS
BROWN COUNTY

Compiled by the State of Wisconsin - Department of Workforce Development
for the Department of Transportation
Pursuant to s. 103.50, Stats.
Issued on September 1, 2013

CLASSIFICATION: Contractors are required to call the Department of Workforce Development if there are any questions reqarding the proper trade or classification to be used for any worker on a public works project.

OVERTIME: Time and one-half must be paid for all hours worked over 10 hours per day and 40 hours per calendar week and for all hours worked on Saturday, Sunday and the following six (6) holidays: January 1; the last Monday in May; July 4; the 1st Monday in September; the 4th Thursday in November; December 25; the day before if January 1, July 4 or December 25 falls on a Saturday; the day following if January 1, July 4 or December 25 falls on a Sunday.

FUTURE INCREASE: If indicated for a specific trade or occupation, the full amount of such increase MUST be added to the "TOTAL" indicated for such trade or occupation on the date(s) such increase(s) becomes effective.

PREMIUM PAY: If indicated for a specific trade or occupation, the full amount of such pay MUST be added to the "HOURLY BASIC RATE OF PAY" indicated for such trade or occupation, whenever such pay is applicable.

SUBJOURNEY: Wage rates may be available for some of the classifications indicated below. Any employer that desires to use any subjourney classification on a project MUST request the applicable wage rate from the Department of Workforce Development PRIOR to the date such classification is used on such project. Form ERD-10880 is available for this purpose and can be obtained by writing to the Department of Workforce Development, Equal Rights Division, P.O. Box 8928, Madison, WI 53708.

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Bricklayer, Blocklayer or Stonemason	35.58	19.20	54.78
Carpenter	30.16	15.31	45.47
Cement Finisher	31.52	16.60	48.12
Future Increase(s): 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	28.01	16.49	44.50
Fence Erector	28.00	4.50	32.50
Ironworker	28.03	21.97	50.00
Line Constructor (Electrical)	31.29	15.34	46.63
Painter	23.62	9.07	32.69
Pavement Marking Operator	24.10	16.85	40.95
Piledriver	30.66	15.31	45.97
Roofer or Waterproofer	20.93	5.48	26.41
Teledata Technician or Installer	21.26	11.75	33.01
Tuckpointer, Caulker or Cleaner	23.41	14.51	37.92
Underwater Diver (Except on Great Lakes)	37.45	19.45	56.90
Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	33.35	14.21	47.56
Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY	35.50	15.09	50.59
Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	25.94	13.57	39.51
Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	24.08	12.96	37.04
Groundman - ELECTRICAL LINE CONSTRUCTION ONLY	21.75	11.90	33.65

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
TRUCK DRIVERS			
Single Axle or Two Axle	33.22	18.90	52.12
Three or More Axle	23.31	17.13	40.44
Future Increase(s): 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	27.77	19.90	47.67
Future Increase(s): 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 $1.50/hr night work premium. See DOT's website for details about the applicability of this night work premium at: http://roadwaystandards.dot.wi.gov/hcci/labor- wages- eeo/ index. shtm.			
Pavement Marking Vehicle	23.99	14.70	38.69
Shadow or Pilot Vehicle	33.22	18.90	52.12
Truck Mechanic	22.50	16.19	38.69
LABORERS			
General Laborer	28.07	13.90	41.97
Future Increase(s): Add $1.70/hr on 6/1/2013; Add $1.60/hr on 6/1/2014. Premium Pay: Add $.10/hr for topman, air tool operator, vibrator or tamper operator (mechanical hand operated), chain saw operator and demolition burning torch laborer; Add $.15/hr for bituminous worker (raker and luteman), formsetter (curb, sidewalk and pavement) and strike off man; Add $.20/hr for blaster and powderman; Add $.25/hr for bottomman; Add $.35/hr for line and grade specialist; Add $.45/hr for pipelayer. DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			
Asbestos Abatement Worker	30.06	0.00	30.06
Landscaper	28.07	13.90	41.97
Future Increase(s): Add $1.70/hr on 6/1/13; Add $1.60/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			
Flagperson or Traffic Control Person	24.70	13.90	38.60
Future Increase(s): 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)	17.81	12.22	30.03
Railroad Track Laborer	23.41	15.14	38.55

