

HIGHWAY WORK PROPOSAL

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

Proposal Number:

11

COUNTY	STATE PROJECT ID	FEDERAL PROJECT ID	PROJECT DESCRIPTION	HIGHWAY
Dane	5992-08-78	WISC 2013 213	City of Madison, Mineral Point Road South Junction Road Intersection	CTH S
Dane	5992-08-88		City of Madison, Mineral Point Road South Junction Road Intersection	CTH S
Dane	5992-08-89		City of Madison, Mineral Point Road South Junction Road Intersection	CTH S

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, \$ 450,000.00 Payable to: Wisconsin Department of Transportation	Attach Proposal Guaranty on back of this PAGE.
Bid Submittal Due Date: April 9, 2013 Time (Local Time): 9:00 AM	Firm Name, Address, City, State, Zip Code
Contract Completion Time October 31, 2014	SAMPLE NOT FOR BIDDING PURPOSES
Assigned Disadvantaged Business Enterprise Goal 5%	This contract is subject to federal oversight.

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

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

Subscribed and sworn to before me this date _____

(Signature, Notary Public, State of Wisconsin)

(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 Clearing and grubbing, excavation common, pavement removal, storm sewer, sanitary sewer, water main, backfill granular, base aggregate dense, concrete curb & gutter, concrete sidewalk, HMA pavement, Structures B-13-655, 656 and 657, C-13-2054 and 3060, and R-13-208 to 219, S-13-409 to 422, topsoil, seeding, erosion control, pavement marking, signing, signals, lighting, traffic control.	
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.

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

Bidder Name

BN00

Proposals: 1, 12, 14, & 22

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

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

C Waiver of Electronic Submittal

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

PROPOSAL BID BOND

DT1303 1/2006

Wisconsin Department of Transportation

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

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

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

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

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

PRINCIPAL

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

(Signature and Title)

(Company Name)

(Signature and Title)

(Company Name)

(Signature and Title)

(Company Name)

(Signature and Title)

NOTARY FOR PRINCIPAL

(Date)

State of Wisconsin)
) ss.
_____ County)

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

(Signature, Notary Public, State of Wisconsin)

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

(Date Commission Expires)

Notary Seal

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

(Signature of Attorney-in-Fact)

NOTARY FOR SURETY

(Date)

State of Wisconsin)
) ss.
_____ County)

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

(Signature, Notary Public, State of Wisconsin)

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

(Date Commission Expires)

Notary Seal

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

CERTIFICATE OF ANNUAL BID BOND

DT1305 8/2003

Wisconsin Department of Transportation

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

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

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

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

(Signature of Authorized Contractor Representative)

(Date)

FEBRUARY 1999

LIST OF SUBCONTRACTORS

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

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

Name of Subcontractor	Class of Work	Estimated Value
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

DECEMBER 2000

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

Instructions for Certification

1. By signing and submitting this proposal, the prospective contractor is providing the certification set out below.
2. The inability of a person to provide the certification required below will not necessarily result in denial of participation in this covered transaction. The prospective contractor shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective contractor to furnish a certification or an explanation shall disqualify such person from participation in this transaction.
3. The certification in this clause is a material representation of fact upon which reliance was placed when the department determined to enter into this transaction. If it is later determined that the contractor knowingly rendered an erroneous certification in addition to other remedies available to the Federal Government the department may terminate this transaction for cause or default.
4. The prospective contractor shall provide immediate written notice to the department to whom this proposal is submitted if at any time the prospective contractor learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
5. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. You may contact the department to which this proposal is being submitted for assistance in obtaining a copy of those regulations.
6. The prospective contractor agrees by submitting this proposal that, should this contract be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department entering into this transaction.
7. The prospective contractor further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," which is included as an addendum to PR-1273 - "Required Contract Provisions Federal Aid Construction Contracts," without

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

8. The contractor may rely upon a certification of a prospective subcontractor/materials supplier that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A contractor may decide the method and frequency by which it determines the eligibility of its principals. Each contractor may, but is not required to, check the Disapproval List (telephone # 608/266/1631).
9. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
10. Except for transactions authorized under paragraph 6 of these instructions, if a contractor in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department may terminate this transaction for cause or default.

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

- (1) The prospective contractor certifies to the best of its knowledge and belief, that it and its principals:
 - (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
 - (b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements or receiving stolen property;
 - (c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offense enumerated in paragraph (1)(b) of this certification; and
 - (d) Have not within a three-year period preceding this proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
- (2) Where the prospective contractor is unable to certify to any of the statements in this certification, such prospective contractor shall attach an explanation to this proposal.

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SPECIAL PROVISIONS

1. General.

Perform the work under this construction contract for Project 5992-08-78, 5992-08-88, and 5992-08-89, City of Madison, Mineral Point Road (CTH S), South Junction Road (CTH M) Intersection, CTH S, Dane County, Wisconsin as the plans show and execute the work as specified in the State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction, 2013 Edition, as published by the department, and these special provisions.

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

100-005 (20120615)

Previous project 5992-08-77 completed grading, storm sewer, detention pond, backfill granular and 6" of base aggregate dense on eastbound Mineral Point Road (CTH S) from the west project limits to the jug handle, jug handle area, and on southbound South Junction Road (CTH M) from approximately Station 346+00 south to the south project limits. This work provided graded areas for utility relocates and prepared areas for retaining walls and embankment fill. Reshaping of the sloped base aggregate dense to conform to the final cross section will be required along with completion of the remaining base aggregate dense, concrete curb and gutter, concrete sidewalk, HMA pavement, and finishing items.

2. Scope of Work.

The work under this contract shall consist of clearing and grubbing, excavation common, pavement removal, borrow, storm sewer, sanitary sewer, water main, backfill granular, base aggregate dense, concrete curb and gutter, concrete sidewalk, HMA pavement, Structures B-13-655, 656 and 657, C-13-2054 and 3060, and R-13-208 to 218, S-13-409 to 422, topsoil, seeding, erosion control, pavement marking, signing, traffic control 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. Mandatory Pre-Bid Meeting.

Supplement standard spec 102.3.1 with the following:

Prospective bidders are required to attend a mandatory pre-bid meeting on Tuesday, March 19, 2013 at 10:00 AM at the Larry D. Nelson Engineering Operations Facility, 1600 Emil Street, Madison, WI 53713.

No meeting minutes will be prepared. Issues discovered at the meeting will be handled by addendum.

102-010 (20041504)

4. Prosecution and Progress.

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

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

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

This is a completion date contract with interim completion dates. Work efforts will possibly require multiple or concurrent controlling operations to occur at the same time. Information included in the prosecution and progress are intended to assist the contractor and its subcontractors and shall not be interpreted as a demonstration of specified means and methods or work periods other than interim and completion dates. Develop a Relationship Bar Chart (RBC) Progress Schedule as specified in the bid item "RBC Progress Schedule" to establish the controlling items of work due to the contractor's material production and work efforts to complete all work required by the contract.

The contract time for completion may be based on an expedited work schedule and may require extraordinary forces and equipment. The completion of structural work as described in Stage 1, prior to suspension of construction operations on roadways in the fall of 2013, may be based on an expedited work schedule and may require extraordinary forces and equipment.

The schedule of operations shall conform to the construction staging as shown in the Construction Staging plans, unless modifications to the schedule are approved in writing by the engineer.

The schedule of operations as required under standard spec 108.9.4 shall provide for completion of Stage 1 work prior to 12:01 AM November 1, 2013.

Complete construction operations on northbound roadway of Junction Road and southbound roadway of Junction Road/South Junction Road (CTH M) and Jug Handle roadway and eastbound roadway of Mineral Point Road (CTH S) to the stage necessary to reopen it to through traffic prior to 12:01 AM November 1, 2013. Do not reopen until completing the following work: Structure B-13-655, Retaining Walls R-13-208, R-13-209, R-13-210, R-13-211, R-13-214, R-13-215, R-13-216, R-13-217, and R-13-218, Box Culvert C-13-3060, except staining, HMA Pavement lower layers, permanent and temporary signing, temporary marking, temporary signals, and temporary lighting using permanent poles.

Supplement standard spec 108.11 as follows:

If the contractor fails to complete the work necessary to reopen northbound roadway of Junction Road and southbound roadway of Junction Road/South Junction Road (CTH M) and Jug Handle roadway and eastbound roadway of Mineral Point Road (CTH S) to through traffic prior to 12:01 AM November 1, 2013, the department will assess the contractor \$5,000 in interim liquidated damages for each calendar day that the roadway remains closed after 12:01 AM, November 1, 2013. An entire calendar day will be charged for any period of time within a calendar day that the road remains closed beyond 12:01 AM.

Complete all construction operations on the 60" Storm Sewer Pipe Installation as shown on the plan sheet prior to September 15, 2013.

Complete all construction operations on Mineral Point Road (CTH S), South Junction Road (CTH M), Jug Handle, and Junction Road to the stage necessary to reopen it to through traffic prior to 12:01 AM August 31, 2014. Do not reopen until completing the following work: HMA Pavement upper layer, permanent marking and signing, permanent signals and lighting.

Supplement standard spec 108.11 as follows:

If the contractor fails to complete the work necessary to reopen Mineral Point Road (CTH S), South Junction Road (CTH M), Jug Handle, and Junction Road to through traffic prior to 12:01 AM August 31, 2014, the department will assess the contractor \$5,000 in interim liquidated damages for each calendar day that the roadway remains closed after 12:01 AM, August 31, 2014. An entire calendar day will be charged for any period of time within a calendar day that the road remains closed beyond 12:01 AM.

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

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

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

The Middleton Cemetery is located north of construction limits along Mineral Point Road (CTH S) from approximately Station 121 to Station 126. Maintain access from Mineral Point Road (CTH S) to the Middleton Cemetery at all times during construction of the project or until the path between Station 121 and Station 126 has been constructed. Access to the Cemetery from Mineral Point Road (CTH S) can be closed for 30 calendar days during the construction of the path and wall. Complete work on the path within 30 calendar days from the start of construction operation on the path that eliminates access. The Middleton Cemetery intends to construct the driveway aprons, by others, to tie into the newly constructed path. This work may be done concurrent with or subsequent to the 30 calendar days. Do not store any equipment within the Middleton Cemetery nor extend work beyond the right-of-way.

Construction limits along the west side of South Junction Road (CTH M) from the southern end of the project to the Jug Handle and along the south side of Mineral Point Road (CTH S) from the west end of the project to the Jug Handle, on the landowner side of the roadway, is a point 10 feet beyond the slope intercept line and within the areas designated for topsoil stockpiles.

Construct this project using the following Stages as shown on the plans and hereby described:

Pre-Stage 1 Construction approximately May 20, 2013 to May 31, 2013:

- Construct temporary widening, during off-peak hours, (base and pavement) the north side of Mineral Point Road (CTH S) westbound roadway Station 132+00 to Station 136+00
- Construct 12'×4' Storm Sewer Box, C-13-3060, on Mineral Point Road (CTH S), in phases as shown on the plans
- Construct 60"×38" Storm Sewer Pipe at Station 135+00, on Mineral Point Road (CTH S), in phases as shown on the plans.
- Close Target driveway to construct storm sewer connections and associated temporary widening is limited to one week.
- Construct temporary widening, during off-peak hours, (base and pavement) the eastside of northbound roadway of South Junction Road (CTH M) between Station 450+00 and Station 458+00 (Watts Road to Mineral Point Road (CTH S))
- Construct permanent widening, during off-peak hours, the outside lane of the northbound roadway of Junction Road between Mineral Point Road (CTH S) and Isaac Drive (Station 459+00 and Station 466+00) including grading, storm sewer, base, curb and gutter, sidewalk and HMA pavement lower layers.
- Construct temporary Signal at the intersection of Mineral Point Road (CTH S) and South Junction Road (CTH M)/Junction Road

Stage 1 Construction approximately June 1, 2013 to November 1, 2013:

- Construct eastbound roadway on Mineral Point Road (CTH S) including grading, storm sewer, place base, and HMA pavement lower layers
- Construct southbound roadway on South Junction Road (CTH M) and Junction Road including grading, storm sewer, place base, and HMA pavement lower layers
- Construct Jug Handle roadway, place base, and HMA pavement lower layers
- Construct Pedestrian Box Underpass C-13-2054 under Jug Handle roadway
- Construct Bridge B-13-655 over Mineral Point Road (CTH S)
- Construct Retaining Walls R-13-208, R-13-209, R-13-210, R-13-211, R-13-214, R-13-215, R-13-216, R-13-217, and R-13-218
- Construct 60" Storm Sewer Pipe Installation under USH 12
- Install temporary signals at Jug Handle intersection with Mineral Point Road (CTH S)

Sub-Stage 1A Construction, maximum two weeks duration:

- Construct west half of northbound roadway of Junction Road between Mineral Point Road (CTH S) and Isaac Drive (Station 459+00 and Station 466+00).
- Construct the west half of northbound roadway of Junction Road between Mineral Point Road (CTH S) and Isaac Drive (Station 459+00 and Station 466+00) after completing construction of southbound roadway of Junction Road/South Junction Road (CTH M), including elevated roadway and Bridge B-13-655. Complete this work including median curb and gutter and HMA pavement lower layers before winter suspension in 2013.

Stage 2 Construction, Winter Suspension, November 1, 2013 to March 1, 2014:

Construction on any roadway carrying vehicular traffic is prohibited. Work on the Bike/Pedestrian Structures B-13-656 and B-13-657, and Retaining Wall R-13-219 during this winter shut down is allowed. Minimize effect on traffic during delivery of material to and from the job site.

Stage 3 Construction, approximately March 2014 to June 2014:

- Construct westbound roadway on Mineral Point Road (CTH S) including grading, storm sewer, base, and HMA pavement lower layers.
- Construct Retaining Walls R-13-212, and R-13-213.
- Construct northbound roadway of South Junction Road (CTH M) between Valley View Road and Watts Road including grading, storm sewer, base, and HMA pavement lower layers.
- Construct northbound roadway of South Junction Road (CTH M) between Watts Road and Mineral Point Road (CTH S) including grading, storm sewer, base, and HMA pavement lower layers in two sub-stages 3A and 3B:

Stage 3A, approximately March 2014 to April 2014:

- Construct the west half of the northbound roadway.

Sub-Stage 3B, approximately April 2014 to June 2014:

- Construct the east half of the northbound roadway.
- Construct new Water Main from Watts Road to Mineral Point Road (CTH S).
- Construct Bike/Pedestrian Structures B-13-656 and B-13-657, and Retaining Wall R-13-219, if these structures were not constructed in Stage 2

Stage 4 Construction, approximately June 2014 to July 2014:

Place HMA pavement upper layer, complete signals, lighting, and place permanent pavement marking, landscaping, and signing.

Perform paving operations of the surface layer during Night Time Work Hours to minimize damage to joints caused by excessive traffic.

B Contractor Coordination

Hold prosecution and progress meetings once a week. The contractor's superintendent or designated representative and subcontractor's representatives for ongoing subcontract work or subcontractor work expected to begin within the next two weeks shall attend and provide a written schedule of the next week(s) operations. Include begin and end dates of specific prime and subcontractor work operations in the written schedule. Invite the department, FHWA, City of Madison, and Madison Metro Bus representatives to attend the prosecution and progress meetings. Provide an agenda for the meeting. Include in the agenda items a review of the contractor's schedule and subcontractors' schedule, evaluation of progress and pay items, and making revisions if necessary. Plans and specifications for upcoming work will be reviewed to prevent potential problems or conflicts between contractors.

Based on the progress meeting, if requested by the engineer, submit a new revised schedule within seven calendar days. Failure to submit a new schedule within seven days will result in the engineer holding pay requests until received.

Contact and coordinate with City of Madison for signal timing and phasing setup for temporary signals prior to the start of a traffic change or stage. City of Madison contact is Brian Smith (608) 261-9625.

Maintain access to all businesses and homes. Notify affected business owners or residents at least 3 days (72 hours) prior to restricting access. If a business has two driveways, keep one open while constructing the other. If a business has one driveway, construct one half at a time.

Notify City of Madison Police and Fire Departments at least 3 days (72 hours) in advance of any traffic stage changes or restriction. Ensure that emergency vehicles are provided access to all properties along the project at all times.

Submit any traffic control change requests to the engineer at least 3 days (72 hours) prior to an actual traffic control change.

C Pedestrian Access

Maintain existing sidewalk at all times, as shown on the plans, except under direction of the engineer. In areas of sidewalk construction, provide a temporary surface for pedestrian access at all times. Construct temporary surface meeting Americans with Disabilities Act Accessibility Guidelines (ADAAG) requirements and consisting of temporary asphaltic surface, any grade of concrete, skid resistant steel plating, or alternative material as approved by the engineer. Gravel or base course material is not acceptable. Maintaining sidewalk is considered incidental to the contract. Maintain sidewalk access to all businesses and residences at all times.

Maintain existing pedestrian movements crossing the construction zone at all intersections at all times as hereby noted. Construct pedestrian crossings of intersections meeting requirements of the Americans with Disabilities Act Accessibility Guidelines (ADAAG) and consisting of temporary asphaltic surface. Gravel or base course material is not acceptable. Maintain ADA accessible pedestrian walkways that are free from mud, sand, and construction debris. The Temporary Crosswalk Access bid item is payment for maintaining crosswalks through the construction zone where existing crosswalk exist. Any closures of sidewalk will be approved by the engineer. At locations where crosswalks crossing exist on both sides of the intersection, closure of one of the two crosswalks is permitted as long as all other crossings are completely open. At intersections where only one crosswalk exists, crossing work can be staged to maintain crosswalk at all times.

D Property Access

Maintain Access to all properties for local residents, businesses and emergency vehicles. Maintain and keep open the access to all driveways and parking lots where alternative access is not available at all times. Provide 72 hour notice to affected business or resident prior to closing a driveway. Provide proper traffic control to close any driveway that cannot be maintained.

E Definitions

The following definitions shall apply to this contract:

Peak Travel Periods:

6:00 AM to 9:00 AM Monday, Tuesday, Wednesday, Thursday, and Friday
3:00 PM to 6:00 PM Monday, Tuesday, Wednesday, Thursday, and Friday
9:00 AM to 7:00 PM Saturday

Off-Peak Hours:

9:00AM to 3:00 PM Monday, Tuesday, Wednesday, Thursday, and Friday
7:00 PM Saturday to 6:00 AM Monday

Night-Time Work Hours:

9:00 PM to 6:00 AM

F Lane Restriction or Lane Closure

The department will deduct \$500 per hour from payments due the contractor through Administrative Item 801.0104 Failing to Open Road to Traffic for every hour a lane restriction or lane closure is in effect past the following:

6:00 AM Monday, Tuesday, Wednesday, Thursday, and Friday

3:00 PM Monday, Tuesday, Wednesday, Thursday, and Friday

9:00 AM Saturday

A full hour deduction (\$500) will be assessed for any 15 minutes where lane restriction or lane closure remains in effect past the specified times.

The total deduction from monies due to the contractor will be summation of the separate reductions for each violation.

5. Traffic.

A General

Keep Mineral Point Road (CTH S), Junction Road, and South Junction Road (CTH M) open to through traffic at all times during the duration of this contract except as noted for roadway closures. Maintain traffic on Mineral Point Road (CTH S) at all times as specified below and shown on the plans except for a maximum of two nights during setting of girders at Bridge B-13-655, as described below. Maintain traffic on Mineral Point Road (CTH S), South Junction Road (CTH M) and Junction Road at all times as specified below and shown on the plans.

Pre-Stage 1 Traffic:

- **Mineral Point Road (CTH S):**

Maintain two westbound through lanes during peak hours from Junction Road to Beltline. Maintain two eastbound through lanes during peak hours from Junction Road to Beltline. Single lane operation per direction are limited to off peak hours during removal and repaving of existing medians and construction of temporary widening as indicated on the plans.

Construct 12'×4' Storm Sewer Box Culvert, C-13-3060, during peak and off-peak hours while maintaining two traffic lanes per direction with shifting of traffic lanes. Two small segments of this box needs to be constructed using night time work for two nights while maintaining one single lane per direction as shown on the plan.

Construct 60"×38" pipe during peak and off-peak hours while maintaining two traffic lanes per direction with shifting of traffic lanes. Two small segments of this pipe needs to be constructed using night time work for two nights while maintaining one single lane per direction as shown on the plan.

- **South Junction Road (CTH M) between Watts Road and Mineral Point Road (CTH S):**
Maintain two northbound through lanes during peak hours and one northbound through lane during off-peak hours. Maintain one southbound through lane during peak and off-peak hours.
- **Junction Road from Mineral Point Road (CTH S) to Isaac Drive:**
Maintain two northbound through lanes during peak hours and one northbound through lane during off-peak hours with the exception of the first 100-feet Station 459+00 to Station 460+00 where one lane will be maintained. Maintain two southbound through lanes during peak hours and one southbound through lane during off-peak hours.

Stage 1 Traffic:

- **Mineral Point Road (CTH S):**
Maintain four through lanes open to traffic at all times on Mineral Point Road (CTH S) between South Junction Road (CTH M) and the Beltline using existing roadways with lane shifting to the north side.

Maintain two through lanes (one per direction) open traffic at all times on Mineral Point Road (CTH S) between South Junction Road (CTH M) and Pleasant View Road.

Temporary two night time closures (9:00 PM to 6:00 AM) on Mineral Point Road (CTH S) will be allowed for placing girders for Bridge B-13-655.
- **South Junction Road (CTH M) between Valley View Road and Watts Road:**
Maintain one traffic lane per direction at all times. Traffic on this segment of South Junction Road (CTH M) will be using the existing two lane roadway.
- **South Junction Road (CTH M) between Watts Road and Mineral Point Road (CTH S):**
Shift Traffic on South Junction Road (CTH M) to the widening on the east side. Provide and maintain two traffic lanes (one per direction). Provide right turn lanes to driveways as shown on the plans. Provide an exclusive northbound right turn lane at the intersection of Mineral Point Road (CTH S).
- **Junction Road from Mineral Point Road (CTH S) to Isaac Drive:**
During southbound roadway construction, shift Junction Road traffic to the east side using existing northbound roadway, outside permanent widening, and temporary median widening. Maintain traffic lanes from Mineral point Road (CTH S) intersection to Isaac Drive as shown on the plans.

Sub-Stage 1A Traffic:

- Provide and maintain two southbound traffic lanes using newly constructed southbound elevated roadway and bridge.
 - Maintain one northbound through traffic lane by lane shifting to the outside.
 - Open northbound roadway to two through lanes immediately after constructing the west half of northbound roadway and median curb.
- **Junction Road and Mineral Point Road (CTH S) intersection:**
Configure and provide lanes at this intersection as shown on the traffic control plan. Provide additional turn lanes at the intersection of Mineral Point Road (CTH S) and South Junction Road (CTH M)/Junction Road as shown on the plans.

Stage 2 Traffic, Winter Suspension:

- **Mineral Point Road (CTH S):**
Provide the newly constructed eastbound roadway for the use by eastbound traffic on Mineral Point Road (CTH S) between Pleasant View Road Roundabout and the Beltline. Provide and maintain two eastbound traffic lanes from Pleasant View Road just west of the Jug Handle. Provide three through lanes from just west of the Jug Handle to the Beltline.

Provide the existing westbound roadway for the use by westbound traffic on Mineral Point Road (CTH S) between the Pleasant View Road Roundabout and the Beltline. Provide and maintain three westbound lanes between Junction Road and the Beltline. Provide and maintain two traffic lanes from Junction Road to Pleasant View Road.
- **South Junction Road (CTH M) between Watts Road and Valley View Road:**
Provide and maintain two southbound traffic lanes for southbound southbound traffic on South Junction Road (CTH M) using newly constructed southbound roadway.

Provide and maintain two northbound traffic lanes for northbound on South Junction Road (CTH M) using existing roadway.
- **South Junction Road (CTH M) between Watts Road and Mineral Point Road (CTH S):**
Provide the use of the newly constructed southbound elevated roadway and Bridge for southbound traffic on South Junction Road (CTH M). Provide and maintain two southbound through lanes from Mineral Point Road (CTH S) to north of Watts Road intersection. Provide a temporary or permanent signal at the Watts Road intersection.

Provide the use of the existing northbound roadway for northbound traffic on South Junction Road (CTH M). Provide and maintain two northbound traffic lanes north of Watts Road.

- **Junction Road from Mineral Point Road (CTH S) to Isaac Drive:**

Provide the use of the newly constructed southbound elevated roadway and Bridge for use by southbound traffic on Junction Road. Provide and maintain two southbound through lanes from Mineral Point Road (CTH S) to Isaac Drive. southbound traffic movements to westbound or eastbound Mineral Point Road (CTH S) will be required to use the newly constructed Jug Handle and make left or right at the new Mineral Point Road (CTH S) intersection with Jug Handle using a temporary signal.

Provide and maintain two through lanes for northbound traffic on Junction Road.

- **South Junction Road (CTH M) and Mineral Point Road (CTH S) at-grade intersection:**

Provide and configure lanes at the at-grade intersection as shown in the plans. westbound traffic will be using existing westbound roadway. eastbound traffic will be using newly constructed eastbound roadway. All southbound traffic will be required to use the elevated roadway and bridge. The south at-grade approach will be for northbound traffic only. Similarly the north at-grade approach will be for northbound traffic only. Left turns or right turns from the north leg will use the new elevated roadway and Jug Handle as outlined above.

Stage 3 Traffic:

- **Mineral Point Road (CTH S):**

Maintain two westbound through traffic lanes on Mineral Point Road (CTH S) between Pleasant View Road Roundabout and the Beltline by using the newly constructed eastbound roadway. Provide additional traffic turning lanes at the intersections. Maintain two eastbound through traffic lanes from just west of the Jug Handle and the Beltline. Maintain one eastbound traffic lane from the Pleasant View Road Roundabout to just west of the Jug Handle.

- **South Junction Road (CTH M) between Valley View Road and Watts Road:**

Provide the newly constructed southbound roadway for traffic use on this segment of South Junction Road (CTH M). Maintain two traffic lanes (one per direction). Provide a southbound left turn lane at the Watts Road intersection.

- **South Junction Road (CTH M) between Watts Road and Mineral Point Road (CTH S):**

Provide the use of the newly constructed southbound roadway and Bridge southbound for traffic on South Junction Road (CTH M). Provide two southbound through lanes to the Jug Handle ramp terminal on the elevated roadway and Bridge. Provide one single southbound lane between the ramp terminal and Watts Road. southbound traffic to Mineral Point Road (CTH S) will be required to use

the newly constructed Jug Handle and make left or right at the new Mineral Point Road (CTH S) intersection with Jug Handle having a temporary signal.

Northbound traffic will be provided one through lane in two sub-stages:

Stage 3A Traffic:

- Provide one northbound traffic lane by lane shifting towards the east side.

Stage 3B Traffic:

- Provide one northbound traffic lane by lane shifting towards the median.

- **Junction Road from Mineral Point Road (CTH S) to Isaac Drive:**

Maintain two northbound through traffic lanes and two southbound through traffic lanes shown in the traffic control plan.

- **South Junction Road (CTH M) and Mineral Point Road (CTH S) at-grade intersection:**

The configuration of lanes at this intersection is shown in the traffic control plan.

Stage 4 Traffic:

Traffic is using newly constructed permanent roadways. Temporary lane(s) closures will be allowed only during off-peak hours defined to be between 9:00 AM and 3:00 PM on weekdays. A maximum of one lane per roadway can be allowed to be closed during signals, landscaping, lighting, or signing work. A maximum of two lanes can be allowed to be closed for placing upper HMA pavement layer or for pavement marking provided a minimum of a single lane per roadway per direction is provided.

Designate local individual(s) responsible for access of local traffic, all emergency traffic and emergency traffic control repair. Provide the name and phone number of this individual to the engineer and all those who live or work within the limits of the project, the police and fire departments, and the post office.

Cover all conflicting signs as directed by the engineer. Use drums, temporary barrier or barricades to protect hazards in the work zone, such as exposed manholes or drop-offs for vehicles and pedestrians.

Maintain local vehicular access to driveways and side roads at all times through the construction period, including during storm sewer operations, removals, and grading operations. Provide local traffic safe access to their properties. Notify the engineer and property owner or residents if at any time access should be eliminated due to construction operations, at least 72 hours prior to the work beginning. Complete the work in a reasonable time and manner.

Conduct work operations in a manner that will cause the least interference to traffic and pedestrian movements.

Provide emergency vehicles with adequate access to all properties along the project at all times.

Do not park or store equipment or vehicles within 30 feet of the edge of any live traffic lane.

Post an alternate route using Pleasant View Road and Old Sauk Road at the start of construction.

B Vehicle and Pedestrian Access

Conduct work operations in a manner that will cause the least interference to traffic and pedestrian movements and access adjacent with and to the construction activities. Maintain vehicle and pedestrian access at all times to buildings within the limits of construction.

Maintain access to all businesses and homes. Notify affected business owners or residents at least 3 days (72 hours) prior to restricting access. If a business has two driveways, keep one open while constructing the other. If a business has one driveway, construct one half at a time unless alternative access is available.

Maintain access to all Metro and school bus stops within the project at all times.

Provide emergency vehicles with adequate access to all properties along the project at all times.

Maintain and move existing street name signs during all stages of construction.

C Lane Closures

Single lane operation may be permitted during Night-Time Work Hours or Off-Peak Hours for installation of storm sewer laterals and inlets and for connections to water main or sanitary sewer. If the contractor finds it necessary that other work operations require single lane operation, request written approval from the engineer. Include in the written approval request a detailed traffic control plan including marking and signing necessary to accomplish the work with the specific time frame for the requested activity. Submit written request one week before the possible start. The engineer will review and provide approval or denial within 2 days of the submittal date. Single lane operation may be permitted only during Night-time Work Hours or Off-Peak Hours for requested work activity. Restore disturbed pavement with Temporary Asphaltic Pavement. All lane closures must be done using an electronic arrow board.

D Night Closure

The contractor has the option to request closure during night time work hours for constructing Sanitary Sewer, Water Main, and Storm Sewer at South Junction Road (CTH M) at Mineral Point Road intersection. Provide written request to the engineer for approval. Include in the written approval request a detailed traffic control plan including optimal detour plan (included in the plan), marking and signing necessary to accomplish

the work within the specific time frame for the requested activity. Submit written request one week before the possible start. The engineer will review and provide approval or denial within 2 days of the submittal date.

E Advance Notification and Coordination

Notify City of Madison Police and Fire Departments at least 3 days (72 hours) in advance of any traffic stage changes or restriction.

Contact and coordinate with City of Madison for sign removal, signal timing and phasing setup for temporary and permanent signals.

Notify Madison Metro two weeks prior to construction. Notify one week prior to traffic switches, street closures, and reopening the road to through traffic for bus routing. Contact Tim Sobota at (608) 261-4289.

6. Holiday Work Restrictions.

Do not perform work on, nor haul materials of any kind along or across any portion of the highway carrying Mineral Point Road (CTH S), South Junction Road (CTH M) or Junction Road traffic, and entirely clear the traveled way and shoulders of such portions of the highway of equipment, barricades, signs, lights, and any other material that might impede the free flow of traffic during the following holiday periods:

- From noon Friday, May 24, 2013 to 6:00 AM Tuesday, May 28, 2013 for Memorial Day;
- From noon Friday, August 30, 2013 to 6:00 AM Tuesday, September 3, 2103 for Labor Day;
- From noon Friday, May 23, 2014 to 6:00 AM Tuesday, May 27, 2014 for Memorial Day;
- From noon Thursday, July 3, 2014 to 6:00 AM Monday, July 7, 2014 for Independence Day.

107-005 (20050502)

7. Utilities.

This contract does not come under the provision of Administrative Rule Trans 220.

107-065 (20080501)

Within the limits of this project there are underground cable, fiber optic and gas utility facilities and overhead power, cable TV and telecommunication lines. Use caution to ensure the integrity of underground and overhead utilities. Detailed information regarding the location of relocated utility facilities is in the plans provided by each utility company in order to receive permits. Contact Chris Petykowski at the City of Madison at 608-267-8678 to obtain this information.

Lightcore has underground fiber optic communication facilities in Mineral Point Road (CTH S) and along the east side of South Junction Road (CTH M). Conflicts are anticipated and they have plans for relocating their facilities for this project.

Station 110+00 – 128+50 – Lightcore has relocated fiber optic within south right-of-way corridor to back five feet (5') of the existing right-of-way. Placement included 2 – 1.25" inner ducts at a minimum depth of 42". This work has been completed.

Station 229+88 – 240+10 - Lightcore will replace communication facilities in this section. Replacement will be completed prior to road construction.

Station 415+84 - 432+00 - Lightcore will relocate facilities to west side of road within the utility easement. At station 415+84 Lightcore will cross the road and tie into existing facilities within east right-of-way corridor. Existing hand hole at station 415+84 will need to be raised during road construction and will take one day to complete. Contact Lightcore 1 week before the relocation is needed. This work will be completed prior to construction, except for the adjustment of the handhole.

Station 432+00 - 438+38 - Lightcore will place new fiber cable in existing duct in this section within east right-of-way corridor. This work will be completed prior to construction.

Station 438+27 – 438+38 - Lightcore will adjust existing conduit to provide clearance from proposed sewer. This work will need to be completed in conjunction with sewer construction and will take one day to complete. Contact Lightcore 1 week before the relocation is needed.

Station 437+27 - 451+64 - Lightcore will install new fiber cable in existing duct in this section within east right-of-way corridor. Use caution when sub-grading at the following locations: Station 447+00 to 447+31 and Station 444+00 to 444+29 and Station 440+40 to 441+50. This work will be completed prior to construction.

Station 451+64 South Junction Road (CTH M): A possible conflict with proposed storm sewer. Realignment during road construction may be required and will take one day to complete. Contact Lightcore 1 week before the relocation is needed.

Station 451+64 - 453+76 - Lightcore will install new fiber cable in existing duct in this section within east right-of-way corridor. This work will be completed prior to construction.

Station 452+30 – 453+76 - Lightcore will adjust existing conduit to provide clearance from proposed sewer and road construction. This work will need to be completed in conjunction with road/sewer construction and will take one day to complete. Contact Lightcore 1 week before the relocation is needed.

Station 452+30 - 457+56 - Lightcore will install new fiber cable in existing duct in this section within east right-of-way corridor. This work will be completed prior to construction.

Station 457+56 – 468+94 - Lightcore will replace communication facilities in this section. Replacement will be completed prior to road construction.

Alliant Energy (WP&L) has overhead and underground electric facilities along the south side of Mineral Point Road (CTH S) and both sides of South Junction Road (CTH M) from Mineral Point Road (CTH S) to Watts Road. Conflicts are anticipated and Alliant Energy intends to relocate all facilities within the new proposed right-of-way boundaries (with the following exceptions).

Mineral Point Road (CTH S) Area

Beginning at Station 116+00 on the south side on Mineral Point Road (CTH S): Alliant will splice the existing 25 kV electric feeder cable that is on private land and extend it to the new switchgear location at Station 124+00 also in private easement on the south side of road. At that location the feeder cable will split in two directions; one 25 kV going easterly within the construction limits under the proposed sidewalk crossing South Junction Road (CTH M) (deep directional bore under all proposed storm and sanitary sewers) continuing to Commerce Dr. then southerly along the easterly boundary of Commerce Dr. for approximately 100' where a switchgear will be placed. From that switchgear, Alliant will re-enter the south boundary of Mineral Point Road (CTH S) at Station 137+00 and continue easterly to Station 140+00 to an existing switchgear that is outside of the construction limits. The southerly 25 kV feeder cable from the switchgear at Station 124+00 will be installed on easement and will end near Station 346+00 on the south side of Watts Rd. on the west side of Junction Rd. Alliant also will have a new 14.4 kV distribution crossing at Station 124+00 from the switchgear going north to within 5' of the north right-of-way line then splitting east and west from that location to Station 121+00 (west) and Station 127+00 (east). All of this work has been completed.

At Station 139+00 Alliant has an existing feeder cable that crosses Mineral Point Road (CTH S) that feeds the Target area and Alliant will not know if this will need relocating or adjustment until road construction begins in that area. Alliant will work with the contractor at that time.

South Junction Road (CTH M) Area

Beginning at Station 344+00 on the east side of the road: Alliant will have a 14.4 kV electric distribution crossing from east to west. From that location on the east side of the road Alliant will be installing distribution facilities, again under the proposed sidewalk, going north to Station 457+00. From that point it will continue onto private property. All of this work has been completed.

Overhead lines and poles at 415+90 RT and 417+15 RT will either be relocated or the overhead line will be put underground prior to construction.

Charter Communications has underground and overhead communication and cable TV facilities along the south and north side of Mineral Point Road (CTH S) and both sides of South Junction Road (CTH M) from Mineral Point Road (CTH S) to Watts Road. The overhead facilities are using Alliant Energy poles. Conflicts are anticipated and they have plans for relocating any facilities for this project prior to construction.

Charter will relocate their line starting at Station 127+00 at the north right-of-way and head west along the north right-of-way to Station 119+75 where it will cross to the south right-of-way where it will split and run along the south right-of-way to the west project limits and east to the jug handle. From here it will follow the utility easement along the west side of the multiuse path to Station 341+75 where it will cross Junction Road to the east right-of-way. It will split here with one line crossing to the south side of Watts Road to connect with the existing system and the other line heading north along the east right-of-way of Junction Road to Station 457+75 and then east along the south right-of-way to Station 230+00 to the east project limits. All of this work has been completed.

Madison Gas and Electric (MG&E) has underground 8" steel high pressure (400 psi) and 4" PE 60 psi gas main and services along the north side of Mineral Point Road (CTH S) and both sides of South Junction Road (CTH M) from south project limits to Applewood Drive. The 8' line continues along the east side of South Junction Road (CTH M) to the north project limits. A 6" line runs along the west side of South Junction Road (CTH M) from Mineral Point Road (CTH S) to south of Watts Road. Conflicts are anticipated and they have plans for relocating facilities for this project. MG&E will relocate their north/south lines into the utility easement that runs along the west side of South Junction Road (CTH M) and the multiuse path. Their east/west lines will be relocated to within 10' of the northerly right-of-way of Mineral Point Road (CTH S). MG&E will also be relocating a 4" PE line along the east side of South Junction Road (CTH M) from Watts Rd north to Mineral Point Road (CTH S) then east along the south right-of-way to Commerce Dr. All of their relocations will be in a joint trench with Alliant Energy.

MG&E has relocated all lines north of Watts Road and will be relocating lines south of Watts Rd. prior to construction.

Many of the existing gas lines within the project limits will be abandoned. Contact MG&E before cutting into or removing any gas line that is encountered.

TDS Telecom has underground communication facilities along the south side of Mineral Point Road (CTH S) and east sides of South Junction Road (CTH M) from the south project limits to Applewood Drive then crosses to the west side and continues to the north project limit. Conflicts are anticipated and they have plans for relocating some facilities for this project prior to or following construction while some conflicts will need to be worked around.

Existing TDS facilities on the south side of Mineral Point Road (CTH S) from Station 110+00 to 219+00 will remain in place. TDS will use a joint utility trench with Alliant Energy from Station 219+00 to Station 240+30 on the south side of Mineral Point Road (CTH S). TDS will also be in a joint utility trench with Alliant Energy from Station 340+00 to Station 457+75 on the east side of South Junction Road (CTH M). TDS will include their facilities in the main joint utility trench on the west side of the multiuse trail west of South Junction Road (CTH M) from Mineral Point Road (CTH S) to the south end of project. This work has been completed, except for work south of Watts Road which will be completed prior to construction.

TDS will abandon in-place manholes at Station 128+80 (MH101), 135+25 (MH100) and up to, but not including Station 138+50 (MH99). TDS will relocate from MH99 to the north around the Target Pond and emerge along Junction Road at Station 461+75 then proceed north along the easterly side of the road to Isaac Drive. This work will be completed prior to construction.

Existing TDS buried facilities and above ground pedestals along the west side of South Junction Road (CTH M) will be required to be operational during the project. The pedestals have been relocated to their final location and placed on poles to planned finished grade and the cables have been spliced and brought to the new pedestals. The following facilities are those needing to be worked around:

- Station 312+25, 98' RT, TDS pedestal L5C-32/09.
- Station 315+75, 85' RT, TDS pedestal L5C-32/12.
- Station 316+42, 2' LT, TDS pedestal L5-34/13 and TDS pedestal L5C-36/12 130' RT, in addition a new cable will be required to complete service between these two pedestals with new construction.
- Station 324+85, 25' LT, TDS pedestal L5-38/21.
- Station 329+80, 15' LT, TDS pedestal L5-40/24 and L5-41/24 85' RT, replacement of both and a new facility across South Junction Road (CTH M) required.
- Station 339+65, 6' LT, TDS Pedestal L06C-40/08 and replacement of a facility east across South Junction Road (CTH M) along the south side of Watts Road.
- Station 341+65, 3' LT, TDS pedestal L06C-39/10 and replacement of a facility east across South Junction Road (CTH M) along the north side of Watts Road.

WMSN TV has underground television facilities within Mineral Point Road (CTH S). Conflicts are anticipated and they have plans for abandoning all facilities prior to construction. They will be going with a wireless system.

American Transmission Company (ATC) has overhead 345 kV and 69 kV electric transmission facilities along the south side of Mineral Point Road (CTHS) and the west side of the Beltline (USH 12 and 14). Conflicts are anticipated and they have plans for relocating some facilities for this project.

ATC has retired Structure 7 at 218+40, LT; Structure 8 at 221+05, LT; Structure 9 at 223+60, LT; Structure 10 at 225+70, LT; Structure 11 at 228+10, RT; Structure 12 at 230+05 RT; Structure 13 at 232+12, RT and the temporary 4 pole Structure 77 at 216+00, RT and has replaced them with a new overhead 69 kV line and Structure 121002 at 216+55, 57' RT; Structure 121003 at 220+25, 64' RT; Structure 121004 at 223+87, 93' RT; Structure 121005 at 227+00, 258' RT; Structure 121006 at 230+21, 58' RT; Structure 121007 at 232+10, 53' RT along the south side of Mineral Point Rd. and the jug handle. This work has been completed.

ATC has installed a new overhead 345 kV line along the west side of the Beltline which includes a pole at 239+50, LT. This power line and pole are not in conflict with the project and all work will be completed prior to construction.

Windstream has underground fiber optic communication facilities in the NE quadrant of US 12/14 and Mineral Point Road (CTH S) interchange. A ULO will be performed by the City of Madison in March 2013 to identify exact location of the facility around the proposed storm pipe under the beltline. Windstream will be on-site for the ULO and determine exact relocation limits if necessary. Relocation, if necessary, will be completed by May 17, 2013.

MUFN (Madison Unified Fiber Network) has underground fiber optic facilities within Mineral Point Road (CTHS) and the north side of Watts Road. Conflicts are anticipated and they have plans for relocating any facilities for this project.

MUFN will be abandoning all lines in Mineral Point Road (CTHS) and installing a 3" conduit with fiber optic line from the north side of Watts Road west across South Junction Road (CTH M) and then follow along the utility easement on the west side of the multiuse path to the north. At approximately 13+00 it will leave the utility easement and head west along an existing field road. All of this work has been completed.

City of Madison - Sanitary has sewer manholes, main and laterals within Mineral Point Road (CTH S) and the southern end of the project on South Junction Road (CTH M). Conflicts are anticipated and they have plans for relocating/adjusting existing facilities for this project.

Installation of new sanitary sewer will be part of this project. Install new 8" main on Applewood Drive and an 8" lateral at 319+00, 212+20, 216+19, 8" main from 450+73 to 454+91 and 15" main from 225+97 to 229+71 in accordance to the plans for Project 5992-08-89.