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
HEAVY EQUIPMENT OPERATORS			
Crane, Tower Crane, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 176 Ft or Over; Crane, Tower Crane, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of Over 100 Tons, Self-Erecting Tower Crane With a Lifting Capacity Of Over 4,000 Lbs., Crane With Boom Dollies; Traveling Crane (Bridge Type). Future Increase(s): Add $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 $1.50/hr night work premium. See DOT's website for details about the applicability of this night work premium at: http://roadwaystandards.dot.wi.gov/hcci/labor- wages- eeo/ index. shtm.	35.22	19.90	55.12
Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of 130,000 Lbs. or Over; Caisson Rig; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 175 Ft or Under; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of 100 Tons or Under, Self-Erecting Tower Crane With A Lifting Capacity Of 4,000 Lbs., & Under; Dredge (NOT Performing Work on the Great Lakes); Licensed Boat Pilot (NOT Performing Work on the Great Lakes); Pile Driver. Future Increase(s): Add $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 $1.50/hr night work premium. See DOT's website for details about the applicability of this night work premium at: http://roadwaystandards.dot.wi.gov/hcci/labor- wages- eeo/ index. shtm.	34.72	19.90	54.62
Air Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Asphalt Heater, Planer & Scarifier; Asphalt Milling Machine; Asphalt Screed; Automatic Subgrader (Concrete); Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. & Under); Bituminous (Asphalt) Plant & Paver, Screed; Boatmen (NOT Performing Work on the Great Lakes); Boring Machine (Directional, Horizontal or Vertical); Bridge (Bidwell) Paver; Bulldozer or Endloader; Concrete Batch Plant, Batch Hopper; Concrete Breaker (Large, Auto, VIbratory/Sonic, Manual or Remote); Concrete Bump Cutter, Grinder, Planing or Grooving Machine; Concrete Conveyor System; Concrete Laser/Screed; Concrete Paver (Slipform); Concrete Pump, Concrete Conveyor (Rotec or Bidwell Type); Concrete Slipform Placer Curb & Gutter Machine; Concrete Spreader & Distributor; Crane (Carry Deck, Mini) or Truck Mounted Hydraulic Crane (10 Tons or Under); Crane WIth a Lifting Capacity of 25 Tons or Under; Forestry Equipment, Timbco, Tree Shear, Tub Grinder, Processor; Gradall (Cruz-Aire Type); Grader or Motor Patrol; Grout Pump; Hydro-Blaster (10,000 PSI or Over); Loading Machine (Conveyor); Material or Stack Hoist; Mechanic or Welder; Milling Machine; Post Hole Digger or Driver; Roller (Over 5 Ton); Scraper (Self Propelled or Tractor Drawn) 5 cu yds or More Capacity; Shoulder Widener; Sideboom; Skid Rig; Stabilizing or Concrete Mixer (Self-Propelled or 14S or Over); Straddle Carrier or Travel Lift; Tractor (Scraper, Dozer, Pusher, Loader); Tractor or Truck Mounted Hydraulic Backhoe; Trencher (Wheel Type or Chain Type); Tube Finisher; Tugger (NOT Performing Work on the Great Lakes); Winches & A- Frames. Future Increase(s): Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14.	34.22	19.90	54.12