Adjust the manhole covers in accordance to the plans for Project 5992-08-89 at the following locations to match finished grades:

136+19, 43' LT
136+61, 39' LT
138+65, 41' LT
212+19, 2' RT
216+19, 4.5' LT
225+97, 15' LT
226+79, 27' RT
229+71, 28.5' RT
233+00, 46' RT
234+87, 78' RT
235+27, 23' RT
236+56, 33' RT
311+84, 6' RT
314+00, 5' LT
317+46, 5.5' LT
319+00, 5.5' LT
340+67, 98' LT
340+74, 7' LT
361+75, 24' LT
450+74, 5.5' LT
454+91, 9' LT
455+19, 41' RT
701+00, 4.5' RT
701+81, 0' LT

City of Madison - Water has main and services within Mineral Point Road (CTH S) and the east side of South Junction Road (CTH M). Conflicts are anticipated and they have plans for relocating and adjusting any facilities for this project.

Installation of new water main, services, hydrants and valves will be part of this project. Install new 8" main on Applewood Drive and 12" main from 412+54 to 432+15, 440+36 to 459+33, 109+96 to 129+34 and 16" main from 457+19 to 458+12, 228+38 to 230+18 in accordance to the plans for Project 5992-08-88.

Salvage hydrants from the following locations:

233+01, 12.7' RT
236+45, 8' RT
441+89, 43.5' RT
457+48, 42' RT

City forces have adjusted water valve boxes at the following locations:

218+77, 27' LT

219+02, 32' LT

221+77, 52' LT

225+29, 27' LT

City forces have relocated fire hydrants at the following location:

From 218+79, 17' LT to 218+84, 44' RT

From 221+77, 44' LT to 221+81, 57' RT

From 225+28, 17' LT to 225+42, 53' RT

City forces has installed new 10" water main, valves and hydrant on Temin Trail and 12" water main, valves and hydrant on the future Watts Road west of South Junction Road (CTH M) in conjunction with Project 5992-08-77. Connect to these systems during Project 5992-08-88.

8. Hauling Restrictions.

Conduct operations in a manner that will cause a minimum of inconvenience to the free flow of traffic on roadways carrying South Junction Road (CTH M), Mineral Point Road (CTH S) and Junction Road traffic at all times.

Use City of Madison designated truck routes for material haul roads as detailed in standard spec 618.

Equip all vehicles traveling on public roads, hauling materials or removals that are subject to spillage, by either wind or vibration, with tailgates and adequate sideboards. Use canvas covers and any other protective devices to prevent spillage as determined necessary by the engineer. Comply with all local ordinances.

Provide adequate deceleration lane (200 feet minimum) and taper (100 feet minimum) so that construction trucks can safely enter the work site without reducing speed to less than 25 MPH on Mineral Point Road (CTH S), South Junction Road (CTH M) or Junction Road. All construction vehicles and equipment entering or leaving live traffic lane(s) shall yield to through traffic.

9. Municipality Acceptance of Sanitary Sewer and Watermain Construction.

Both the department and City of Madison personnel will inspect construction of sanitary sewer and watermain under this contract. However, testing, and final acceptance of the sanitary sewer and watermain construction will be by the City of Madison.

10. Project Communication Enhancement Effort.

Use the Project Communication Enhancement Effort (PCEE) tools on this contract. Coordinate with the department to modify the various published tools as necessary to meet the particular project needs and determine how to implement those tools under the contract. Ensure the full participation of the contractor and its principal subcontractors throughout the term of the contract.

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

<http://roadwaystandards.dot.wi.gov/standards/admin/pcee-user-manual.doc>

105-005 (20090901)

11. Coordination with Businesses.

The contractor shall arrange and conduct a meeting between the contractor, the department, local officials and business people to discuss the project schedule of operations including vehicular and pedestrian access during construction operations. Hold the first meeting prior to the start of work under this contract and hold two meetings per month thereafter.

108-060 (20030820)

12. Public Convenience and Safety.

Revise standard spec 107.8(6) as follows:

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

107-001 (20060512)

13. Erosion Control.

Supplement standard spec 107.20 as follows:

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

Replace topsoil on graded areas, as directed by the engineer, immediately after grading is completed within those areas. Complete finishing operations, which includes seed, fertilizer, mulch and any other permanent erosion control measures required, within seven calendar days after the placement of topsoil.

There are erosion control devices installed previously under project 5992-08-77. Remove erosion control devices as directed by the engineer. Removal of erosion control devices are not measured separately and are considered incidental to other items in the contract.

14. Special Compaction.

A Description

Special compaction is required for the placement of all fill material including granular backfill material used in the construction of fill embankments of all mainline roadways within limits as shown in the plans and defined below. Special compaction is required for the placement of the 20-inch granular backfill material used in the subgrade improvement construction of all mainline roadways. Special compaction is also required for subgrades in cuts on all mainline roadways. Refer to QMP Subgrade article for quality control, testing, verification, corrective action, quality assurance, documentation, and other requirements.

Definitions:

Mainline Roadways:

- Eastbound and Westbound roadways of Mineral Point Road (CTH S).
- Northbound and Southbound roadways of South Junction Road (CTH M).
- Northbound and Southbound roadways of Southbound Junction Road.
- Jug Handle roadways.

Fill Embankments Horizontal Limits:

- Southbound South Junction Road (CTH M) from Station 347+00 to 356+87.
- Southbound Junction Road from Station 359+05 to 362+00.
- Jug Handle from Station 501+50 to 506+34.
- Fill embankments excludes those areas completed under project 5992-08-77 except for specified salvaged granular backfill as indicated in the plans.

Fill Embankments Vertical Limits:

- The entire depth of the fill embankment between retaining walls.
- The entire depth of the fill embankment below foundations of retaining walls and extending outward at 1:1 slope from the outside bottom of footings points.
- A 1:1 slope extending outward from subgrade shoulder points defined as 2 feet behind the back of curbs of the finished earth subgrade.
- The entire 20-inch depth of backfill granular on all mainline roadways.

Subgrade in Cuts, Limits:

- Eastbound and westbound roadways of Mineral Point Road (CTH S) except eastbound roadway from Station 110+00 to Station 128+00 constructed under project 5992-08-77.
- Northbound and southbound roadways of South Junction Road (CTH M) except southbound roadway of South Junction Road (CTH M) from Station 310+00 to 347+00 constructed under project 5992-08-77.
- Northbound roadway of Junction Road from Station 359+00 to 365+00.
- Southbound roadway of Junction Road from Station 362+00 to 365+00.

Subgrade Width in Cut sections:

- The width of finished earth subgrade in cut sections is equal to the width between shoulder points defined as 2 feet behind back of curbs.

B (Vacant)**C Construction**

Construct embankment fills and subgrade improvement in accordance with standard spec 207 and as hereby modified. Special compaction is required in accordance to standard spec 207.3.6.3 of the standard specification for all fill material including granular backfill material.

Delete standard spec 207.3.6.3 (4) and replace as follows:

For embankments of 6 feet or less high or for portions occurring within 200 feet of a bridge abutment or retaining wall, compact the full depth of the embankment to at least 95 percent of maximum dry density. For embankments over 6 feet in height, compact the material placed 6 feet below the finished subgrade to at least 95 percent of maximum dry density and backfill material placed more than 6 feet depth of the finished subgrade extending to natural ground or to excavation below subgrade limits to at least 95 percent of maximum dry density.

Delete standard spec 207.3.6.4 (2) and replace as follows:

Special compaction is required for this grading project on all mainline roadways, compact the finished earth subgrade in cut sections to the width described above and to a depth of at least 6 inches to at least 95 percent of maximum density. The engineer will determine the maximum density and attained density in the subgrade as specified for special compaction under standard spec 207.3.6.3.

Delete standard spec 207.3.10 (3) and replace as follows:

Special compaction is required, compact backfill material placed 6 feet or more below the finished subgrade to at least 95 percent of maximum density and backfill material placed within 6 feet of the finished subgrade to at least 95 percent of maximum density. For bridge approaches, compact as specified in standard spec 207.3.6.3 (4) modified above.

D Measurement

Modify standard spec 207.4(1) as follows:

The department will not directly measure work under this section including the special compaction requirement.

E Payment

Modify standard spec 207.5(1) as follows:

The department will not pay directly for work specified under this section including the special compaction requirement. This work is incidental to the roadway and drainage excavation, borrow, excavation for structures, granular backfill, granular backfill special, salvaged granular backfill, structure backfill sections, and other contract bid items. The work includes forming, compacting, special compaction, shaping, sloping, trimming, finishing, maintaining embankments, and all other incidental work required under this section.

15. Notice to Contractors – Topsoil.

Access to topsoil stockpiles that were created during construction of project 5992-08-77 is available as the supply for the contractor's use on this project only. Stockpiles are located south of Mineral Point Road (CTH S) at 219+00 and west of South Junction Road (CTH M) at 430+00. The volume of topsoil in both piles is estimated at 20,000 cubic yards.

If excess topsoil at the stockpile locations exists at the end of the project, grade these areas to blend with the surrounding terrain being sure to stay within the approved easements.

16. General Requirements for Electrical Work.

Replace standard spec 651.2 (2) with the following:

The approved products list is located at:

<http://www.dot.wisconsin.gov/business/engrserv/docs/ap2/electrical.pdf>

17. General Provisions for City Electrical Systems.

A General Requirements

Perform this work in accordance to the Wisconsin Electrical Code, National Electrical Contractor's Association (NECA) electrical construction practices, OSHA and the standard specifications.

Perform all work on the lighting and conduit/pull box system in accordance to the Wisconsin Electrical Code, and applicable provisions of standard spec 659, and these special provisions and plans.

Carefully remove and salvage the steel frames and covers from all pull boxes and manholes to be removed or abandoned, and all street light poles, arms, transformer bases, fixtures, concrete handholes, and associated equipment. Return all material designated to be saved to City Traffic Engineering, 1120 Sayle Street, Madison.

Complete electrical work by a journey-worker electrician or be completed by an electrical apprentice under the supervision of a journey-worker electrician. Legal status or standing as a journey-worker and apprentice electricians shall be certified or otherwise documented to the engineer before beginning any electrical work. Electrical work is hereby defined as electrical and related construction required to be performed under the contract by the contractor, in accordance to the standard specifications, contract provisions, standard detail drawings and plan details applicable to electrical construction.

At the pre-construction conference, supply the engineer with a list of names and qualifications of journey-workers and/or electrical apprentices who will or may be working on this contract.

Proof of qualification to do electrical journey-worker level work shall be the "Completion of Apprenticeship" certification card issued by an approved state agency, or a resume showing sufficient electrical education and a minimum of 14,000 hours of varied electrical work experience. All apprentices shall be indentured by an approved state agency.

Be advised that electrical apprentices must work under the terms of their indentures, which require an apprentice be under the direct supervision of a journeyworker with the exception of an apprentice in the final year as an apprentice. Any violation, or suspected violation, of these terms will be reported to the Bureau of Apprenticeship Standards.

On completion of the work, test the installation and ensure that it is entirely free of grounds and short circuits. This contract contemplates and intends a complete and operating installation of electrical work. Everything in the form of labor or material necessary for this result is in the intent of the contract.

It must be understood that electrical drawings and details are diagrammatic; they are not intended to be shop drawings. It is expected it may be necessary to move conduit, and/or equipment in some cases, to get a coordinated installation. Such changes are considered part of the contract obligation, without cost to the owner. Do not locate any equipment where its usefulness and/or operation may be affected by the work of other trades, door swing, counter, equipment, etc.

Acknowledge your acquaintance with the plans and specifications and their respective requirements, and shall guarantee the electrical system has been installed strictly in accordance to the electrical plans and specifications, using only the best of materials available and installed in a substantial manner by experienced labor. Replace and/or repair items failing from causes of faulty workmanship, material or design, without extra cost, at any time within 1 year from the date of final acceptance.

Furnish the City of Madison with service manuals for all items furnished under this contract. Service manuals shall be complete with drawings, diagrams, operation and installation instructions, and parts lists.

New streetlight wire in conduits shall consist of 3#4 and 1#8 green wires. The color coding for the #4 wire shall be one black, one red, and one white.

Ground wires shall have green insulation or be marked with green tape at all junction or pull boxes and at all terminations. Equipment and enclosures shall be grounded, ground connection surfaces shall be cleaned, and connections shall be made so it is impossible to move them.

All maintenance of existing street light facilities within the project limits shall be the contractor's responsibility. Maintain the new street lights until project work is accepted. This work shall be considered incidental to installation of street light units, temporary lighting, structures and ducts, and no separate compensation will be paid.

Extend existing lighting circuits to feed the new and relocated lights as part of this project. Verify the existing loads of each lighting circuit before adding additional load to a lighting circuit. Loading on any circuit shall not exceed NEC requirements.

Submit one copy of as-built plans, including cable and conduit routing diagrams, wiring of fixtures and other pertinent details, to the engineer and the City of Madison.

Furnish equipment and appliances necessary to test the complete installation of electrical conductors. Test and demonstrate to the satisfaction of the engineer that the circuits are properly connected, continuous and free from short circuits and unspecified grounds, that the circuits are connected in accordance to the manufacturer's wiring layout, and that each circuit is operational. The lighting system shall not be deemed complete until the electrical work has been completed and the electrical systems are found to be in proper working order, including operation for ten consecutive nights without failure.

B Materials

All materials furnished by the contractor for lighting installation under this contract are subject to approval by the engineer.

Manufacturers shall be responsible for providing materials listed by UL or other approved agencies and all governing codes and ordinances. Materials must bear a UL and/or other approved labels, where possible. Items specified by catalog number of brand name and shop drawing approval will not relieve the manufacturer of this responsibility. All electrical material for which a standard has been established by the Underwriters Laboratories, Inc. shall be furnished and installed under this contract. Material shall have the UL label firmly attached and be listed by UL Listing signifies that the material has passed the established standard testing. All electrical materials shall conform to the latest requirements of the Wisconsin Electrical Code.

All materials, not specified herein, used in the work shall conform to the requirements specified on the plan or the contract special provisions.

Furnish and install incidental items, such as wire nuts, grommets, tape, connectors, and electrical varnish that are obviously necessary to make the proposed system complete from the source of supply to the most remote unit.

Touch up mars and scratches on painted equipment with two coats of synthetic resin enamel or as directed by the engineer.

Furnish a complete list and cut sheets/shop drawings of materials to be furnished and used for lighting. Include the names and addresses of manufacturers, together with catalog numbers, certificates of compliance, specifications, and other product information requested by the engineer. Submit the list and cut sheets/shop drawings within 20 calendar days of the award of the contract. Do not incorporate any materials into the lighting system prior to obtaining the written approval of the engineer. Approval does not change the intent of the specifications. Do not substitute any materials. Two submittals of material for approval are allowed. If more than two submittals are required, the contractor will be charged on a time-and-material basis for additional review time with payment made before submittals will be reviewed.

C Splices

Splices shall comply with standard spec 659.3.2. All splices within a junction box, handhole, etc. shall be of the same type. No splices are allowed in underground pull boxes, except for grounding conductors.

D Circuit Identification

Accomplish color coding by using cable jackets of the proper color. Code all tails of all splices. Color-code secondary distribution circuits as shown on the plans; the ground conductor shall be green. Each accessible location of underground cable in junction boxes, pull boxes and pole bases shall have a permanent white nylon tag with black lettering, attached in a “flag” manner using a nylon tie, identifying the cabinet and conductor circuit number.

E Branch Circuit Tagouts

Work on live circuits at your option or you may disconnect and tag out circuits. Any branch circuit not disconnected and tagged out shall be considered live; restrict work force to those qualified to work on live circuits. Disconnection may be made by disconnecting branches at the overcurrent device. Make tagouts with contractor furnished manufactured electrical warning tags and endorse with the name of the contractor, the date, and the project. Clear all tagouts by the end of the workday.

F Threaded Fasteners

Liberal coat all threaded fasteners, i.e., screws, and bolts with an approved anti-seize compound. Excepting fasteners inside control cabinets, fasteners up to 1/2-inch in diameter shall be stainless steel.

Provide rust, corrosion and anti-seize protection at threaded assemblies by coating the mating surfaces with Markal (Hightemp E-Z Break), Never-Seez (marine grade), LPS 100, Lubriplate or approved equal.

G Bonding Wire

Install bonding wire in conduits for equipment grounding. Ground all equipment as required.

H Initial Failures

Agree on a time with the engineer for test burning of completed installations, which is generally toward the end of the contract period. Replace failed lamps, along with any other non-functioning component, for no additional compensation. Only one test burn for the purpose of identifying initial failures will be required. Coordinate supply of replacement lamps with the city.

I Project Construction Staging

The construction of the new lighting system shall maintain the integrity of the existing lighting systems within and beyond the project limits at all times. Exceptions to this shall only be granted for just cause by the inspector.

J Items of the Same Classification

All items of the same classification shall be of the same manufacturer and series.

L Underground Installation

Ensure that the engineer has inspected all underground conduit and concrete base forms before backfilling any trench or pouring concrete. Any work completed without such inspection is subject to rejection as unacceptable work and shall be immediately removed and acceptably replaced or otherwise satisfactorily corrected by and at the expense of the contractor. It is the contractor's responsibility to arrange for inspections. There will not be any additional compensation to the contractor for delays and inconvenience associated with arranging and waiting for inspections.

18. General Provisions for City Conduit Installation.

Supplement standard spec 652 as follows:

Use Schedule 80 conduit under all traffic areas.

Install all conduits at a minimum depth of 30 inches, unless otherwise approved by the engineer. Solvent weld all joints. Mark the location of each conduit, where conduit crosses traffic areas, by a permanent chiseled arrow or other appropriate permanent stamp in top of the curb head.

Install and connect all conduits to the concrete bases, manholes, handholes, existing conduit, or conduit elbows so as to provide a continuous network, unless otherwise indicated on the plan. All connections shall be watertight. Do not install drainage holes in

conduit. Uncover the ends or mid-sections of all existing conduit that is being extended by or incorporated into this project work.

When connections are to be made to an existing conduit, first verify that the existing conduit is fully clear and useable for its entire cross-section and length. When the existing conduit is found to be defective, notify the engineer and do not proceed until the engineer so directs. If the contractor connects to an existing defective conduit without the express direction from the engineer, make any and all necessary repairs and replacements to all conduits, including conduit that was “existing” prior to the contractor starting work and to the satisfaction of the engineer. All costs of this work shall be at the expense of the contractor.

Turn up conduits terminating in a non-paved location and not in a structure, and end at terrace finish grade with a PVC cap securely attached, per duct termination detail. Where conduit runs parallel to curb and gutter, place the conduit within 12 inches of the back of the curb, except as directed by the engineer. The engineer will determine termination points not within pull boxes or concrete bases.

Unless the contract provides for installation of cable, cap the ends of each run of conduit with standard conduit caps or otherwise appropriately plug the ends to preclude infiltration of water and soil. Install a pull wire in each conduit, except those with only streetlight wire. A pull wire shall be approximately 4 feet longer than the conduit run, and shall be doubled back for at least 2 feet at each terminal. The pull wire shall be #10 AWG copper, stranded, with THHN insulation and green color coding. Install the pull wire within seven days of completing a conduit installation from structure-to-structure.

Use a 6-inch minimum sand padding below the conduit and a 6-inch minimum sand lift above the conduit. Do not backfill trench with any rocks larger than 4 inches in diameter or any foreign debris.

19. General Provisions for City Traffic Signals.

Perform all work on the lighting and conduit/pull box system in accordance to the Wisconsin Electrical Code, the applicable provisions of the standard specifications, and these special provisions and plans.

The City of Madison will remove existing traffic signals and “signal only” poles when the temporary signals are in place at each intersection. Contact Michael Christoph at the City of Madison Traffic Engineering Shop, (608) 266-9031, to coordinate removal of existing signals and installation of new signals.

Remove existing streetlight poles identified for removal, including those that also have traffic signal equipment on them.

Each pedestrian push button installation shall include “Push Button for Walk Signal” signs. Single direction arrow signing shall also be used with all buttons except two direction arrow signing is needed for single buttons on median poles.

Interconnect to all traffic signals shall be maintained.

If existing conduits, handholes and bases designated as "save" cannot be saved. Contact Brian Smith, (608) 261-9625, for further direction.

All new electric services shall be metered power, 100 amperes, 120 volt.

A minimum of 6 feet separation shall be maintained between any adjacent loop detectors.

20. General Provisions for City Storm Sewer.

Contact Information:

City of Madison Engineering Division

Greg Fries

Phone: (608) 267-1199

E-mail: gfries@cityofmadison.com

Construct all round and elliptical shape storm sewers in accordance to the pertinent provisions of standard spec 608, standard spec 610 and standard spec 611 as shown on the plans, and as follows.

Prior to ordering drainage pipes and structures, verify related drainage information in the plan with the engineer. Include all information obtained from the bid item "Utility Line Opening" (ULO).

Seal the joints for reinforced concrete pipe with either mastic or internal rubber gaskets as described in standard spec 607.2.3 and standard spec 607.2.4. The use of mortar as a pipe joint method is prohibited.

Lay all round and elliptical shape storm sewers on a 6-inch minimum thick bed of Base Aggregate Dense Graded 1 1/4-Inch in accordance to standard spec 305.2.1 or when water is encountered, No. 1 coarse concrete aggregate in accordance to standard spec 501.2.5.4. Bedding for round and elliptical pipe shall be incidental to the installation costs of the round or elliptical pipe.

Dewatering trenches is included in the bid items for all storm sewer pipe installation.

Construct all inlets rectangular in shape. All structures shall be reinforced concrete. Concrete brick and block options are prohibited.

Construct all structures (manholes and inlets) on a 12-inch minimum thick bed of Base Aggregate Dense Graded 1 1/4-Inch in accordance to standard spec 305.2.1 or when water is encountered, No. 1 coarse concrete aggregate in accordance to standard spec 501.3.6.4.5, and as shown on the plans. Bedding for structures is included in the bid items for the installation of the structure.