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT's website for details about the applicability of this night work premium at: http://roadwaystandards.dot.wi.gov/hcci/labor- wages- eeo/ index. shtm.			
Belting, Burlap, Texturing Machine; Broom or Sweeper; Compactor (Self-Propelled or Tractor Mounted, Towed & Light Equipment); Concrete Finishing Machine (Road Type); Environmental Burner; Farm or Industrial Type Tractor; Fireman (Asphalt Plant, Pile Driver & Derrick NOT Performing Work on the Great Lakes); Forklift; Greaser; Hoist (Tugger, Automatic); Jeep Digger; Joint Sawer (Multiple Blade); Launch (NOT Performing Work on the Great Lakes); Lift Slab Machine; Mechanical Float; Mulcher; Power Subgrader; Robotic Tool Carrier (With or Without Attachments); Roller (Rubber Tire, 5 Ton or Under); Self Propelled Chip Spreader; Shouldering Machine; Skid Steer Loader (With or WIthout Attachments); Telehandler; Tining or Curing Machine.	33.96	19.90	53.86
Future Increase(s): 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 $1.50/hr night work premium. See DOT's website for details about the applicability of this night work premium at: http://roadwaystandards.dot.wi.gov/hcci/labor- wages- eeo/ index. shtm.			
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.	33.67	19.90	53.57
Future Increase(s): 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 $1.50/hr night work premium. See DOT's website for details about the applicability of this night work premium at: http://roadwaystandards.dot.wi.gov/hcci/labor- wages- eeo/ index. shtm.			
Fiber Optic Cable Equipment.	25.74	15.85	41.59
Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer.	37.45	19.45	56.90
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.	37.45	19.45	56.90
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.	27.75	19.15	46.90
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.	27.75	19.15	46.90

SUPERSEDES DECISION WI20120010
U. S. DEPARTMENT OF LABOR
(DAVIS-BACON ACT, MINIMUM WAGE RATES)

STATE: Wisconsin
GENERAL DECISION NUMBER: WI130010
DATE: September 27, 2013
DESCRIPTION OF WORK: Highways and Airport Runway and Taxiway Construction

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	$29.04	14.53
Group 2: Air Tool Operator; Joint Sawer and Filler (Pavement); Vibrator or Tamper Operator (Mechanical Hand Operated);	29.14	14.53
Group 3: Bituminous Worker (Raker and Luteman); Formsetter (Curb, Sidewalk, and Pavement); Strike Off man	29.19	14.53
Group 4: Line and Grade Specialist	29.39	14.53
Group 5: Blaster and Powderman	29.24	14.53
Group 6: Flagperson; Traffic Control	25.67	14.53

CLASSES OF LABORER AND MECHANICS

Bricklayer	30.77	16.62
Carpenter	30.48	15.80
Millwright	32.11	15.80
Piledriverman	30.98	15.80
Ironworker	28.72	23.47
Cement Mason/Concrete Finisher	31.52	16.30
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
Painters	23.37	11.52
Well Drilling:		
Well Driller	16.52	3.70

Truck Drivers:	Basic Hourly Rates	Fringe Benefits
1 & 2 Axles	23.82	18.32
Three or More Axles; Euclids, Dumptor & Articulated, Truck Mechanic	23.97	18.32

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 January 4, 2013; Modification #1 dated February 1, 2013; Modification #2 dated June 7, 2013; Modification #3 dated July 19, 2013; Modification #4 dated August 23, 2013; Modification #5 dated September 13, 2013; Modification #6 dated September 27, 2013.

STATE: Wisconsin
GENERAL DECISION NUMBER: WI130010
DESCRIPTION OF WORK: Highways and Airport Runway and Taxiway Construction

DATE: September 27, 2013

POWER EQUIPMENT OPERATORS CLASSIFICATION:	Basic Hourly Rates	Fringe Benefits
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	$36.72	$20.10
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.	$36.22	$20.10
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 (scraper, dozer, pusher, loader); scraper - rubber tired (single or twin engine); endloader hydraulic backhoe (tractor-type); trenching machine; skid rigs; tractor, side boom (heavy); drilling or boring machine (mechanical heavy); roller (over 5 tons); percussion or rotary drilling machine; air track; blaster; loading machine (conveyor); tugger; boatmen; winches and A-frames; post driver; material hoist operator.	$35.72	$20.10
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, endloader (rubber tired) - light; jeep digger; fork lift; mulcher; launch operator; fireman; environmental burner.	$35.46	$20.10
Group 5: Air compressor; power pack; vibratory hammer and extractor; heavy equipment, leadman; tank car heaters; stump chipper; curb machine operator; concrete pro-portioning 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.	$35.17	$20.10
Group 6: Off – road material hauler with or without ejector	$29.27	$20.10

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 WI20120010
U. S. DEPARTMENT OF LABOR
(DAVIS-BACON ACT, MINIMUM WAGE RATES)

STATE: Wisconsin
GENERAL DECISION NUMBER: WI130010
DATE: September 27, 2013
DESCRIPTION OF WORK: Highways and Airport Runway and Taxiway Construction