Bid all structures (manholes and inlets) as field poured, and construct all structures as field-poured unless the contractor receives approval of the City of Madison design engineer to precast the structures. This approval will not be given until it can be confirmed that the proposed design will fit existing conditions, the precast specifications of the City of Madison that are available at <http://www.cityofmadison.com/business/pw/specs.cfm> and including possible utility conflicts. No precast approval will be authorized for any structure until such time as all ULO's that could affect the structure/structures in question have been completed and the City of Madison design engineer has had a minimum of three working days to review all the relevant information. Manholes and inlets shown as round in the plans may be field poured as either square or rectangular at the contractor's discretion.

Submit shop drawings for all precast structures to the City of Madison design engineer and the engineer. The city design engineer and engineer will have three days to approve or reject the shop drawings. Obtain written approval of shop drawings for all precast structures prior to delivery or use on construction site.

Do not use station and offset for inlet structures, as given on the storm plans, for final layout of the structure. Determine the curb line in the area of the inlet prior to pouring the inlet structure to assure proper location of the inlet relative to the curb line.

The costs to connect storm sewer to existing structures or pipes and the costs to plug pipes for future use including tapping the hole, placing the pipe and sealing the joint, furnishing and installing a plugging device as specified above, will be included in the unit price bid for the pipe of the type, class and diameter used. The cost for a concrete collar for storm sewer, where shown on the plans or directed by the engineer, will be paid for separately.

Carefully remove and stockpile all existing inlet, manhole, and catch basin covers that are not being adjusted and reused on the project at a location on the right-of-way outside the construction limits for pickup by City of Madison personnel. Contact Rennie Richardson, City of Madison Department of Public Works at (608) 267-1973 to schedule pickup. Payment for this is included in storm sewer bid items.

Remove from the right-of-way and dispose of all frames or grates and all other material that the city does not want.

21. General Provisions for City Sanitary Sewer.

Contact Information:

City of Madison Engineering Division

Mark Moder

Phone: (608) 261-9250

E-mail: mmoder@cityofmadison.com

Utility Standard Specifications: Perform work in accordance to these provisions and the State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction and the City of Madison Standard Specifications for Public Works Construction-Latest Edition. In the event of a conflict the Wisconsin Department of Transportation Standard Specifications will take precedence.

Work Sequence: Construct sanitary sewer main and laterals in stages to accordance with the traffic control plan.

Contractor shall provide bypass pumping of sanitary sewage to maintain sanitary sewer service when new Sewer Access Structures are being constructed over the existing mains.

Shop Drawings and Samples: Submit shop drawings and samples required in these Special Provisions and for the following:

- Sanitary Sewer Pipe Material
- Sanitary Sewer Access Structure Casting and Cover
- Sanitary Sewer Access Structure Internal Chimney Seal
- Precast Sanitary Sewer Access Structure

Responsibilities prior to submittal include:

- Review shop drawings and samples prior to submittal;
- Determine and verify field measurements, field construction criteria, catalog numbers and similar data, and conformance with specifications;
- Coordinate each submittal with requirements of work and of Special Provisions;
- Notify city engineer or city engineer's representative, in writing, at time of submittal of deviations in submittals from requirements of Special Provisions.

NOTE: Do not begin any fabrication or work, which requires submittals, until return of submittals with city engineer's or city engineer representative's approval.

Submittals shall contain:

- A. Date of submittal and dates of previous submittals.
- B. Project title and number.
- C. Contract identification.
- D. Names of contractor, supplier, and manufacturer.
- E. Identification of product, with identification numbers, and drawing and specification section numbers.
- F. Field dimensions clearly identified.

- G. Identification of details required on drawings and in specifications.
- H. Manufacturer and model number (give dimensions and provide clearances).
- I. Relation to adjacent or critical features or work or materials.
- J. Applicable standards, such as ASTM, and identification of deviations from contract documents.
- K. Identification of revisions on resubmittals.
- L. Eight-inch and three-inch blank space for contractor and city engineer stamps.
- M. Contractor's stamp, signed, certifying to review of submittal, verification of products, field measurement, field construction criteria, and coordination of information with submittal with requirements of work and Special Provisions.

Resubmittal requirements shall include:

- A. Corrections or changes in submittals required by civil engineer. Resubmittals are required until approved.
- B. Shop Drawings and Product Data: Review initial drawings or data and resubmit as specified for initial submittal. Indicate changes, which have been made other than those requested by city engineer.

Provide complete copies of required submittals as follows:

Shop Drawings:	Six copies
Test Results:	Three copies

Deliver required copies of submittals to Mark Moder, City of Madison, Department of Public Works, City-County Building, Room 115, 210 Martin Luther King Jr. Boulevard, Madison, Wisconsin 53710 and one copy to the engineer.

Protection of Sewers: Take adequate measures to prevent impairment of operation of existing sanitary sewer and storm sewer systems. Prevent construction material, concrete, earth, or other debris from entering sewer or sewer structure.

Divert sewage flow interfering with construction to sanitary sewers leading away from construction area. Prior to commencing excavation and construction, submit to city engineer for review, detailed plans, including routing and connections, required to handle

and dispose of sanitary wastes. By reviewing the plan, the city engineer neither accepts responsibility for adequacy thereof nor for damages to public or private property resulting there from, such responsibilities remain with contractor.

Sanitary sewer damaged or removed during construction, which is to remain in service, shall be restored or replaced to original material and workmanship used for original construction.

All Castings from removed and abandoned structures shall be delivered to City Engineering's Service Building (1602 Emil St.).

In accordance to the City of Madison Standard Specifications for Public Works Construction – Latest Addition, “Pipe to be removed that is in the same trench as a new pipe shall not be compensated as remove pipe and shall be considered to be part of the new pipe installation.”

22. General Provisions for City Water Main.

Contact Information:

City of Madison Water Utility

Dennis Cawley

Phone: (608) 261-9243

E-mail: dcawley@madisonwater.org

Utility Standard Specifications: Perform work in accordance to these provisions and the State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction and the City of Madison Standard Specifications for Public Works Construction-Latest Edition, hereinafter referred to as the *City Standard Specifications*. In the event of a conflict the Wisconsin Department of Transportation Standard Specifications will take precedence.

Work Sequence: As construction staging and sequence allows, disinfect the new water mains. The City Water Utility will flush and test all newly installed water mains. Coordinate as necessary with the City Water Utility for these operations. After the water main has passed bacteriological and pressure testing, install replacement water services and make connections to the existing water system.

Valves at connections of the new water main to the existing water main shall remain closed until the new water main has passed all testing. Where new valves need to be opened to fill the new water main for testing and flushing, sequencing shall be so arranged to preclude backflow of any water from the new water main to the existing water main.

Following the installation of replacement water services and the connection of replacement water main to the existing water main at locations noted on the plans, the existing water main shall be cut off; drained; open ends plugged or bulk-headed with concrete; and the pipe abandoned in place.

Station and offset, as given in the water main plans, for fire hydrants shall not be used exclusively for final layout of hydrants, or their associated tees and valves. The curb line, sidewalk limits, and confirmed existing utilities in the area of the hydrant shall be determined prior to the installation of the hydrant to assure the proper location of the hydrant relative to the curb line.

This project is located along a water system pressure boundary, separated by closed valves in various locations within the project limits. Verify with a Water Utility representative all such boundary valves prior to commencing work. These valves shall remain closed throughout construction unless otherwise instructed by the engineer.

Water main reconstruction through the Mineral Point Road (CTH S) / South Junction Road (CTH M) intersection will consist of several cut-in connections and strategic abandonment of existing water main, as shown on the plans. Any such work within this intersection may not commence until all of the new water main on South Junction Road (CTH M) between stations Station 412+00 and Station 433+00 has been installed and properly brought online in the system.

The plans indicate areas of water work to be completed in the Fall of 2012 by Water Utility forces. Portions of this work which are to be connected to the work under this contract, shall be filled, flushed, and tested with the rest of the water main segment that they are connected to. Any defects discovered in the portion of work by Water Utility forces as a result of this testing shall either be corrected by the Water Utility or reimbursed for correction, as directed by the engineer.

Existing Water Service Laterals: The horizontal location and size of all water laterals indicated on the plans is taken from surveys, approximate measurements, and the city's available records. These records are not guaranteed to be accurate in all cases and do not indicate at what depths these laterals are located. As such, determine the location and size of the existing laterals before making a tap into the new water main. Follow the plans to determine which services are to be abandoned, reconnected, extended, or replaced to the property line.

Location of Existing Facilities: The horizontal and vertical location and size of all existing water mains indicated on the plans is taken partially from surveys, approximate measurements, and the City's available records. These records are not guaranteed to be accurate in all cases. Due to the unverified depth and location of existing pipelines, alteration of the lines and grades shown on the plans for new pipelines where connections are to be made to existing pipelines may be necessary. Notify the engineer of locations where alterations of the lines and grades shown are necessary so that an acceptable solution can be determined.

23. Removing Buildings Parcel 4, Item 204.0235.01.

Include completion of the City of Madison's recycling and reuse plan prior to demolition activities and compliance report within 60 days of demolition as part of the lump sum price.

Information on details of the reporting can be found on the city's web page:

<http://www.cityofmadison.com/streets/recycling/demolition/demoPlan.cfm>

Contact Chris Petykowski, the city representative, at (608) 267-8678 to arrange a time to inspect the existing building prior to bidding.

24. Removing Stone Retaining Wall, Item 204.9105.S.01.

A Description

This special provision describes removing an existing dry stacked limestone retaining wall from approximately 450+20, RT to 451+40, RT in accordance to the pertinent provisions of standard spec 204 and as hereinafter provided.

B (Vacant)

C (Vacant)

D Measurement

The department will measure Removing Stone Retaining Wall as single lump sum unit of work, acceptably completed.

E Payment

Supplement standard spec 204.5 to include the following:

ITEM NUMBER	DESCRIPTION	UNIT
204.9105.S.01	Removing Stone Retaining Wall	LS
204-025 (20041005)		

25. Temporary Shoring, Item 206.6000.S.

A Description

This special provision describes designing and providing temporary shoring at locations the plans show.

B Materials

B.1 Shoring Design

Provide a shoring design for each location where the plan requires temporary shoring. Have a professional engineer, registered in the State of Wisconsin and knowledgeable of the specific site conditions and requirements, verify the adequacy of the design. Submit one copy of each shoring design, signed and sealed by the same professional engineer verifying the design, to the engineer for incorporation into the permanent project record.

C Construction

Provide temporary shoring at each required location conforming to the design developed for that location.

Remove the shoring when it is no longer needed unless the engineer allows it to remain in place. Backfill the space that is excavated but not occupied by the new permanent construction conforming to standard spec 206.3.13.

D Measurement

The department will measure Temporary Shoring by the square foot acceptably completed at locations the plans show, measured as the area of exposed face in the plane of the shoring from the ground line in front of the shoring to a maximum of one foot above the retained grade. Shoring used for staged construction in multiple configurations without removal and reinstallation will be measured once based on the configuration with the largest area of exposed face.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
206.6000.S.	Temporary Shoring	SF

Payment is full compensation for designing and providing shoring; for providing a signed and sealed copy of the design; and for backfilling and removing the shoring.

The department will not pay for temporary shoring, installed for contractor convenience, that is not required in the plans.

206-005 (20110615)

26. Field Facilities.

Provide, at a minimum, an additional 300 square feet of field office space to allow room for attendees at the weekly construction meeting. The overall dimension of the field office must be approximately 20 feet by 30 feet.

27. 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 subplot with any property outside the specification limits is nonconforming. The department may reject material or otherwise determine the final disposition of nonconforming material as specified in standard spec 106.5.

B Materials

B.1 Quality Control Plan

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

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

1. An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of QC personnel.

2. The process used to disseminate QC information and corrective action efforts to the appropriate persons. Include a list of recipients, the communication means that will be used, and action time frames.

3. A list of source and processing locations, section and quarter descriptions, for all aggregate materials requiring QC testing.

4. Test results for wear, sodium sulfate soundness, freeze/thaw soundness, and plasticity index of all aggregates requiring QC testing. Obtain this information from the region materials unit or from the engineer.

5. Descriptions of stockpiling and hauling methods.

6. Locations of the QC laboratory, retained sample storage, and where control charts and other documentation is posted.
7. An outline for resolving a process control problem. Include responsible personnel, required documentation, and appropriate communication steps.

B.2 Personnel

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

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

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

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

B.3 Laboratory

- (1) Perform QC testing at a department-qualified laboratory. Obtain information on the Wisconsin laboratory qualification program from:
Materials Management Section
3502 Kinsman Blvd.
Madison, WI 53704
Telephone: (608) 246-5388
<http://www.dot.state.wi.us/business/engrserv/lab-qualification.htm>

B.4 Quality Control Documentation

B.4.1 General

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

B.4.2 Records

- (1) Document all placement observations, inspection records, and control adjustments daily in a permanent field record. Also include all test results in the project records. Provide test results to the engineer within 6 hours after obtaining a sample. For 3-inch

base, extend this 6-hour limit to 24 hours. Post or distribute tabulated results using a method mutually agreeable to the engineer and contractor.

B.4.3 Control Charts

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

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

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

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

B.5 Contractor Testing

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

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

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

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

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

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

B.6 Test Methods

B.6.1 Gradation

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

Gradation AASHTO T 27

Material finer than the No. 200 sieve AASHTO T 11

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

- (3) Maintain a separate control chart for each sieve size specified in standard spec 305 or 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)

28. QMP Subgrade.

A Description

- (1) This special provision describes requirements for subgrade materials, including backfill granular, within the roadway foundation as defined in standard spec 101.3. Conform to standard spec 207 as modified in this special provision for all work within the roadway foundation at the locations the plans show. Refer to Special Compaction article for the special compaction requirement, definitions, limits of roadways, and other requirements.
- (2) Provide and maintain a quality control program. A quality control program is defined as all activities, including process control inspection, sampling and testing, and necessary adjustments in the process that are related to the construction of subgrade which meets all the requirements of this provision.
- (3) Chapter 8 of the department's construction and materials manual (CMM) provides additional detailed guidance for QMP work and describes sampling and testing procedures. The contractor may obtain the CMM from the department's web site at:
<http://roadwaystandards.dot.wi.gov/standards/cmm/index.htm>

B Materials

B.1 Quality Control Plan

- (1) Submit a comprehensive written quality control plan to the engineer at or before the pre-construction meeting. Do not perform grading work before the engineer reviews and accepts the plan. Construct the project as the plan provides.
- (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 the contractor's laboratory as changes are adopted. Ensure that the plan provides the following elements:
1. An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of QC personnel.
 2. The process used to disseminate QC information and corrective action efforts to the appropriate persons. Include a list of recipients, the communication process that will be used, and action time frames.
 3. An outline for resolving a process control problem. Include responsible personnel, required documentation, and appropriate communication steps.
 4. Location of the QC laboratory, retained sample storage, and control charts and other documentation.

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

B.2 Personnel

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

B.3 Laboratory

- (1) Perform quality control testing in 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.4 Equipment

- (1) Furnish the necessary equipment and supplies for performing quality control testing. Ensure that all testing equipment conforms to the equipment specifications applicable to the required testing methods. The engineer may inspect the measuring and testing devices to confirm both calibration and condition. Calibrate all testing equipment according to the CMM and maintain a calibration record at the laboratory.
- (2) Furnish nuclear gauges from the department's approved product list at <http://www.atwoodsystems.com/materials>. Ensure that the gauge manufacturer or an approved calibration service calibrates the gauge within 12 months before using it on the project. Retain a copy of the calibration certificate with the gauge.
- (3) Conform to ASTM D 2950 and CMM 8.15 for density testing and gauge monitoring methods. Perform nuclear gauge measurements using gamma radiation in the backscatter or direct transmission position. Perform each test for 4 minutes of nuclear gauge count time.

B.5 Soil Source Study

- (1) Conduct and submit a soil source study or a study of source of material used in producing backfill granular from natural sources or a study of available stockpiles intended for use in backfill granular before beginning of grading operations. Ensure that this study identifies each distinct soil type on the project within the top 15 feet of cut areas and all borrow material. Provide the in-bank natural moisture content for each soil or stockpile. Develop moisture-density curves for each identified soil type by utilizing AASHTO T 99 with a minimum of 5 individual points, and a zero air

voids curve at a specific gravity of 2.65. Determine the maximum density and corresponding optimum moisture level for each soil type. Develop a site-specific family of Proctor curves for this contract from the completed soil source study and submit to the engineer for review and acceptance.

- (2) Perform characterization tests on each of the soil types selected for the soil source study. The tests include AASHTO T 89, AASHTO T 90, AASHTO T 27, and AASHTO T 11. Classify each soil type selected according to the AASHTO soil classification system based on the characterization tests. Do not begin grading operations until the engineer accepts the soil source study.
- (3) Use the soil types identified in the soil source study with corresponding maximum densities and optimum moisture values to determine the compaction compliance on the project. Continue the soil source study in those areas of cuts greater than 15 feet that were not accessible during the initial study. Include data on additional soil types if project conditions change. Ensure that tests of additional soil types are complete and the engineer accepts the results before incorporating the material into the roadway foundation.
- (4) Split each Proctor sample and identify so as to provide comparison with the department's test results. Unless the engineer directs otherwise, retain the QC split samples for 14 calendar days and promptly deliver the department's split samples to the department at:
Materials Management Section
3502 Kinsman Blvd.
Madison, Wisconsin 53704
- (5) Retain and identify 2 representative samples of each Proctor. Submit one sample to the engineer. Retain one sample on site for use when performing textural identification.

B.6 Quality Control Documentation

B.6.1 Control Charts

- (1) Maintain separate control charts for the field density and field moisture content of each grading area. Designate grading areas within the project as follows:
 1. Embankment portions of the project, except within 200 feet of bridge abutments.
 2. Embankment within 200 feet of bridge abutments.
 3. Subgrade cut portions of the project.
 4. Embankment in pipe culvert trenches.
 5. Structure and granular backfill placed at bridge abutments.
 6. Granular backfill placed between retaining walls.
- (2) Ensure that all tests are recorded and become part of the project records. Plot required test results on the control charts. Include random and engineer-requested testing but only include the contractor's randomly selected QC test results in the 4-point running

- average. The contractor may plot other contractor-performed process control or informational tests on the control charts, but do not include them in 4-point running averages.
- (3) Post control charts in an engineer-approved location and update daily. Ensure that the control charts include the project number, the test number, each test element, the applicable control limits, the contractor's individual test results, the running average of the last 4 data points, and the engineer's quality verification test data points. Use the control charts as part of a process control system for identifying potential problems and assignable causes. Format control charts according to the CMM.
 - (4) Submit control charts to the engineer in a neat and orderly manner within 10 business days after completing subgrade construction.

B.6.2 Records

- (1) Document all observations, inspection records, adjustments to fill placement procedures, soil changes, and test results daily. Note the results of the observations and inspection records as they occur in a permanent field record.
- (2) Provide copies of the field density and field moisture running average calculation sheets, the one-point Proctor tests, records of procedure adjustments, and soil changes to the engineer daily.
- (3) Submit original testing records to the engineer in a neat and orderly manner within 10 business days after completing subgrade construction.

B.7 Contractor Testing

B.7.1 General

- (1) Have a grading technician certified under HTCP at level I present during all subgrade fill placement, compaction, and testing. Have a nuclear density technician certified under HTCP at level I perform the testing for field density and field moisture content. During subgrade construction, use sampling and testing methods identified in the CMM to perform the required tests at randomly selected locations at the indicated minimum frequency for each grading area.
- (2) Determine the cubic yards for testing based on a total load count system the engineer and contractor agree to.
- (3) For each test, provide the cubic yards represented and the test location to within 2 feet horizontally and 0.5 feet vertically.

B.7.2 Field Density and Field Moisture

- (1) Perform the field density and field moisture tests using the nuclear density meter method according to AASHTO T 310. Ensure that each field density test material is related to one of the specific soil types identified in the soil source study in determining the percent compaction. Use textural identification as the primary method of establishing this relationship. Utilize the representative samples retained

from the soil source study when performing the textural identification. Use a coarse particle correction according to AASHTO T 224.

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

B.7.3 One-Point Proctor

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

B.7.4 Testing Frequency

B.7.4.1 Subgrade Embankment

- (1) Perform the required tests at the following frequencies:

Test	Minimum Frequency
Field Density & Moisture (AASHTO T 310)	One per 1,000 cubic yards.
One-Point Proctor (AASHTO T 272)	One per 6,000 cubic yards.

B.7.4.2 Subgrade Embankment Within 200 Feet of Bridge Abutments

- (1) Perform the required tests at the following frequencies:

Test	Minimum Frequency
Field Density & Moisture (AASHTO T 310)	One per 1,000 cubic yards.
One-Point Proctor (AASHTO T 272)	One per 6,000 cubic yards.

B.7.4.3 Subgrade Cut

- (1) Perform the required tests at the following frequencies:

Test	Minimum Frequency
Field Density & Moisture (AASHTO T 310)	One per cut area. One per 500 linear feet per roadway.

B.7.4.4 Subgrade Embankment in Culvert Pipe Trenches

- (1) Perform the required tests at the following minimum frequencies:

Test	Minimum Frequency
Field Density & Moisture (AASHTO T 310)	One per trench. For pipes larger than 40-inch diameter, 2 per trench on different lifts.
One-Point Proctor (AASHTO T 272)	One per 3,000 cubic yards.

B.7.4.5 Structure and Granular Backfill at Bridge Abutments

- (1) Perform the required tests at the following minimum frequencies:

Test	Minimum Frequency
Field Density & Moisture (AASHTO T 310)	2 per abutment on different lifts.
One-Point Proctor (AASHTO T 272)	One per 3,000 cubic yards.

B.7.5 Compaction Zones

B.7.5.1 Subgrade Embankment

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

B.7.5.2 Subgrade Embankment Within 200 Feet of Bridge Abutments

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

B.7.5.3 Subgrade Cut

- (1) Subgrade material in cut areas is subject to the quality controls for upper zone material.

B.7.5.4 Subgrade Embankment in Culvert Pipe Trenches

- (1) Material placed within culvert pipe trenches is subject to the quality controls for the zone that the material is located in.

B.7.5.5 Structure and Granular Backfill at Bridge Abutments

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

B.7.6 Control Limits

B.7.6.1 Field Density

- (1) The lower control limit for field density measurements in the upper zone is a minimum of 95% of the maximum dry density as determined by AASHTO T 99 or T 272 for the 4-point running average and a minimum of 93% of the maximum dry density for any individual test.

- (2) The lower control limit for field density measurements in the lower zone is a minimum of 95% of the maximum dry density as determined by AASHTO T 99 or T 272 for the 4-point running average and a minimum of 93% of the maximum dry density for any individual test.

B.7.6.2 Field Moisture Content

- (1) The upper control limit for the field moisture content in the upper and lower zones is 105% of the optimum moisture as determined by AASHTO T 99 or T 272 for the 4-point running average.
- (2) The lower control limit for the field moisture content in the upper and lower zones is 75% of the determined optimum moisture for the 4-point running average. There is no lower control limit for the field moisture of material having less than 5% passing the No. 200 sieve.

B.7.7 Corrective Action

- (1) Notify the engineer if an individual field density test falls below the individual test control limit. The subgrade in this area is unacceptable. Perform corrective actions, acceptable to the engineer, to improve the density of the subgrade material. After corrective action, perform a randomly located retest within the represented quantity to ensure that the material is acceptable.
- (2) Notify the engineer if the field density or field moisture running average point falls below the running average control limit for field density or outside the control limits for field moisture. The subgrade in this area is unacceptable. Perform corrective actions, acceptable to the engineer, to improve the quality of the material represented by the running average point. Retest each corrected area at a new random location within its represented quantity and determine a new 4-point running average. If the new running average is not acceptable, perform further corrective actions and retest at new random locations.
- (3) If the contractor's control data is proven incorrect resulting in a field density or field moisture point falling below the control limit for field density or outside the control limits for field moisture, the subgrade is unacceptable. Employ the methods described above for unacceptable material.

B.8 Department Testing

B.8.1 General

- (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 verification and independent assurance personnel for the project.

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

B.8.2 Verification Testing

- (1) The department will have an HTCP technician, or ACT under the direction of a certified technician, perform QV sampling and testing. Department verification testing personnel must meet the same certification level requirements specified for contractor testing personnel for each test being verified. The department will notify the contractor before testing so the contractor can observe QV testing.
- (2) The department will test field density and field moisture randomly at locations independent of the contractor's QC work. The department will use split samples for verification of Proctor testing. In all cases, the department will conduct the verification tests in a separate laboratory and with separate equipment from the contractor's QC tests.
- (3) The department will perform verification testing as follows:
 1. The department will conduct verification tests on Proctor split samples taken by the contractor. These samples may be from the Soil Source Study or the one-point Proctor or sample locations chosen by the engineer from anywhere in the process. The minimum verification testing frequency is one per 30,000 cubic yards, with at least one for each soil type identified in the Soil Source Study.
 2. The department will test the first split sample obtained by the contractor for the one-point Proctor. The engineer may select any contractor-retained sample for verification testing.
 3. The department will conduct at least one verification test for field density and field moisture per 10,000 cubic yards.
- (4) Plot verification tests on the contractor's quality control charts as specified in B.6.1. Do not include verification tests in the 4-point running average.
- (5) If verification tests are within specified control limits, no further action is required. If verification tests are not within specified control limits, the engineer and contractor will jointly investigate any testing discrepancies. The investigation may include additional testing as well as review and observation of both the department's and contractor's sampling and testing procedures and equipment. Both parties will document all investigative work.
- (6) Correct all deficiencies. If the contractor does not respond to an engineer request to correct a deficiency or resolve a testing discrepancy, the engineer may suspend grading work until action is taken. Resolve disputes as specified in B.9.

B.8.3 Independent Assurance Testing

- (1) Independent assurance is unbiased testing the department performs to evaluate the department's verification and the contractor's QC sampling and testing including personnel qualifications, procedures, and equipment. The department will perform the independent assurance review according to the department's independent assurance program, which may include one or more of the following:
 1. Split sample testing.
 2. Proficiency sample testing.
 3. Witnessing sampling and testing.
 4. Test equipment calibration checks.
 5. Reviewing required worksheets and control charts.
 6. Requesting that testing personnel perform additional sampling and testing.
- (2) Plot the independent assurance tests on the contractor's quality control charts as specified in B.6.1. Do not include independent assurance tests in the 4-point running average.
- (3) If the department identifies a deficiency, and after further investigation confirms it, correct that deficiency. If the contractor does not correct or fails to cooperate in resolving identified deficiencies, the engineer may suspend grading work until action is taken. Resolve disputes as specified in B.9.

B.9 Dispute Resolution

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

B.10 Acceptance

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

C (Vacant)

D (Vacant)

E Payment

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

29. QMP Ride; Incentive IRI Ride, Item 440.4410.S.

A Description

- (1) This special provision describes profiling pavements with a non-contact profiler, locating areas of localized roughness, and determining the International Roughness Index (IRI) for each wheel path segment.
- (2) Profile the final riding surface of all mainline pavements, bridges, approaches, and railroad crossings. Roundabouts, and pavements within 150 feet of the points of curvature of roundabout intersections, are excluded from the testing requirements of this provision.
- (3) Pavements that are excluded from localized roughness according to C.5.2(1), bridges, and roundabout intersections are subject to engineer-directed straightedging according to the standard specifications. All other surfaces being tested under this provision are exempt from straightedging requirements.

B (Vacant)

C Construction

C.1 Quality Control Plan

- (1) Submit a written quality control plan to the engineer at or before the pre-construction conference. Ensure that the plan provides the following elements:
 1. An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of all quality control personnel.
 2. The process by which quality control information and corrective action efforts will be disseminated to the appropriate persons. Include a list of recipients, the communication means that will be used, and action time frames.
 3. The methods and timing used for monitoring and/or testing ride quality throughout the paving process.
 4. The evaluation process that will be used to make improvements to the construction operations if poor ride quality is found during the process control testing.
 5. The methods that will be used to ensure a smooth pavement transition when matching into existing surfaces such as bridges, bridge approaches, or railroad crossings.
 6. The segment locations of each profile run used for acceptance testing.
 7. The approximate timing of acceptance testing in relation to the paving operations.

C.2 Personnel

- (1) Have a profiler operator, certified under the department's highway technician certification program (HTCP), operate the equipment, collect the required data, and document the results using the methods taught in the HTCP profiling course.

C.3 Equipment

- (1) Furnish a profile-measuring device capable of measuring IRI from the list of department-approved devices published on the department's web site:
<http://roadwaystandards.dot.wi.gov/standards/qmp/index.htm>
- (2) Unless the engineer and contractor mutually agree otherwise, arrange to have a calibrated profiler available when paving the final riding surface. Calibrate the profiler according to the manufacturer's recommendations. Provide the engineer with a copy of the most recent calibration results, signed by the certified profiler operator.
- (3) Perform daily calibration verification of the profiler using test methods according to the manufacturer's recommendations. Notify the engineer prior to performing the calibration verification. If the engineer requests, arrange to have the engineer observe the calibration verification and operation. Maintain records of the calibration verification activities, and provide the records to the engineer upon request.

C.4 Testing

C.4.1 Run and Reduction Parameters

- (1) Enter the equipment-specific department-approved filter settings and parameters listed on the department's ride web site.

C.4.2 Contractor Testing

- (1) Operate profilers within the manufacturer's recommended speed tolerances. Perform all profile runs in the direction of travel. Measure the longitudinal profile of each wheel track of each lane. The wheel tracks are 6.0 feet apart and centered in the traveled way of the lane.
- (2) Coordinate with the engineer to schedule profile runs for acceptance. The department may require testing to accommodate staged construction or if corrective action may be required.
- (3) Measure the profiles of each standard or partial segment. Define primary segments starting at a project terminus and running contiguously along the mainline to the other project terminus. Field-locate the beginning and ending points for each profile run. When applicable, align segment limits with the subplot limits used for testing under the QMP Concrete Pavement specification. Define segments one wheel path wide and distinguished by length as follows:
 1. Standard segments are 500 feet long.
 2. Partial segments are less than 500 feet long.

- (4) Treat partial segments as independent segments.
- (5) The department will categorize each standard or partial segment as follows:

Segments with a Posted Speed Limit of 55 MPH or Greater	
Category	Description
HMA I	Asphalt pavement with multiple opportunities to achieve a smooth ride. The following operations performed under this contract are considered as opportunities: a layer of HMA, a leveling or wedging layer of HMA, and diamond grinding or milling of the underlying pavement surface.
HMA II	Asphalt pavement with a single opportunity to achieve a smooth ride.
HMA III	Asphalt pavement segments containing any portion of a bridge, bridge approach, railroad crossing, or intersection. An intersection is defined as the area within the points of curvature of the intersection radii.
PCC II	Concrete pavement including all gaps.
PCC III	Concrete pavement segments containing any portion of a bridge, bridge approach, railroad crossing, or intersection. An intersection is defined as the area within the points of curvature of the intersection radii.

Segments with Any Portion Having a Posted Speed Limit Less Than 55 MPH	
Category	Description
HMA IV	Asphalt pavement including intersections, bridges, approaches, and railroad crossings.
PCC IV	Concrete pavement including gaps, intersections, bridges, approaches, and railroad crossings.

C.4.3 Verification Testing

- (1) The department may conduct verification testing (QV) to validate the quality of the product. A certified HTCP profiler technician will perform the QV testing. The department will provide the contractor with a listing of the names and telephone numbers of all verification personnel for the project.
- (2) The department will notify the contractor before testing so the contractor can observe the QV testing. Verification testing will be performed independent of the contractor's QC work using separate equipment from the contractor's QC tests. The department will provide test results to the contractor within 1 business day after the department completes the testing.
- (3) The engineer and contractor will jointly investigate any testing discrepancies. The investigation may include additional testing as well as review and observation of both the department's and contractor's testing procedures and equipment. Both parties will document all investigative work.
- (4) If the contractor does not respond to an engineer request to resolve a testing discrepancy, the engineer may suspend production until action is taken. Resolve disputes as specified in C.6.

C.4.4 Documenting Profile Runs

(1) Compute the IRI for each segment and analyze areas of localized roughness using the ProVAL software. Within 5 business days after completing a final acceptance profile run, submit a copy of the ProVAL smoothness assurance report showing the IRI for each segment and the areas of localized roughness exceeding an IRI of 175 in/mile. The ProVAL software and department-specified inputs are available on the department's web site:

<http://roadwaystandards.dot.wi.gov/standards/qmp/index.htm>

(2) As part of the profiler software outputs and ProVAL reports, document the areas of localized roughness and the locations of individual features including construction joints, structure limits, design features, utility fixtures, and other features that might affect the department's evaluation of ride quality. Field-locate the areas of localized roughness prior to the engineer's assessment for corrective actions.

(3) Within 5 business days after completing profiling of the pavement covered under this special provision, unless the engineer and contractor mutually agree to a different timeline, submit the electronic ProVAL project file containing the .ERD files for each profiler acceptance run. Submit profile data using the department's Materials Reporting System (MRS) software available on the department's web site:

<http://www.atwoodsystems.com/mrs>

C.5 Corrective Actions

C.5.1 General

(1) Correct the ride as the engineer directs. The department will independently assess whether a repair will help or hurt the long-term pavement performance and/or public perception of the ride before deciding on corrective action.

C.5.2 Corrective Actions for Localized Roughness

(1) Apply localized roughness requirements to all pavements, including HMA III, PCC III, HMA IV, and PCC IV; except localized roughness requirements will not be applied to pavements within 25 feet of the following surfaces if they are not constructed under this contract: bridges, bridge approaches, or railroad crossings. The department may direct the contractor to make corrections to the pavement within the 25-foot exclusionary zones and will compensate the contractor for the extra work.

(2) The engineer will review each individual wheel track for areas of localized roughness. The engineer will assess areas of localized roughness that exceed an IRI of 175 in/mile and do one of the following for each location:

1. Direct the contractor to correct the area to minimize the effect on the ride.
2. Leave the area of localized roughness in place with no pay reduction.
3. Except for HMA IV and PCC IV segments, assess a pay reduction as follows for each location in each wheel path:

Localized Roughness IRI (in/mile)	Pay Reduction ^[1] (dollars)
> 175	(Length in Feet) x (IRI – 175)

[1] A maximum \$250 pay reduction may be assessed for locations of localized roughness that are less than or equal to 25 feet long. Locations longer than 25 feet may be assessed a maximum pay reduction of \$10 per foot.

(3) The engineer will not direct corrective action or assess a pay reduction for an area of localized roughness without independent identification of that area as determined by physically riding the pavement. For corrections, use only techniques the engineer approves.

(4) Re-profile corrected areas to verify that the IRI is less than 140 in/mile after correction. Submit a revised ProVAL smoothness assurance report for the corrected areas to validate the results.

C.5.3 Corrective Actions for Excessive IRI

(1) If an individual segment IRI exceeds 140 in/mile for HMA I, HMA II, and PCC II pavements after correction for localized roughness, the engineer may require the contractor to correct that segment. Correct the segment final surface as follows:

HMA I:	Correct to an IRI of 60 in/mile using whichever of the following methods the engineer directs: Mill and replace the full lane width of the riding surface excluding the paved shoulder. Correct the full lane width using techniques approved by the engineer.
HMA II:	Correct to an IRI of 85 in/mile using whichever of the following methods the engineer directs: Mill and replace the full lane width of the riding surface excluding the paved shoulder. Correct the full lane width using techniques approved by the engineer.
PCC II:	Correct to an IRI of 85 in/mile using whichever of the following methods the engineer directs: Continuous diamond grinding of the full lane width of the riding surface including adjustment of the paved shoulders Correct the full lane width using techniques approved by the engineer.

(2) Re-profile corrected segments to verify that the final IRI meets the above correction limits and there are no areas of localized roughness. Submit a revised ProVAL smoothness assurance report for the corrected areas to validate the results. Segments failing these criteria after correction are subject to the engineer's right to adjust pay for non-conforming work under standard spec 105.3.

C.6 Dispute Resolution

(1) The engineer and contractor should make every effort to avoid conflict. If a dispute between some aspect of the contractor's and the engineer's testing program does occur, seek a solution mutually agreeable to the project personnel. The department and

contractor may review the data, examine data reduction and analysis methods, evaluate testing procedures, and perform additional testing.

(2) If the project personnel cannot resolve a dispute and the dispute affects payment or could result in incorporating nonconforming pavement, the department will use third party testing to resolve the dispute. The department's Quality Assurance Unit, or a mutually agreed on independent testing company, will provide this testing. The engineer and contractor will abide by the results of the third party tests. The party in error will pay service charges incurred for testing by an independent tester. The department may use third party tests to evaluate the quality of questionable pavement and determine the appropriate payment.

D Measurement

(1) The department will measure Incentive IRI Ride by the dollar, adjusted as specified in E.2.

E Payment

E.1 Payment for Profiling

(1) Costs for furnishing and operating the profiler, documenting profile results, and correcting the final pavement surface are incidental to the contract.

E.2 Pay Adjustment

(1) The department will pay incentive for ride under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
440.4410.S	Incentive IRI Ride	DOL

(2) Incentive payment is not limited, either up or down, to the amount the schedule of items shows.

(3) The department will administer disincentives for ride under the Disincentive IRI Ride administrative item.

(4) The department will not assess disincentive on HMA III or PCC III segments. Incentive pay for HMA III and PCC III segments will be according to the requirements for the category of the adjoining segments.

(5) The department will adjust pay for each segment based on the initial IRI for that segment before any corrective action is taken. The department will base disincentives on the IRI after correction for pavement meeting the following conditions:

All Pavement:	The corrective work is performed in a contiguous, full lane width section 500 feet long, or a length as agreed with the engineer.
HMA Pavements:	The corrective work is a mill and inlay or full depth replacement and the inlay or replacement layer thickness conforms to standard spec 460.3.2.
Concrete Pavements:	The corrective work is a full depth replacement and conforms to standard spec 415.

- (6) The department will adjust pay for 500-foot long standard segments nominally one wheel path wide using equation “QMP 1.03” as follows:

HMA I	
Initial IRI (inches/mile)	Pay Adjustment^[1] (dollars per standard segment)
< 30	250
≥ 30 to <35	$1750 - (50 \times \text{IRI})$
≥ 35 to < 60	0
≥ 60 to < 75	$1000 - (50/3 \times \text{IRI})$
≥ 75	-250

HMA II and PCC II	
Initial IRI (inches/mile)	Pay Adjustment^{[1] [2]} (dollars per standard segment)
< 50	250
≥ 50 to < 55	$2750 - (50 \times \text{IRI})$
≥ 55 to < 85	0
≥ 85 to < 100	$(4250/3) - (50/3 \times \text{IRI})$
≥ 100	-250

HMA IV and PCC IV	
Initial IRI (inches/mile)	Pay Adjustment^{[1] [2]} (dollars per standard segment)
< 50	250
≥ 50 to < 75	$750 - (10 \times \text{IRI})$
≥ 75	0

^[1] If the engineer directs placing upper layer asphaltic mixtures between October 15 and May 1 for department convenience as specified in standard spec 450.3.2.1(5), the department will not adjust pay for ride on pavement the department orders the contractor to place when the temperature, as defined in standard spec 450.3.2.1(2), is less than 36 F.

^[2] If the engineer directs placing concrete pavement for department convenience, the department will not adjust pay for ride on pavement the department orders the contractor to place when the air temperature falls below 35 F.

- (7) The department will prorate the pay adjustment for partial segments based on their length.

440-010 (20100709)

30. Expansion Device, B-13-656 and B-13-657.

A Description

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

B Materials

The minimum thickness of the polychloroprene strip seal shall be 1/4-inch for non-reinforced elastomeric glands and 1/8-inch for reinforced glands. Furnish the strip seal gland in lengths suitable for a continuous one-piece installation at each individual expansion joint location. Provide preformed polychloroprene strip seals that conform to the requirements ASTM D3542, and have the following physical properties:

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

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

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

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

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

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

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

Manufacturer's certifications for adhesive and steel shall attest that the materials meet the specification requirements.

502-020 (20110615)

31. QMP HMA Pavement Nuclear Density.

A Description

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

- (1) This special provision describes density testing of in-place HMA pavement with the use of nuclear density gauges. Conform to standard spec 460 as modified in this special provision.
- (2) Provide and maintain a quality control program defined as all activities and documentation of the following:
 1. Selection of test sites.
 2. Testing.
 3. Necessary adjustments in the process.
 4. Process control inspection.
- (3) Chapter 8 of the department's construction and materials manual (CMM) provides additional detailed guidance for QMP work and describes required procedures. Obtain the CMM from the department's web site at:
<http://roadwaystandards.dot.wi.gov/standards/cmm/index.htm>
- (4) The department's Materials Reporting System (MRS) software allows contractors to submit data to the department electronically, estimate pay adjustments, and print selected reports. Qualified personnel may obtain MRS software from the department's web site at:
<http://www.atwoodsystems.com/mrs>

B Materials

B.1 Personnel

- (1) Perform HMA pavement density (QC, QV) testing using a HTCP certified nuclear technician I, or a nuclear assistant certified technician (ACT-NUC) working under a certified technician.
- (2) If an ACT is performing sampling or testing, a certified technician must coordinate and take responsibility for the work an ACT performs. Have a certified technician ensure that all sampling and testing is performed correctly, analyze test results, and post resulting data. No more than one ACT can work under a single certified technician.

B.2 Testing

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

B.3 Equipment

B.3.1 General

- (1) Furnish nuclear gauges from the department's approved product list at <http://www.dot.wisconsin.gov/business/engrserv/approvedprod.htm>.
- (2) Have the gauge calibrated by the manufacturer or an approved calibration service within 12 months of its use on the project. Retain a copy of the manufacturer's calibration certificate with the gauge.
- (3) Prior to each construction season, and following any calibration of the gauge, the contractor must perform calibration verification for each gauge using the reference blocks located in the department's central office materials laboratory. To obtain information or schedule a time to perform calibration verification, contact the department's Radiation Safety Officer at:
Materials Management Section
3502 Kinsman Blvd.
Madison, Wisconsin 53704
Telephone: (608) 243-5998

B.3.2 Correlation of Nuclear Gauges

B.3.2.1 Correlation of QC and QV Nuclear Gauges

- (1) Select a representative section of the compacted pavement prior to or on the first day of paving for the correlation process. The section does not have to be the same mix design.
- (2) Correlate the 2 or more gauges used for density measurement (QC, QV). The QC and QV gauge operators will perform the correlation on 5 test sites jointly located. Record each density measurement of each test site for the QC, QV and back up gauges.
- (3) Calculate the average of the difference in density of the 5 test sites between the QC and QV gauges. Locate an additional 5 test sites if the average difference exceeds 1.0 lb/ft³. Measure and record the density on the 5 additional test sites for each gauge.
- (4) Calculate the average of the difference in density of the 10 test sites between the QC and QV gauges. Replace one or both gauges if the average difference of the 10 tests exceeds 1.0 lb/ft³ and repeat correlation process from B.3.2.1 (2).
- (5) Furnish one of the QC gauges passing the allowable correlation tolerances to perform density testing on the project.

B.3.2.2 Correlation Monitoring

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

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

(3) Check each gauge on the project reference site a minimum of one test per day if paving on the project. Calculate the difference between the gauge's daily test result and its reference value. Investigate if a daily test result is not within 1.5 lb/ft³ of its reference value. Conduct 5 additional tests at the reference site once the cause of deviation is corrected. Calculate and record the average of the 5 additional tests. Remove the gauge from the project if the 5-test average is not within 1.5 lb/ft³ of its reference value established in B.3.2.2(2).