LABORERS CLASSIFICATION:	Rates	Benefits
Electricians		
Area 1	$28.40	16.676
Area 2:		
Electricians	29.13	17.92
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 8		
Electricians	30.60	24.95% + 10.33
Area 9:		
Electricians	32.94	18.71
Area 10	28.97	19.55
Area 11	31.91	23.60
Area 12	32.87	19.23
Area 13	32.82	22.51
Teledata System Installer		
Area 14		
Installer/Technician	21.89	11.83
Sound & Communications		
Area 15		
Installer	16.47	14.84
Technician	24.75	16.04

Area 1 - 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, TREMPEALEAU, VERNON and WASHBURN COUNTIES

Area 3 - FLORENCE (townships of Aurora, Commonwealth, Fern, Florence and Homestead), MARINETTE (Niagara township)

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.

Area 5 - ADAMS, CLARK (Colby, Freemont, Lynn, Mayville, Sherman, Sherwood, Unity), FOREST, JUNEAU, LANGLADE, LINCOLN, MARATHON, MARINETTE (Area North of the town of Wausaukee), 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 6 - KENOSHA COUNTY

Area 8 - DODGE, (Emmet Township only), GREEN, JEFFERSON, LAFAYETTE, RACINE (Burlington township), ROCK and WALWORTH COUNTIES

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 - CALUMET (Township of New Holstein), DODGE (East of Hwy. 26 including Chester Township), FOND DU LAC, MANITOWOC (Schleswig), and SHEBOYGAN COUNTIES

Area 11 - DOUGLAS COUNTY

Area 12 - RACINE (except Burlington township) COUNTY

Area 13 - MILWAUKEE, OZAUKEE, WASHINGTON and WAUKESHA COUNTIES

Area 14 - Statewide.

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.

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 omision 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.

CONTRACT: 20131029001 PROJECT(S): 1220-19-72 FEDERAL ID(S): WISC 2014033

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
	SECTION 0001 CONTRACT ITEMS					
0010	108.3100.S INCENTIVE/DISINCENTIVE FOR INTERIM COMPLETION OF WORK	15.000 CD	50000.00000		750000.00	
0020	203.0200 REMOVING OLD STRUCTURE (STATION) 01. 843+82	LUMP	LUMP			.
0030	205.0100 EXCAVATION COMMON	930.000 CY		.		.
0040	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 01. B-5-158	LUMP	LUMP			.
0050	210.0100 BACKFILL STRUCTURE	4,750.000 CY		.		.
0060	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH	1,915.000 TON		.		.
0070	305.0130 BASE AGGREGATE DENSE 3-INCH	1,850.000 TON		.		.
0080	502.5005 MASONRY ANCHORS TYPE L NO. 5 BARS	120.000 EACH		.		.
0090	502.5015 MASONRY ANCHORS TYPE L NO. 7 BARS	2,860.000 EACH		.		.

CONTRACT: 20131029001 PROJECT(S): 1220-19-72 FEDERAL ID(S): WISC 2014033

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0100	505.0605 BAR STEEL REINFORCEMENT HS COATED BRIDGES	682,670.000 LB		.		.
0110	509.9010.S REMOVING ASPHALTIC CONCRETE DECK OVERLAY (STRUCTURE) 01. B-5-158	3,440.000 SY		.		.
0120	618.0100 MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01. 1220-19-72	1.000 EACH		.		.
0130	619.1000 MOBILIZATION	1.000 EACH		.		.
0140	625.0100 TOPSOIL	22,000.000 SY		.		.
0150	627.0200 MULCHING	22,000.000 SY		.		.
0160	628.1104 EROSION BALES	10.000 EACH		.		.
0170	628.1504 SILT FENCE	3,320.000 LF		.		.
0180	628.1520 SILT FENCE MAINTENANCE	16,568.000 LF		.		.
0190	628.1905 MOBILIZATIONS EROSION CONTROL	8.000 EACH		.		.