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

B.4 Quality Control Testing and Documentation

B.4.1 Lot and Sublot Requirements

B.4.1.1 Mainline Traffic Lanes, Shoulders, and Appurtenances

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

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

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

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

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

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

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

Table 1

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

- (1) A lot represents a combination of the total daily tonnage for each layer and target density.
- (2) Each side road, crossover, turn lane, ramp, and roundabout must contain at least one subplot for each layer.
- (3) If a side road, crossover, turn lane, or ramp is 1500 feet or longer, determine sublots and random test locations as specified in B.4.1.1.
- (4) If a side road, crossover, turn lane, or ramp is less than 1500 feet long, determine sublots using a maximum of 750 tons per subplot and perform the number of random tests as specified in Table 2.

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

Table 2

B.4.2 Pavement Density Determination

B.4.2.1 Mainline Traffic Lanes and Appurtenances

- (1) Calculate the average subplot densities using the individual test results in each subplot.
- (2) If all subplot averages are no more than one percent below the target density, calculate the daily lot density by averaging the results of each random QC test taken on that day's material.
- (3) If any subplot average is more than one percent below the target density, do not include the individual test results from that subplot when computing the lot average density and remove that subplot's tonnage from the daily quantity for incentive. The tonnage from any such subplot is subject to disincentive pay according to standard spec 460.5.2.2.

B.4.2.2 Mainline Shoulders

B.4.2.2.1 Width Greater Than 5 Feet

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

B.4.2.2.2 Width of 5 Feet or Less

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

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

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

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

B.4.2.4 Documentation

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

B.4.3 Corrective Action

- (1) Notify the engineer immediately when an individual test is more than 3.0 percent below the specified minimum in standard spec 460.3.3.1. Investigate and determine the cause of the unacceptable test result.
- (2) The engineer may require unacceptable material specified in B.4.3(1) to be removed and replaced with acceptable material or allow the nonconforming material to remain in place with a 50 percent pay reduction. Determine limits of the unacceptable area by measuring density of the layer at 50-foot increments both ahead and behind the point of unacceptable density and at the same offset as the original test site. Continue testing at 50-foot increments until a point of acceptable density is found as specified in standard spec 460.5.2.2(1). Removal and replacement of material may be required if extended testing is in a previously accepted subplot. Testing in a previously accepted subplot will not be used to recalculate a new lot density.
- (3) Compute unacceptable pavement area using the product of the longitudinal limits of the unacceptable density and the full subplot width within the traffic lanes or shoulders.
- (4) Retesting and acceptance of replaced pavement will be according to standard spec 105.3.
- (5) Tests indicating density more than 3.0 percent below the specified minimum, and further tests taken to determine the limits of unacceptable area, are excluded from the computations of the subplot and lot densities.
- (6) If 2 consecutive subplot averages within the same paving pass and same target density are more than one percent below the specified target density, notify the engineer and take necessary corrective action. Document the locations of such sublots and the corrective action that was taken.

B.5 Department Testing

B.5.1 Verification Testing

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

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

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

(4) If the verification subplot average is more than one percent below the specified target density, compare the QC and QV subplot averages. If the QV subplot average is within 1.0 lb/ft³ of the QC subplot average, use the QC tests for acceptance.

(5) If the first QV/QC subplot average comparison shows a difference of more than 1.0 lb/ft³ each tester will perform an additional set of tests within that subplot. Combine the additional tests with the original set of tests to compute a new subplot average for each tester. If the new QV and QC subplot averages compare to within 1.0 lb/ft³, use the original QC tests for acceptance.

(6) If the QV and QC subplot averages differ by more than 1.0 lb/ft³ after a second set of tests, resolve the difference with dispute resolution specified in B.6. The engineer will notify the contractor immediately when density deficiencies or testing precision exceeding the allowable differences are observed.

B.5.2 Independent Assurance Testing

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

B.6 Dispute Resolution

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

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

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

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

B.7 Acceptance

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

C (Vacant)

D (Vacant)

E Payment

E.1 QMP Testing

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

E.2 Disincentive for HMA Pavement Density

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

E.3 Incentive for HMA Pavement Density

(1) Delete standard spec 460.5.2.3.

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

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

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

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

(5) Submit density results to the department electronically using the MRS software. The department will validate all contractor data before determining pay adjustments.
460-020 (20100709)

32. Precast Concrete Box Culvert, 6 FT x 3 FT, Item 504.2000.S.01; Precast Concrete Box Culvert, 12 FT x 4 FT, Item 504.2000.S.02.

A Description

This special provision describes furnishing and installing precast concrete box culverts of the size and length shown on the plans, and in accordance to the requirements of the standard specifications and as hereinafter provided.

B Materials

Provide materials and fabricate Precast Concrete Box Culvert in accordance to Precast Reinforced Concrete Box Sections for Culverts, Storm Drains and Sewers AASHTO Designation M259 or ASTM C1433, except that the concrete mixture shall contain not less than 565 pounds of Portland cement, blended cement or Portland cement plus pozzolanic admixture per cubic yard. Slab thickness, areas of reinforcement, and other details shall be as shown on the plans.

C (Vacant)

D Measurement

The department will measure Precast Concrete Box Culvert, 6 FT x 3 FT and Precast Concrete Box Culvert, 12 FT x 4 FT, completed in accordance to the contract and accepted, in length by the linear foot in place. The box culvert will be measured on the centerline of the box along the flow line.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
504.2000.S.01	Precast Concrete Box Culvert, 6 FT x 3 FT	LF
504.2000.S.02	Precast Concrete Box Culvert, 12 FT x 4 FT	LF

Payment is full compensation for furnishing, hauling and placing the box, including joint ties, and mastic.

504-015 (20040415)

33. **Concrete Staining Multi-Color R-13-208, Item 517.1015.S.01; Concrete Staining Multi-Color R-13-209, Item 517.1015.S.02; Concrete Staining Multi-Color R-13-210, Item 517.1015.S.03; Concrete Staining Multi-Color R-13-211, Item 517.1015.S.04; Concrete Staining Multi-Color R-13-212, Item 517.1015.S.05; Concrete Staining Multi-Color R-13-213, Item 517.1015.S.06; Concrete Staining Multi-Color R-13-214, Item 517.1015.S.07; Concrete Staining Multi-Color R-13-215, Item 517.1015.S.08; Concrete Staining Multi-Color R-13-216, Item 517.1015.S.09; Concrete Staining Multi-Color R-13-217, Item 517.1015.S.10; Concrete Staining Multi-Color R-13-218, Item 517.1015.S.11; Concrete Staining Multi-Color R-13-219, Item 517.1015.S.12; Concrete Staining Multi-Color B-13-656, Item 517.1015.S.13; Concrete Staining Multi-Color B-13-657, Item 517.1015.S.14.**

A Description

Furnish and apply a multi-color concrete stain to the exposed concrete surfaces of the structure, as detailed in the plans and as hereinafter provided.

B Materials

B.1 Mortar

Use mortar for sack rubbing the concrete surfaces as given in standard spec 502.3.7.5 or use one of the following products:

Preblended, Packaged Type II Cement:	Tri-Mix by TK Products
	Thorseal Pearl Gray by Thoro Products

The mortar shall contain one of the following acrylic bonding admixtures mixed and applied in accordance to manufacturer's recommendations:

Acrylic Bonding Admixture:	TK-225 by TK Products
	Achro 60 by Thoro Products
	Achro Set by Master Builders

B.2 Concrete Stain

Use concrete stain manufactured for use on exterior concrete surfaces. Use the following products, or equal as approved by the department:

Tri-Sheen Concrete Surfacer, Smooth by TK Products
Tri-Sheen Acrylic by TK Products
TK-1450 Natural Look Urethane Anti-Graffiti Primers by TK Products
Safe-Cure and Seal EPX by Chem Masters
H + C Shield Plus by Sherwin-Williams

C Construction

C.1 General

Furnish, prepare, apply, cure, and store all materials in accordance to the product manufacturer's specifications for the type and condition of application required.

Match or exceed the stain manufacturer's minimum recommended curing time of the concrete or 28 days, whichever is greater, prior to staining.

C.2 Preparation of Concrete Surfaces

Provide a sack rubbed finish in accordance to standard spec 502.3.7.5, using mortar as indicated above on concrete surfaces with open voids or honeycombing.

Following the sack rubbing, clean all concrete surfaces that are to be coated to ensure that the surface is free of all laitance, dirt, dust, grease, efflorescence, and any foreign material and that the surface will accept the coating material according to product requirements. As a minimum, clean the surface using a 3000-psi water blast. Hold the nozzle of the water blaster approximately 6 inches from the concrete surface and move it continuously in a sweeping motion. Give special attention to smooth concrete surfaces to produce an acceptable surface texture. Correct any surface problems resulting from the surface preparation methods. Grit blasting of the concrete surface is not allowed.

C.3 Staining Concrete Surfaces

Apply the concrete stain in accordance to the manufacturer's recommendations.

Apply the concrete stain when the temperature of the concrete surface is 45° F or higher, or as given by the manufacturer.

The color of the staining shall produce a multi-color effect that consists of multiple colors replicating varying natural stone coloration. Stain the joints between stones produced by the form liner to create the appearance of grouted joints.

Do not begin staining the structure until earthwork operations are completed to a point where this work can begin without receiving damage. Where this work is adjacent to exposed soil or pavement areas, provide temporary covering protection from overspray or splatter.

C.4 Test Areas

Prior to applying stain to the structure, apply the stain to sample panels measuring a minimum of 48-inches x 48-inches construct the panels to demonstrate workmanship in the use of the form liner specified on the structure. Match or exceed the stain manufacturer's minimum recommended curing time of the concrete or 28 days, whichever is greater, prior to staining. Submit color samples to the department prior to staining the sample panels. Prepare the concrete surfaces of the sample panels and apply stain using the same materials and in the same manner as proposed for the structure, including staining of the joints between stones produced by the form liner. Do not apply stain to the structure until the department approves the test panels.

C.5 Surfaces to be Coated.

Apply concrete stain to the surfaces in accordance to the plan.

D Measurement

The department will measure Concrete Staining Multi-Color (Structure) in area by the square foot of surface, acceptably prepared and stained.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
517.1015.S.01	Concrete Staining Multi-Color R-13-208	SF
517.1015.S.02	Concrete Staining Multi-Color R-13-209	SF
517.1015.S.03	Concrete Staining Multi-Color R-13-210	SF
517.1015.S.04	Concrete Staining Multi-Color R-13-211	SF
517.1015.S.05	Concrete Staining Multi-Color R-13-212	SF
517.1015.S.06	Concrete Staining Multi-Color R-13-213	SF
517.1015.S.07	Concrete Staining Multi-Color R-13-214	SF
517.1015.S.08	Concrete Staining Multi-Color R-13-215	SF
517.1015.S.09	Concrete Staining Multi-Color R-13-216	SF
517.1015.S.10	Concrete Staining Multi-Color R-13-217	SF
517.1015.S.11	Concrete Staining Multi-Color R-13-218	SF
517.1015.S.12	Concrete Staining Multi-Color R-13-219	SF
517.1015.S.13	Concrete Staining Multi-Color B-13-656	SF
517.1015.S.14	Concrete Staining Multi-Color B-13-657	SF

Payment is full compensation for furnishing and applying the coloring system; for preparing the concrete surface; and for constructing and staining the sample panels.

517-115 (20100709)

34.	Architectural	Surface	Treatment	B-13-655,	Item	517.1050.S.01;
	Architectural	Surface	Treatment	B-13-656,	Item	517.1050.S.02;
	Architectural	Surface	Treatment	B-13-657,	Item	517.1050.S.03;
	Architectural	Surface	Treatment	C-13-2054,	Item	517.1050.S.04;
	Architectural	Surface	Treatment	R-13-208,	Item	517.1050.S.05;
	Architectural	Surface	Treatment	R-13-209,	Item	517.1050.S.06;
	Architectural	Surface	Treatment	R-13-210,	Item	517.1050.S.07;
	Architectural	Surface	Treatment	R-13-211,	Item	517.1050.S.08;
	Architectural	Surface	Treatment	R-13-212,	Item	517.1050.S.09;
	Architectural	Surface	Treatment	R-13-213,	Item	517.1050.S.10;
	Architectural	Surface	Treatment	R-13-214,	Item	517.1050.S.11;
	Architectural	Surface	Treatment	R-13-215,	Item	517.1050.S.12;
	Architectural	Surface	Treatment	R-13-216,	Item	517.1050.S.13;

**Architectural Surface Treatment R-13-217, Item 517.1050.S.14;
Architectural Surface Treatment R-13-218, Item 517.1050.S.15;
Architectural Surface Treatment R-13-219, Item 517.1050.S.16.**

A Description

Construct a concrete masonry architectural surface treatment on the exposed concrete surfaces of the structure, as detailed in the plans and as hereinafter provided.

B Materials

Use form liners that attach easily to the forming system, and do not compress more than 1/4-inch when poured at a rate of 10 vertical feet/hour.

Use a release agent that is compatible with the form liner and coloring materials.

Wall ties shall have set "break-backs" at a minimum of 3/4-inches from the finished concrete surface.

C Construction

C.1 Equipment

Equipment and tools necessary for performing all parts of the work shall be satisfactory as to design, capacity, and mechanical condition for the purposes intended. Repair, improve, replace, or supplement all equipment that is not maintained in full working order, or which is proven inadequate to obtain the results prescribed.

C.2 Form Liner Preparation

Clean the form liner prior to each pour and ensure that it is free of any build-up. Visually inspect each liner for blemishes or tears, and repair if necessary per manufacturer's recommendations.

Apply form release per manufacturer's recommendations.

C.3 Form Liner Attachment

Place adjacent liners less than 1/4-inch from each other, attach liner securely to forms in accordance to the manufacturer's recommendations, and coordinate wall ties with form liner and form manufacturer, e.g., diameter, size, and frequency.

C.4 Surface Finishing

Ensure that the textured surface is free of laitance; sandblasting is not permitted.

Grind or fill pouring blemishes.

D Measurement

The department will measure Architectural Surface Treatment (Structure) in area by the square foot of architectural surface 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
517.1050.S.01	Architectural Surface Treatment B-13-655	SF
517.1050.S.02	Architectural Surface Treatment B-13-656	SF
517.1050.S.03	Architectural Surface Treatment B-13-657	SF
517.1050.S.04	Architectural Surface Treatment C-13-2054	SF
517.1050.S.05	Architectural Surface Treatment R-13-208	SF
517.1050.S.06	Architectural Surface Treatment R-13-209	SF
517.1050.S.07	Architectural Surface Treatment R-13-210	SF
517.1050.S.08	Architectural Surface Treatment R-13-211	SF
517.1050.S.09	Architectural Surface Treatment R-13-212	SF
517.1050.S.10	Architectural Surface Treatment R-13-213	SF
517.1050.S.11	Architectural Surface Treatment R-13-214	SF
517.1050.S.12	Architectural Surface Treatment R-13-215	SF
517.1050.S.13	Architectural Surface Treatment R-13-216	SF
517.1050.S.14	Architectural Surface Treatment R-13-217	SF
517.1050.S.15	Architectural Surface Treatment R-13-218	SF
517.1050.S.16	Architectural Surface Treatment R-13-219	SF

Payment is full compensation for producing the proposed architectural surface treatment including: preparing the foundation; finishing and protecting the surface treatment; and for properly disposing of surplus material.

517-150 (20110615)

35. Wall Modular Block Gravity, Item 532.0200.S.

A Description

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

B Materials

B.1 Proprietary Modular Block Gravity Wall Systems

The department specifies approved modular block gravity wall products on the department's approved products list.

Proprietary wall systems may be used for this work, but must conform to the requirements of this specification and be pre-approved for use by the departments' Bureau of Structures, Structures Development Section. The name of the companies supplying pre-approved material shall be furnished within 25 days after the award of contract. The department maintains a list of pre-approved systems of retaining walls. To be eligible for use on this project, a system must have been pre-approved and added to that list prior to the bid opening date.

Applications for pre-approval may be submitted at any time. Applications must be prepared in accordance to the requirements of chapter 14 of the department's Bridge manual. Information and assistance with the pre-approval process can be obtained by contacting the Structures Development Section in Room 601 of the Hill Farms State Transportation Building in Madison or by calling (608) 266-8494.

B.2 Design Requirements

It is the responsibility of the contractor to supply a design and supporting documentation as required by this special provision for review by the department to show that the proposed wall design is in compliance with the design specifications. The following shall be submitted to the engineer for review and acceptance no later than 21 days before wall construction will begin.

The design/shop plans shall be prepared on reproducible sheets 11 inch x 17 inch, including borders. Each sheet shall have a title block in the lower right corner. The title block shall include the project identification number and structure number. Design calculations and notes shall be on 8½ inch x 11 inch sheets, and shall contain the project identification number, name or designation of the wall, date of preparation, initials of designer and checker, and page number at the top of the page. All plans and calculations shall be signed, sealed, and dated by a professional engineer licensed in the State of Wisconsin. Four copies of the shop drawings and two copies of the design calculations and supporting materials shall be submitted.

The design of the Modular Block Gravity Wall shall be in conformance to the latest edition of the AASHTO Standard Specifications for Highway Bridges including interim specifications, the standard specifications, and standard engineering design procedures as determined by the department. The design must include analyses that clearly show the factors of safety for overturning, sliding, and soil bearing stress. The width of the modular block from front face to back face of the wall shall be given in the design computations and shown on the wall shop drawings.

The minimum embedment to the bottom of the modular block shall be 1 foot 6 inches, or as specified in the plan.

B.3 Wall System Components

Materials furnished under this contract shall conform to the requirements hereinafter provided.

B.3.1 Backfill

Wall Backfill, Type A, shall comply with the requirements for coarse aggregate No. 1 as given in standard spec 501.2.5.4. All backfill placed within a zone from the base of the leveling pad to the top of the final layer of wall facing units and within 1 foot behind the back face of the wall shall be Wall Backfill, Type A. This includes all material used to fill openings in the wall facing units.

A layer of Geotextile Fabric Type “DF” (Schedule B) shall be placed vertically between the retained soil and the Type A backfill. The geotextile fabric shall extend from the top of the leveling pad to 6 inches below the surface of the retained soil. The geotextile shall then wrap across the top of the Type A backfill to the back of block wall facing.

B.3.2 Wall Facing

Provide wall facing units that consist of precast modular concrete blocks. All units shall incorporate a mechanism or devices that will develop a mechanical connection between vertical block layers. Units that are cracked, chipped or have other imperfections in accordance to ASTM C1372 or excessive efflorescence shall not be used within the wall. A single block type and style shall be used throughout each wall. The color and surface texture of the block shall be as given on the plan, or chosen by the engineer.

The top course of facing units shall be a solid precast concrete unit designed to be compatible with the remainder of the wall. The finishing course shall be bonded to the underlying facing units with a durable, high strength, flexible adhesive compound compatible with the block material. A formed cast-in-place concrete cap may also be used to finish the wall. A cap of this type shall be designed to have texture, color, and an appearance that complements the remainder of the wall. The vertical dimension of the cap shall not be less than 3½ inches. Expansion joints shall be placed in the cap to correspond with each 24-inch change in vertical wall height or at a maximum spacing of 10 feet. Concrete for all cast-in-place caps shall be Grade A and shall conform to the requirements of standard spec 501.3.

Block dimensions may vary no more than ±1/8 inch from the standard values published by the manufacturer, in accordance to ASTM C1372. Blocks must have a minimum depth (front face to back face) of 8 inches. The minimum front face thickness of blocks shall be 4 inches measured perpendicular from the front face to inside voids greater than 4 square inches. Also the minimum allowed thickness of any other portion of the block is 2 inches. The front face of the blocks shall conform to plan requirements for color, texture, or patterns.

Cementitious materials and aggregates for modular blocks shall conform to the requirements of ASTM C1372 section 4.1 and 4.2. Modular blocks shall meet the following requirements:

Test	Method	Requirement
Compressive Strength (psi)	ASTM C140	5000 min.
Water Absorption (%)	ASTM C140	6 max.
Freeze-Thaw Loss (%)	ASTM	
40 cycles, 5 of 5 samples	C1262 ⁽¹⁾	1.0 max. ⁽²⁾
50 cycles, 4 of 5 samples		1.5 max. ⁽²⁾
⁽¹⁾ Test shall be run using a 3% saline solution.		
⁽²⁾ Test results that meet either of the listed requirements for Freeze-Thaw Loss are acceptable		

All blocks shall be certified as to strength, absorption, and freeze-thaw requirements unless, due to contract changes after letting, certified blocks are not available when required. At the time of delivery of the certified blocks, furnish the engineer a certified test report from a department-approved independent testing laboratory for each lot of modular blocks. The certified test report shall clearly identify the firm conducted the sampling and testing, the type of block, the date sampled, name of the person conducting the sampling, the represented lot, the number of blocks in the lot, and the specific test results for each of the stated requirements of this specification. A lot shall not exceed 5000 blocks. The certified test results will represent all blocks within the lot. Each pallet of blocks delivered shall bear lot identification information. Block lots that do not meet the requirements of this specification or blocks without supporting certified test reports will be rejected and shall be removed from the project at the contractor's expense.

A department-approved independent testing laboratory shall control and conduct all modular block sampling and testing for certification. Prior to sampling, the manufacturer's representative shall identify all pallets of modular blocks contained in each lot. All pallets of blocks within the lot shall be numbered and marked to facilitate random sample selection. The representative of the independent testing laboratory shall identify five pallets of blocks by random numbers and shall then select one block from each of these pallets. Solid blocks used as a finishing or top course shall not be selected. The selected blocks shall remain under the control of the person who conducted the sampling until shipped or delivered to the testing laboratory. All pallets of blocks within a lot shall be strapped or wrapped to secure the contents and tagged or marked for identification. The engineer will reject any pallet of blocks delivered to the project without intact security measures. The contractor shall remove all rejected blocks from the project at no expense to the department.

The department may conduct testing of certified or non-certified modular blocks lots delivered to the project. The department will not do freeze-thaw testing on blocks less than 45 days old. If a random sample of five blocks of any lot tested by the department fails to meet any of the requirements of this specification (nonconforming), the contractor shall remove from the project site all blocks from the failed lot that have not been installed in the finished work, at no cost to the department, unless the engineer allows otherwise. Nonconforming blocks installed in the finished work will be considered approved by the department as stated in standard spec 106.5(2) and any adjustment to the contract price will not exceed the price of the blocks charged by the supplier.

B.3.3 Leveling Pad

For all walls over 5 feet tall measured from the top of the leveling pad to the top of the wall, the wall leveling pad shall consist of a poured concrete masonry pad made from Grade A concrete conforming to standard spec 501 as modified in standard spec 716. Provide QMP for class II concrete as specified in standard spec 716.. The depth of the leveling pad shall be as shown on the plans or 6-inches minimum. The leveling pad shall be as wide as the blocks plus 6-inches. Six inches of leveling pad shall extend beyond the front face of the blocks. The bottom of the blocks shall be horizontal and 100% of the block surface shall bear on the leveling pad. A concrete leveling pad shall be used for the

entire length of the wall. All walls with a Structure Number assigned (such as R-XX-XXX) shall be built using the concrete leveling pad given above. The leveling pad shall step to follow the general slope of the ground line. The leveling pads steps shall keep the bottom of the wall within one block's thickness of the minimum embedment, i.e. minimum embedment plus up to the thickness of one block. Additional embedment may be detailed but will not be measured for payment.

On walls less than or equal to 5 feet in height without a wall number assigned, a compacted leveling pad made from base aggregate dense 1¼ inch as given in standard spec 305 may be used. The depth of the aggregate leveling pad shall be as shown on the plans or 12-inches minimum. The aggregate leveling pad shall be as wide as the blocks plus 12 inches with 12 inches of pad extending beyond the front face of the wall.

C Construction

C.1 General

Construct the modular block gravity wall in accordance to the manufacturer's instructions, at the locations and to the dimensions shown on the plan and as directed by the engineer. At the end of each working day, provide good temporary drainage such that the backfill shall not become contaminated with run-off soil or water if it should rain. Do not stockpile or store materials or large equipment within 10 feet of the front face of the wall.

Place materials in the areas as indicated on the plans and as detailed in this specification. Backfill lifts shall be no more than 8-inches in depth. Backfilling shall closely follow erection of each course of wall facing units.

Compact each layer of wall backfill Type A with at least three passes of lightweight manually operated compaction equipment acceptable to the engineer.

Conduct backfilling operations in such a manner as to prevent damage or misalignment of the wall facing units. At no expense to the department, correct any such damage or misalignment as directed by the engineer.

Do not operate tracked or wheeled equipment within 3 feet of the back face of the blocks. The engineer may order the removal of any large or heavy equipment that may cause damage or misalignment of the wall facing units.

After construction of the wall, restore the surrounding area located above and below all precast block retaining wall sites to its original condition and to the finished details on the plans.

C.2 Geotechnical Information

Geotechnical data to be used in the design of the wall is given on the wall plan. The allowable soil bearing capacity is given on the plan. After completion of excavation, the department's Regional Soils Engineer will inspect the site and determine if the

foundation is adequate for the intended loads. Allow the region's Soils Engineer two working days to perform the inspection.

D Measurement

The department will measure Wall Modular Block Gravity in area by the square foot of face on a vertical plane between the top of the leveling pad and a line indicating the top of wall including wall cap or copings as required and shown on the plans. Unless directed by the engineer, wall area constructed above or below these limits will not be measured for payment.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
532.0200.S	Wall Modular Block Gravity	SF

Payment is full compensation for supplying a design and shop drawings; preparing the site, including all necessary excavation and disposal of surplus materials; supplying all necessary wall components to produce a functional system including cap and copings; constructing the retaining system; providing backfill, backfilling, and compacting the backfill; and furnishing and installing geotextile fabric. Parapets, railings, and other items above the wall cap or coping will be paid for separately.

Any required topsoil, fertilizer, seeding or sodding and mulch will be paid for at the contract unit price of topsoil, fertilizer, seeding or sodding and mulch, respectively.
532-030 (20120615)

36. Adjusting Manhole Covers.

This work shall be according to the pertinent provisions of standard spec 611, as shown on the plans, and as hereinafter provided.

Adjust manhole covers located in pavement areas in two separate operations. Initially, remove designated manhole covers along with sufficient pavement to permit installation of temporary cover plate over the opening. Fill the excavated area with asphaltic pavement mixture, which shall remain in place until contract milling and paving operations permit setting the manhole frames to grade. During the second phase, remove the asphaltic pavement mixture surrounding the manhole plus the temporary cover plate, and set the manhole cover to final grade and backfill excavated area with concrete in accordance to standard spec 416.2.5 up to the adjacent asphalt surface. The department will measure and pay for the items of asphaltic pavement mixture, temporary cover plate, milling, and paving separately. The concrete backfill is considered incidental to the bid item adjusting manhole cover.

Revise standard spec 611.3.7 by deleting the last paragraph.

Set the manhole frames so that they comply with the surface requirements of standard spec 450.3.2.9. At the completion of the paving, a 6-foot straightedge shall be placed over the centerline of each manhole frame parallel to the direction of traffic. A measurement shall be made at each side of the frame. The two measurements shall be averaged. If this average is greater than 5/8 inches, reset the manhole frame to the correct plane and elevation. If this average is 5/8 inches or less but greater than 3/8 inches, the manhole frame shall be allowed to remain in place but shall be paid for at 50 percent of the contract unit price.

If the manhole frame is higher than the adjacent pavement, the two measurements shall be made at each end of the straightedge. These two measurements shall be averaged. The same criteria for acceptance and payment as above, shall apply.

37. Cover Plates Temporary, Item 611.8120.S.

A Description

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

B Materials

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

C (Vacant)

D Measurement

The department will measure Cover Plates Temporary as units, acceptably completed in place.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
611.8120.S	Cover Plates Temporary	Each

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

The steel plates shall become the property of the contractor when no longer needed in the contract work.

611-006 (20030820)

38. Pipe Grates, Item 611.9800.S.

A Description

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

B Materials

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

Furnish pipe grates galvanized according to ASTM A123.

Furnish angles and brackets galvanized according to ASTM A123.

Furnish required hardware galvanized according to ASTM A153.

C Construction

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

D Measurement

The department will measure Pipe Grates in units of work, where one unit is one grate completed and accepted.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
611.9800.S	Pipe Grates	Each

Payment is full compensation for furnishing and installing all materials; and for drilling and connecting grates to pipes.

611-010 (20030820)

39. Landscape Planting Surveillance and Care Cycles.

If the care specialist fails to perform any of the required care cycles as specified in standard spec 632.3.19.1, the department will assess daily damages in the amount of \$500 to cover the cost of performing the work with other forces. The department will assess these damages for each day the requirements of the care cycle remain incomplete, except when the engineer extends the required time period.

632-005 (20070510)

40. Concrete Bases, Type 10.

Supplement standard spec 654 as follows:

Furnish anchor rods, nuts, washers and templates for the Concrete Bases type 10.

Payment for Concrete Bases type 10 shall also include full compensation for providing anchor rods, nuts, washers and templates.

41. Nighttime Work Lighting-Stationary.

A Description

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

B (Vacant)

C Construction

C.1 General

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

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

1. Layout, including location of portable lighting – lateral placement, height, and spacing. Clearly show on the layout the location of all lights necessary for every aspect of work to be done at night.
2. Specifications, brochures, and technical data of all lighting equipment to be used.
3. The details on how the luminaires will be attached.
4. Electrical power source information.
5. Details on the louvers, shields, or methods to be employed to reduce glare.
6. Lighting calculations. Provide illumination with average to minimum uniformity ratio of 5:1 or less throughout the work area.
7. Detail information on any other auxiliary equipment.

C.2 Portable Lighting

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

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

C.3 Light Level and Uniformity

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

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

C.4 Glare Control

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

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

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

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

C.5 Continuous Operation

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

D (Vacant)

E Payment

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

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42. Rock Excavation Utility, Item SPV.0035.01.**A Description**

Work under this item shall include Rock Excavation in accordance to Article 502.1 of the City of Madison Standard Specification for Public Works Construction- Latest Addition. Rock Excavation shall be carried to a depth 6 inches below the outside of the sewer or water main, and to a width limited to the outside diameter of the pipe plus 2 feet. Rock Excavation shall be carried to a depth of 8 inches below the outside of the sewer access structures up to 10 feet deep and 12 inches below the outside of the sewer access structures over 10 feet deep. The horizontal limit for rock excavation shall be the outside dimension of the sewer access structure plus 2 feet.

B (Vacant)**C Construction**

Complete Rock Excavation Utility in accordance to Article 502.1(b) of the City of Madison Standard Specifications for Public Works Construction – Latest Edition.

D Measurement

The department will measure Rock Excavation Utility by the cubic yard, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.01	Rock Excavation Utility	CY

Payment is full compensation for furnishing all work, materials, labor and incidentals required to complete the work set forth in the description.

43. Pond Liner Clay, Item SPV.0035.02.

A Description

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

B Materials

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

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

C Construction

C.1 Low Permeable Clay Placement

C.1.1 Subgrade

Compact the subgrade to a minimum density as defined in standard spec 207.3.6.2 Standard Compaction.

C.1.2 Erosion Protection

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

C.1.3 Low Permeable Clay Placement

After the fine grading is complete, place and compact low permeable clay in completed 6-inch lifts. Place each lift of low permeable clay in one continuous lift. See plans for low permeable clay construction limits. The thickness of the low permeable clay shown on the plans should be measured perpendicular to the surface.

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

Compact the low permeable clay to a minimum of 95% Standard Proctor AASHTO T-99 Maximum Dry Density with a footed compaction equipment having feet at least as long as the loose lift height. As needed, clay shall be disked or otherwise mechanically processed prior to compaction to break up clods and allow moisture content adjustment. Clod size shall be no greater than 4-inches. All compaction equipment utilized shall have a minimum static weight of 30,000 pounds.

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

A sufficient number of passes of the compaction equipment shall be made over each lift of clay to ensure complete remolding of the clay.

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

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

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

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

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

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

Provide the following:

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

Table 1					
Reference	Number	Test Title	Requirements	Testing Frequency	QA/QC ¹²
				Screening	
AASHTO ¹	T99-01	Moisture –Density Relationships of Soils Using a 2.5-kg (5.5 lb) Rammer a 305 mm (12-in.) Drop (Standard Proctor)	NA ¹¹	1/source	NA
AASHTO	T-88-00	Particle Size Analysis of Soils	$P_{200}^3 \geq 50\%$	2/source	1/lift
AASHTO	T-89-02	Determining the Liquid Limit of Soils	$LL^4 \geq 22\%$	2/source	1/lift
AASHTO	T-90-00	Determining the Plastic Limit and Plasticity Index of Soils	$PI^5 \geq 12\%$	2/source	1/lift
AASHTO	T310-03	In-Place Density and Moisture Content of Soils and Soil-Aggregates by nuclear Methods (Shallow Depth)	$DD^6 \geq 95\%$ of the MDD ⁷	NA	100'x100' Grid/lift
ASTM ²	D5084-03	Standard Test Methods for Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter	$K^8 \leq 1 \times 10^{-7}$ cm/sec	1/source ⁹	1/site ¹⁰

Notes:

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

D Measurement

The department will measure Pond Liner Clay in volume by the cubic yards, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.02	Pond Liner Clay	CY

Payment is full compensation for dewatering areas of site where the low permeable clay is to be placed; furnishing and placing the low permeable clay; and for performing all tests.

44. Abandon Sanitary Sewer With Slurry, Item SPV.0035.03.

A Description

This work consists of abandoning sanitary sewer pipe with slurry as shown in the plans and as hereinafter provided.

B (Vacant)

C Construction

Abandoning sewer pipe with slurry includes plugging one end of the pipe paid separately under the bid item pipe plug, and requires the entire pipe be filled with slurry. Vent holes may be required by the engineer to verify there are no voids left in the pipe. Saw cutting and removal of the existing pipe at the limits of abandonment is included in this item. Use slurry that conforms to Type B Slurry Mix as specified in Article 301.9 of City of Madison Standard Specifications. Abandon sewer pipe by plugging the end(s) of the pipe.

Maintain service in the existing sewers until the replacement sewers or appropriate bypasses approved by the engineer have been installed, at such time bulkheads or plugs may be placed. Contact and coordinate with other utilities so that they may plug their own facilities.

D Measurement

The department will measure Abandoning Sanitary Sewer with Slurry by the cubic yard, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.03	Abandon Sanitary Sewer With Slurry	CY

Payment is full compensation for furnishing all materials, labor, tools, equipment and incidentals necessary to complete this item of work.

45. Utility Line Opening (ULO), Item SPV.0060.001.

A Description

Excavate and uncover utilities for the purposes of determining elevation and potential conflicts, as shown on the plans or as directed by the engineer, and as hereinafter provided.

B (Vacant)

C Construction

Excavate in such a manner that the utility in question is not damaged and the safety of the workers is not compromised.

Perform utility line openings as soon as possible and at least 10 days in advance of proposed utility construction to allow any conflicts to be resolved with minimal disruption. Where utilities are within 6 feet of each other at a potential conflict location, only one utility line opening shall be called for. In these cases, a single utility line opening will be considered full payment to locate multiple utilities. A trench of up to 10 feet long as measured at the trench bottom, and of any depth required to locate the intended utility is included under the bid item of utility line openings.

Approve and coordinate all utility line openings with the engineer. Notify the utility engineers or their agents of this work a minimum of 3 days prior to the work so they may be present when the work is completed. The need for performing ULO's as shown on the plans shall be verified since some of the utilities may have been relocated prior to the start of construction.

Replace pavement open to traffic within 24 hours of the excavation.

D Measurement

The department will measure Utility Line Opening (ULO) as each individual unit, acceptably completed. Where utilities are within 6' of each other at a potential conflict location, only one utility line opening shall be measured.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.001	Utility Line Opening (ULO)	Each

Payment is full compensation for the excavation required to expose the utility line, backfilling with existing material removed from the excavation, compacting the backfill material, restoring the site, and for cleanup.

Existing pavement, concrete curb, gutter, and sidewalk removals necessary to facilitate utility line openings shall not be considered part of or paid for under Utility Line Openings, but shall be considered separate and measured and paid for separately as removal items. Replacement pavement, concrete curb, gutter, and sidewalk items shall also be considered separate from Utility Line Openings and will be measured and paid for separately.

46. Sanitary Sewer Internal Chimney Seal, Item SPV.0060.002.**A Description**

Furnish and install an internal chimney seal on all sanitary sewer access structures located within 100 feet of a street low point, in greenways, and where indicated on the plan or in the field.

B Material

Internal Chimney seal shall consist of either rubber with metal bands or a low density polyethylene insert conforming to the City of Madison Standard Detail Drawing 5.7.17 – SAS Internal Chimney Seal or other equivalent chimney seal products as approve by the engineer.

C Construction

Internal Chimney Seal shall be installed in accordance to the manufacturer's instructions.

D Measurement

The department will measure Sanitary Sewer Internal Chimney Seal as each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.002	Sanitary Sewer Internal Chimney Seal	Each

Payment is full compensation for furnishing all labor, tools, materials, and all other work incidental to the installation of the sanitary internal chimney seal.

47. Sanitary Sewer Access Structure (4' Diameter), Item SPV.0060.003.

A Description

Work under this item shall include furnishing and installing 4-foot diameter Sewer Access Structures at the depths and locations shown on the plan set.

B Materials

All precast concrete sanitary Sewer Access Structures shall meet the requirements of Standard Detail Drawing 5.7.2, 5.7.15, and Article 507.3 of the City of Madison Standard Specifications for Public Works Construction – Latest Edition.

Furnishing and installation Sewer Access Structure Frame and Cover in accordance to Standard Detail Drawing 5.7.16 of the City of Madison Standard Specifications for Public Works Construction – Latest Edition is considered incidental to this bid item.

C Construction

Sanitary Sewer Access Structures shall be installed in accordance to Article 507.3 of the City of Madison Standard Specifications for Public Works Construction – Latest Edition.

Maintain the normal flow of wastewater at all times during installation of the new sanitary Sewer Access Structure and when connecting pipes to the new structure. All bypass pumping, temporary piping, and/or temporary connections, which are required to maintain the normal flow of wastewater throughout construction, shall be considered incidental to this bid item.

D Measurement

The department will measure Sanitary Sewer Access Structure (4' Diameter) as each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.003	Sanitary Sewer Access Structure (4' Diameter)	Each

Payment is full compensation for furnishing and installing sanitary sewer access structure in accordance to Article 507 of the City of Madison Standard Specifications for Public Works Construction – Latest Edition.

48. Adjust SAS Special, Item SPV.0060.004.

A Description

Work under this item shall include adjusting Sanitary Sewer Access Structure (Rim) castings as called for on the plan set to the final proposed grades. This bid item is required because the casting adjustment is greater than 9” of vertical adjustment to set the casting to the final grade or the chimney was determined to be in poor condition. Manhole adjustments less than 9” shall be paid for separately under Bid Item 611.8110 Adjusting Manhole Covers. Installation of offset cone and casting as called for on the plan shall be considered incidental to this bid item. Rotation of an existing cone sections shall be considered incidental to this bid item.

B Materials

Precast concrete barrel sections and manhole adjustment rings shall meet the requirements of Article 507.3, as well as SDD 5.7.2 and 5.7.15 of the City of Madison Standard Specifications for Public Works Construction – Latest Edition.

C Construction

Complete Adjust SAS Special in accordance to Article 507.3 of the City of Madison Standard Specifications for Public Works Construction – Latest Edition. This bid item will require adjustment rings to be removed and concrete barrel sections to be installed. The maximum allowed adjustment on the Sewer Access Structure shall not exceed 9 inches and the final configuration of the structure shall be in accordance of SDD 5.7.2 and 5.7.15 of the City of Madison Standard Specifications for Public Works Construction – Latest Edition.

D Measurement

The department will measure Adjust SAS Special as each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.004	Adjust SAS Special	Each

Payment is full compensation for furnishing and installing all materials necessary to complete the work in accordance to Article 507 of the City of Madison Standard Specifications for Public Works Construction – Latest Edition.

49. Manhole Covers Type MAD, Item SPV.0060.005.

A Description

Furnish and install metal frames, grates and lids in accordance to standard spec 611, as shown on the plans, and as hereinafter provided.

B Materials

Furnish castings in accordance to standard spec 611.2 and the details shown on the plans.

C Construction

Install castings in accordance to standard spec 611.3.

D Measurement

The department will measure Manhole Cover Type MAD by each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.005	Manhole Covers Type MAD	Each

Payment is full compensation for removing and salvaging existing covers; for providing new covers, including frames, lids, and all other required materials; for installing and adjusting each cover; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the contract work. Old covers removed remain the property of the municipality.

50. Sanitary Sewer Tap, Item SPV.0060.006.**A Description**

Work under this item shall include the connection of a new lateral or main to an existing structure and the connection of an existing lateral or main to a new structure. New lateral or new main connections to new sewer access structures shall not be paid for as a tap, but included with the price of the Sanitary Sewer Access Structure (4' Diameter), bid item SPV.0060.003.

B Materials

The flexible watertight connector to be installed in the tapped hole shall be a Kor-n-Seal flexible connector, or approved equal in accordance to Standard Detail Drawing 5.2.3 of the City of Madison Standard Specifications for Public Works Construction- Latest Edition.

C Construction**New Pipe to Existing Structure**

The tap shall be made by means of a portable coring drill to produce a pipe opening that is round, clean and free of any pitting of the concrete. A watertight connection of the pipe to the sewer access structure shall be made with a Kor-n-Seal flexible connector, or approved equal, in accordance to Standard Plate 5.7.31 of the Standard Specifications.

If after tapping the engineer determines that the flowlines of an existing structure are no longer adequate, the existing flowline shall be removed and repoured and paid for under bid item SPV.0060.007 Reconstruct Bench and Flowlines.

Existing Pipe to New Structure

Provide a flexible connector to connect the existing pipe to any new pipe which is required to make the connection to the structure. Any new pipe that is installed by the contractor to reconnect the existing sewer main shall be PVC (SDR-26) and shall be considered incidental to this bid item. The newly installed pipe shall match the existing pipe's diameter or be of the next larger diameter. Field coring for the connection of existing laterals to the new structure shall be included in this item.

The pouring and construction of concrete benches and flowlines in new sewer access structures for the inlet or outlet pipes shall not be paid for under this bid item. The construction of concrete benches and flowlines shall be considered incidental to the installation of the sewer access structure (bid item SPV.0060.003 Sanitary Sewer Access Structure (4' Diameter)).

Maintain the normal flow of wastewater during tapping of the sewer access structure and shall do so in accord with bid item SPV.0105.03 Heavy Wastewater Control.

The downstream pipe connection to a Sewer Access Structure shall be considered incidental to the Sewer Access Structure and not a tap connection regardless of whether the downstream sewer main is a proposed or an existing pipe connection. In the case of doghouse sewer access structure being approved to be constructed over an existing city sanitary sewer main, no sanitary taps will be granted for the host pipe being saddled over (upstream or downstream pipe connection).

D Measurement

The department will measure Sanitary Sewer Tap as each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.006	Sanitary Sewer Tap	Each

Payment is full compensation for furnishing all work, materials, labor and incidentals required to complete the work set forth in the description.

51. Reconstruct Bench and Flowlines, Item SPV.0060.007.**A Description**

Work under this bid item shall include the removal and replacement of the existing Sewer Access Structure's bench and flowline(s) either because it was designated for replacement on the plan set or because through the course of making a tap connection (Sanitary Sewer Tap, Item SPV.0060.006), the engineer determined that the bench and the flowlines were no longer acceptable.