CONTRACT: 20131029001 PROJECT(S): 1220-19-72 FEDERAL ID(S): WISC 2014033

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0200	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL	5.000 EACH		.		.
0210	628.2004 EROSION MAT CLASS I TYPE B	4,320.000 SY		.		.
0220	628.7560 TRACKING PADS	1.000 EACH		.		.
0230	629.0210 FERTILIZER TYPE B	82.000 CWT		.		.
0240	630.0130 SEEDING MIXTURE NO. 30	24.000 LB		.		.
0250	630.0200 SEEDING TEMPORARY	36.000 LB		.		.
0260	642.5401 FIELD OFFICE TYPE D	1.000 EACH		.		.
0270	643.0100 TRAFFIC CONTROL (PROJECT) 01. 1220-19-72	1.000 EACH		.		.
0280	643.0300 TRAFFIC CONTROL DRUMS	176.000 DAY		.		.
0290	643.0420 TRAFFIC CONTROL BARRICADES TYPE III	4.000 DAY		.		.
0300	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A	8.000 DAY		.		.

CONTRACT: 20131029001 PROJECT(S): 1220-19-72 FEDERAL ID(S): WISC 2014033

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0310	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C	64.000 DAY		.		.
0320	643.0800 TRAFFIC CONTROL ARROW BOARDS	8.000 DAY		.		.
0330	643.0900 TRAFFIC CONTROL SIGNS	20.000 DAY		.		.
0340	646.0106 PAVEMENT MARKING EPOXY 4-INCH	1,550.000 LF		.		.
0350	646.0881.S PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH	194.000 LF		.		.
0360	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	3,120.000 LF		.		.
0370	715.0502 INCENTIVE STRENGTH CONCRETE STRUCTURES	8,082.000 DOL	1.00000		8082.00	
0380	ASP.1T0A ON-THE-JOB TRAINING APPRENTICE AT $5.00/HR	2,400.000 HRS	5.00000		12000.00	
0390	ASP.1T0G ON-THE-JOB TRAINING GRADUATE AT $5.00/HR	4,400.000 HRS	5.00000		22000.00	
0400	SPV.0035 SPECIAL 01. HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES	40.000 CY		.		.

CONTRACT: 20131029001 PROJECT(S): 1220-19-72 FEDERAL ID(S): WISC 2014033

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0410	SPV.0035 SPECIAL 02. FOUNDATION CONCRETE MASONRY	1,307.000 CY		.		.
0420	SPV.0045 SPECIAL 01. VIBRATION MONITORING	25.000 DAY		.		.
0430	SPV.0060 SPECIAL 01. BAR COUPLERS NO. 11 BAR SPECIAL	1,200.000 EACH		.		.
0440	SPV.0060 SPECIAL 02. SEDIMENTATION BASIN	1.000 EACH		.		.
0450	SPV.0075 SPECIAL 01. DRILLED SHAFT OBSTRUCTIONS	30.000 HRS		.		.
0460	SPV.0075 SPECIAL 02. STREET SWEEPING	33.000 HRS		.		.
0470	SPV.0085 SPECIAL 01. POST-TENSIONING PIER FOOTING	65,957.000 LB		.		.
0480	SPV.0085 SPECIAL 02. STRUCTURAL STEEL CARBON SPECIAL	27,960.000 LB		.		.
0490	SPV.0090 SPECIAL 01. DRILLED SHAFT FOUNDATION 60-INCH	2,472.000 LF		.		.
0500	SPV.0105 SPECIAL 01. BRIDGE JACKING SPECIAL STRUCTURE B-5-158	LUMP	LUMP			.
0510	SPV.0105 SPECIAL 02. TRIAL DRILLED SHAFT FOUNDATION 60-INCH	LUMP	LUMP			.

CONTRACT: 20131029001 PROJECT(S): 1220-19-72 FEDERAL ID(S): WISC 2014033

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0520	SPV.0105 SPECIAL 03. STOCKPILE AND PLACE EXCAVATED MATERIAL	LUMP	LUMP			.
0530	SPV.0195 SPECIAL 01. POLYMER MODIFIED ASPHALTIC CONCRETE PAVEMENT	385.000 TON		.		.
	SECTION 0001 TOTAL					.
	TOTAL BID					.

PLEASE ATTACH SCHEDULE OF ITEMS HERE