B (Vacant)

C Construction

Completed all work in accordance to Part V of the City of Madison Standard Specifications for Public Works Construction -Latest Addition. Finish flowlines shall have a smooth trowel finish. Brushed flowlines will not be accepted.

D Measurement

The department will measure Reconstruct Bench and Flowlines as each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.007	Reconstruct Bench and Flowlines	Each

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

52. Sanitary Lateral Electronic Markers, Item SPV.0060.008.

A Description

Work under this item shall include installing Sanitary Lateral Electronic Markers in accordance to Article 503.2 of the City of Madison Standard Specification for Public Works Construction- Latest Addition.

B Materials

All materials are described in Article 503.2(e) of the City of Madison Standard Specification for Public Works Construction- Latest Addition.

C Construction

Sanitary Lateral Electronic Markers shall be installed in accordance to Article 503.2(e) of the Standard Specifications for Public Works Construction – Latest Edition.

D Measurement

The department will measure Sanitary Lateral Electronic Markers as each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.008	Sanitary Lateral Electronic Markers	Each

Payment is full compensation for furnishing all work, materials, labor and incidentals required to complete the work set forth in the description.

53. Remove Sanitary Sewer Structure , Item SPV.0060.009.

A Description

This special provision describes removing sanitary sewer access structures as shown on the plans. The work shall also include salvaging and disposing of the resulting materials and backfilling the trenches with granular backfill.

B Materials

Select fill shall meet the requirements of Article 202.2 of the City Standard Specifications; furnishing and placing select fill in void created by the structure removal is incidental to this bid item.

C Construction

Remove sanitary sewer access structures in accordance to Article 203.2(a) of the City Standard Specifications.

D Measurement

The department will measure Remove Sanitary Sewer Access Structure by each individual unit in accordance to Article 203.3 of the City Standard 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.0060.009	Remove Sanitary Sewer Access Structure	Each

Payment is full compensation in accordance to Article 203.4 of the City Standard Specifications.

54. Perennial, Northwind Switchgrass, Item SPV.0060.010; Perennial, Little Bluestem, Item SPV.0060.011; Perennial, Autumn Joy Sedum, Item SPV.0060.012.

A Description

This section describes furnishing and planting perennials and ornamental grasses in planting beds as shown on the plans. This includes furnishing all necessary materials, excavating plant holes, backfilling, watering and disposing of waste materials and following the requirements of standard spec 632 Plant Materials.

B Materials

Furnish perennial plantings in the variety and size noted on the planting schedule; as well as topsoil, mulch, fertilizer and water as required to construct the planting bed.

C Construction

Install the perennials and construct the planting bed as defined in standard spec 632 Plant Materials and the planting details.

Do not fertilize bulb plantings.

D Measurement

The department will measure Perennials as each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.010	Perennial, Northwind Switchgrass	Each
SPV.0060.011	Perennial, Little Bluestem	Each
SPV.0060.012	Perennial, Autumn Joy Sedum	Each

Payment is full compensation for providing and installing all materials necessary to completely install each perennial; constructing the planting beds, furnishing and installing planting, topsoil, mulch, watering; creating proper soils for the planting bed; for performing all grading, excavating, backfilling, proper disposing of surplus material and restoration.

55. Cut-In Connection, Item SPV.0060.013.

A Description

Cut-In Connections consists of all means and methods, equipment, tools, labor, etc. necessary for making a cut-in connection to the existing water main where designated on the drawings in accordance to Section 703.6 of the *City Standard Specifications*. Any associated concrete capping pipe or mechanical joint capping required due the cut-in connection is incidental to this work, and shall provide a water-tight seal.

B Materials

Conform all materials used for this work to the requirements of section 702 of the *City Standard Specifications*.

C Construction

Conform all work associated with Cut-In Connections to section 703 of the *City Standard Specifications*.

D Measurement

The department will measure Cut-In Connections per each conducted as a completed unit, in accordance to section 704.5 of the *City Standard 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.0060.013	Cut-In Connection	Each

Payment is full compensation for the excavation required to expose the utility line, imported select fill, backfilling and compacting the excavation; all tools, equipment, labor, and materials required, restoring and maintaining the site, and all other work incidental to the Cut-In Connection.

56. Furnish and Install Hydrant, Item SPV.0060.014.

A Description

This work shall consist of furnishing and installing new fire hydrants as shown on the plans in accordance to section 704.7 of the *City Standard Specifications*.

B Materials

Furnish materials in accordance to section 702.4 of the *City Standard Specifications*.

C Construction

Install all hydrants in accordance to Section 703.8 and Standard Detail Drawing 7.04 of the City of Madison *City Standard Specifications*, unless otherwise shown or specified.

D Measurement

The department will measure Furnish and Install Hydrant by each individual hydrant that is 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.0060.014	Furnish and Install Hydrant	Each

Payment is full compensation for installing water hydrant completed in place as described above including all material, excavation, backfilling, equipment, tools, and labor necessary for the installation.

57. Cut Off Existing Water Main, Item SPV.0060.015.

A Description

The work under this section shall consist of abandoning the existing water mains at the locations shown or as designated by the engineer in accordance to section 704.14 of the *City Standard Specifications*.

B Materials

Furnish all materials as appropriate per section 702 of the *City Standard Specifications*.

C Construction

After a safe sample on the new water main section has been obtained and all water service laterals have been reconnected, abandon the existing water main where indicated or where designated by the Madison Water Utility. All work under this section shall comply with Section 703.15 of the *City Standard Specifications*.

D Measurement

The department will measure Cut Off Existing Water Main per each individual unit for each complete individual cutoff made in accordance to the *City Standard Specifications*. This item will not be measured for work associated with Cut-In Connections.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.015	Cut Off Existing Water Main	Each

Payment is full compensation for furnishing all work in cutting off the water main as specified herein.

58. Abandon Water Valve Box, Item SPV.0060.016.**A Description**

Abandon Water Valve Box consists of abandoning all water valve boxes within the project limits that serve valves no longer in service, indicated in the plans, or directed by the engineer in accordance to section 704.15 of the *City Standard Specifications*. This item includes placing the valve in the closed position prior to abandoning the box and completely removing the valve box whenever possible. This item also includes, but is not necessarily limited to all materials, equipment, labor, select fill and incidentals necessary to complete the work.

B Materials

Conform all materials used for this work with section 702 of the *City Standard Specifications*.

C Construction

Conform all associated work to the requirements of section 703 of the *City Standard Specifications*. All work shall take place after the existing water main has been abandoned. Remove the top casting to a point 3 feet below the existing elevation, then backfill the opening with select fill and compact.

D Measurement

The department will measure Abandon Water Valve Box 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.0060.016	Abandon Water Valve Box	Each

Payment is full compensation for furnishing all work in abandoning the water valve box as specified herein.

59. Salvage Hydrant, Item SPV.0060.017.

A Description

Salvage Hydrant consists of salvaging all fire hydrants identified on the drawings to be salvaged per section 704.16 of the *City Standard Specifications*. This item includes but is not necessarily limited to; all materials, equipment, labor, select fill and incidentals necessary to complete the work.

B Materials

All materials conform to section 702 of the *City Standard Specifications*.

C Construction

All work conforms to section 703.16 of the *City Standard Specifications*, and shall only take place after the existing water main section has been abandoned. If the hydrant is a screw type hydrant, unscrew the hydrant with chain tongs (or like) and remove high stock and salvage for the Madison Water Utility. The frost case shall be removed and salvaged for the Madison Water Utility. If the hydrant is not a screw type hydrant, excavate to the bottom of the hydrant and disassemble from the hydrant lead. Remove the hydrant and salvage for the Madison Water Utility. Backfill the opening with existing material and compact. Use select fill as additional backfill material if there is not enough existing material.

D Measurement

The department will measure Salvage Hydrant per 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.0060.017	Salvage Hydrant	Each

Payment is full compensation for furnishing all work in salvaging the hydrant as specified herein.

60. Adjust Water Valve Box, Item SPV.0060.018.

A Description

Adjust Water Valve Box consists of adjusting all existing water valve boxes within the project limits to between $\frac{1}{4}$ inch to $\frac{1}{2}$ inch below finished grade. Adjustment of new valve boxes is incidental to water main construction, and will not be paid under this item. This item includes all materials, equipment, labor, and incidentals necessary to complete this work, and shall be conducted in accordance to section 704.18 of the *City Standard Specifications*.

B Materials

All materials conform to the requirements of section 702 of the *City Standard Specifications*.

C Construction

All work associated with adjust water valve box conforms to the requirements of section 703 of the *City Standard Specifications*. Excavate and expose the existing water valve boxes to the depth needed to adjust the valve boxes to finished grade. Extensions may be required. Backfill and compaction shall be in accordance to the *City Standard Specifications*. Leave all valve boxes centered over the valve operating nut and free of dirt and debris.

D Measurement

The department will measure Adjust Water Valve Box by each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.018	Adjust Water Valve Box	Each

Payment is full compensation for furnishing all work in adjusting the water valve box as specified herein.

61. Furnish and Install 6-Inch Valve, Item SPV.0060.019; 8-Inch, Item SPV.0060.020; 10-Inch, Item SPV.0060.021; 12-Inch, Item SPV.0060.022; 16-Inch, Item SPV.0060.023.

A Description

This work shall consist of furnishing and installing all valves as identified on the plan and as required to complete the installation of the proposed water main in accordance to section 704.27 of the *City Standard Specifications* and as hereinafter provided.

Proposed valves associated with pressure taps, as indicated on the plans, are not to be included in these items.

B Materials

Furnish materials in accordance to section 702 of the *City Standard Specifications*. These items include furnishing all materials and fittings; bedding the valves; excavating, dewatering and compacting the trenches; installing valves, valve boxes and any necessary extensions; adjustments of valve boxes; installing and removing sheeting and bracing; all tools, labor, equipment, restraint, polyethylene encasement, thrust restraint and any other appurtenances required to furnish and install valves as required.

C Construction

Valve installations shall be made in accordance to section 703 of the *City Standard Specifications*.

D Measurement

The department will measure Furnish and Install (Size) Valve per each individual completed unit, accordance with section 704.27 of the *City Standard Specifications*.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.019	Furnish and Install 6 Inch Valve	Each
SPV.0060.020	Furnish and Install 8 Inch Valve	Each
SPV.0060.021	Furnish and Install 10 Inch Valve	Each
SPV.0060.022	Furnish and Install 12 Inch Valve	Each
SPV.0060.023	Furnish and Install 16 Inch Valve	Each

62. Furnish Excavation and Ditch for Live Tap, SPV.0060.024.**A Description**

This work consists of excavating and preparing the ditch for the Madison Water Utility to perform a live-tap connection on an existing water main (may also be noted on the plans as "Pressure Tap"). This task includes but is not necessarily limited to; all excavation including shoring/trench protection, and water removal as necessary to expose the existing water main; clearing and preparing a suitable work area in the ditch for Madison Water Utility to perform the connection; backfill; backfilling the excavation; compacting the backfill material; restoring and maintaining the site and all other work incidental to preparing the ditch.

B Materials

All materials conform to the requirements of section 702 of the *City Standard Specifications*.

C Construction

All associated work conform to the requirements of section 703 of the *City Standard Specifications*.

D Measurement

The department will measure Furnish Excavation and Ditch for Live Tap as a complete unit per each individual complete live-tap connection made, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.024	Furnish Excavation and Ditch for Live Tap	Each

Payment is full compensation for furnishing all associated work as specified herein.

63. Precast Concrete Box Culvert Endwall, 12 FT x 4 FT, Item SPV.0060.025.

A Description

This special provision describes furnishing and installing precast concrete box culvert wingwalls, Cast-In-Place (C.I.P.) apron, safety grate and a precast concrete cutoff wall of the size shown on the plans, and in accordance to the requirements of the standard specifications and as hereinafter provided.

B Materials

Provide materials and fabricate Precast Concrete Box Culvert Wingwalls and a Precast Concrete Cutoff Wall in accordance to Precast Reinforced Concrete Box Sections for Culverts, Storm Drains and Sewers AASHTO Designation M259 or ASTM C1433, except that the concrete mixture shall contain not less than 565 pounds of Portland cement, blended cement or Portland cement plus pozzolanic admixture per cubic yard. Slab thickness, areas of reinforcement, and other details shall be as shown on the plans.

Provide materials and fabricate Cast-In-Place (C.I.P.) apron in accordance to standard spec 504 and standard spec 505.

Provide materials and fabricate safety grate in accordance to the requirements of ASTM A-53, Grade B, Schedule 40 or approved equal. The longitudinal bar shall be welded to the transverse bars where the bars cross. The number of bars required will vary depending on the dimensions of the end section. The safety grate shall be affixed to the precast wings in a method to restrict entrance into the culvert. Shop drawings shall be provided to the engineer 2 weeks prior to fabrication for approval by the engineer.

C (Vacant)

D Measurement

The department will measure Precast Concrete Box Culvert Endwall, 12 FT x 4 FT, by each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTIO	UNIT
SPV.0060.025	Precast Concrete Box Culvert Endwall, 12 FT x 4 FT	Each

Payment is full compensation for furnishing, hauling and placing the Precast Concrete Box Culvert Wingwalls and a Precast Concrete Cutoff Wall; including joint ties, and mastic; and for furnishing all materials, forms, falsework, placing, finishing, curing, protecting, and heating; and for providing nameplates; for providing the design,

materials, labor, and incidentals to complete the Cast-In-Place (C.I.P.) apron; and for providing the design, materials, labor, galvanizing, masonry anchors, connection plates, and shop drawings to complete the safety grate.

64. Inlet Covers Terrace Type 2 Special, Item SPV.0060.026.

A Description

This special provision describes installing metal frames, grates and lids in accordance to standard spec 611, as shown on the plans and as follows.

B Materials

Conform all castings to standard spec 611.2 and to the details shown on the plans.

C (Vacant)

D Measurement

The department will measure Inlet Covers Terrace Type 2 Special in accordance to standard spec 611.4.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.026	Inlet Covers Terrace Type 2 Special	Each

Payment is full compensation in accordance to standard spec 611.5.

65. Terrace Inlet Type 2 Special, Item SPV.0060.027.

Perform the work under this item in accordance to the applicable provisions of standard spec 611 and as detailed.

66. Precast Sign Post Base, Item SPV.0060.028.

A Description

This special provision describes constructing and installing precast sign post bases at locations shown on the plans and as hereinafter provided.

B Materials

Conform all materials furnished for the work to the requirements for the class of materials named.

Specific reference is made to the following sections of the standard specifications:

Concrete Masonry standard spec 501
Steel Reinforcement standard spec 505

Concrete Masonry shall be of a 3,200-psi minimum strength in 28 days. The 2-inch x 24-inch +1/3-inch insert shall be an ASTM Designation 120 A53 Fed Spec P404, Schedule 40 untreated black pipe 2-inch diameter, with a galvanized rigid conduit coupling installed.

C Construction

Form the 24-inch x 11-inch precast base in accordance to the details in the plan. Weld the coupling and pipe over 50 percent of the circumference. Center the insert in the base and plumb with the vertical axis of the base, and place so that the coupling is flush 1/8 inch with the top of the troweled surface of the base. The bottom of the insert extends a minimum of 1/8-inch below the base and shall remain open to permit drainage. Weld 3/8-inch by 8-inch reinforcing bar to the insert 8 inches from the top of the base and 8 inches from the bottom of the base to prevent the insert from rotating within the concrete base.

Set the signpost bases at the locations shown on the plans. The center of the finished installation shall be 5'0" + inches from the face of the adjacent curb or from the edge of paved shoulder.

Upon request and reasonable notice from the contractor, the engineer will establish and stake the location for the sign post bases. The City of Madison Traffic Engineering Division Staff will verify all signpost base locations.

Coat the threads of the pipe and coupling in the base with graphite grease prior to assembly. Install the base and pipe as a unit, level with the finished grade of the surrounding surface with the pipe plumb. Tamp the material used for backfilling around the base in 6-inch layers to ensure the installation will remain plumb. Provide a one- year warranty that the signpost base installation shall remain plumb.

Remove and dispose of all excess excavation, surplus material and debris resulting from operations and satisfactorily repair and restore other work damaged by operations.

D Measurement

The department will measure Precast Sign Post Base 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.0060.028	Precast Sign Post Base	Each

Payment is full compensation for furnishing all materials; for the manufacture of the sign post base; and for hauling, handling and installing the sign post base, including backfill.

67. Sign Post Base for Concrete Installation, Item SPV.0060.029.

A Description

This special provision describes constructing and installing the sign post bases in concrete sidewalk or pavement at locations shown on the plans and as hereinafter provided.

B Materials

The 2-inch x 16-inch sign post base shall be an ASTMA Designation 120 A53 Fed Spec P404, Schedule 40 untreated black pipe 2-inch diameter, with a galvanized rigid conduit coupling installed.

Waterproof anchoring cement for concrete shall be Unitex, Thorogrip 29/64 or equivalent.

C Construction

The sign post base shall consist of a 2-inch x 16-inch schedule 40 pipe with attached 2" rigid conduit galvanized coupling in accordance to the details in the plan. Weld the coupling and pipe over 100 percent of the circumference.

Set the signpost bases at the locations shown on the plans. The center of the finished installation shall be 5'0" (2'6" for Advanced Street Name Sign Special installations) from the face of the adjacent curb or from the edge of paved shoulder. Upon request and reasonable notice from the contractor, the engineer will establish and stake the location for the sign post bases. The City of Madison Traffic Engineering Division Staff will verify all signpost base locations.

Box out all installations in hard surfaced areas (concrete) with a round PVC pipe with a minimum diameter of 3-inches or installed by drilling or coredrilling a 3-inch hole all the way through the concrete to the base material. If drilling in architectural concrete pavement, cover the surface prior to drilling to protect the surface from drilling slurry. Coordinate all box out locations. With a temporary pipe 4 to 5 feet long, hand-tighten it into the insert. Drive the insert into the base material at a level/plumb position until the insert is flush with the top of the concrete. Shim insert to a level/plumb position with lag bolts or p.k. nails. All shims must be set below the concrete/insert. Remove temporary pipe, replace with permanent pipe, and tighten into insert with large pipe wrench until insert turns. Reset shims or add shims until pipe no longer turns. Retighten pipe and recheck level/plumb/top of concrete with insert. Patch concrete with a waterproof anchoring cement for concrete. Mix patch to a liquid consistency, not a paste. Pour patch until it is flush with the top of the insert. Recheck level/plumb/top of concrete with insert immediately due to fast setting time of cement. Additional cement may be required as it settles. Completed installation shall be level/plumb, solid, and able to support required sign post and signs. Patch shall be flush with adjacent concrete without exposed shims.

Coat the threads of the pipe and coupling in the base with graphite grease prior to assembly. Install the base such that the installed sign post will be plumb. Provide a one year warranty that the signpost base installation shall remain plumb.

Remove and dispose of all excess excavation, surplus material and debris resulting from operations and satisfactorily repair and restore other work damaged by operations.

D Measurement

The department will measure Sign Post Base for Concrete Installation 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.0060.029	Sign Post Base for Concrete Installation	Each

Payment is full compensation for furnishing all materials; for the manufacture of the sign post base; for hauling, handling and installing the sign post base, including drilling holes in concrete; and anchoring cement.

68. Junction Vault 4-FT x 8-FT, Item SPV.0060.030; Junction Vault 10-FT x 16-FT, Item SPV.0060.031.

A Description

Perform the work under this item in accordance to the applicable provisions of standard spec 611 and as detailed in the plans.

B (Vacant)

C (Vacant)

D Measurement

The department will measure Junction Vaults (Size) 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.0060.030	Junction Vault 4-FT x 8-FT	Each
SPV.0060.031	Junction Vault 10-FT x 16-FT	Each

Payment for the Junction Vault bid items is full compensation for providing all materials, including all masonry, reinforcement, conduit and sewer connections, steps, and other fittings; for furnishing all excavating, backfilling, disposing of surplus material, and for cleaning out and restoring the work site; except that the department will pay for covers, including frames, grates and lids separately.

69. Remove Street Light, Item SPV.0060.032.

A Description

This special provision describes removing and salvaging a base mounted light pole, direct bury light pole, transformer bases, arm and luminaire.

B (Vacant)

C Construction

Contact Brian Smith, (608) 261-9625, at least seven days prior to removing any street lights on the City of Madison lighting systems. Arrange a meeting to document the existing condition of all street lighting materials that will be affected by construction activities.

The City of Madison will provide the following information:

1. Identify all items to be salvaged or disposed
2. Identify existing feed-point locations and circuit breaks.

When removing existing street lights, carefully remove and stockpile all equipment at a location approved by the engineer. Place all equipment on blocks so as not to be in direct contact with the ground. Protect luminaires from moisture. Either reinstall lights as the plans show or make available for City of Madison to pick up and salvage. Properly dispose of any equipment that the city does not salvage.

Replace any equipment damaged in the removal process with equipment that is of greater or equal quality than the damaged piece.

D Measurement

The department will measure Remove Street Light 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.0060.032	Remove Street Light	Each

Payment is full compensation for removals, salvaging, and disposal as required above.

70. Lighting Control Cabinet, Item SPV.0060.034.

A Description

This special provision describes furnishing and installing a lighting control cabinet with all electrical components and wiring assembled.

B Materials

B.1 Contactors

Furnish 8-pole, 30-amp, 600-V electrically held contactors with 120-V control coil in NEMA 1 enclosure as required for the proposed circuits. Engrave "ALL NIGHT" or "MIDNIGHT" identification on cover of respective enclosures.

B.2 Photocell

Furnish a button type photocell and install as shown on the detail. Apply silicone caulk to maintain the watertight integrity of the enclosure. The photocell shall be rated for 120V, 1500W with 30-60 second delay between "on-off" operations.

B.3 Panel

Furnish a 120/240-volt, 100A main circuit breaker, single-phase, 20-circuit panel board in a NEMA 1 enclosure. Provide copper ground and split neutral bus bars in addition to copper bus bars. Provide bolt-on, thermal-magnetic circuit breakers that clearly indicate ON, OFF, or TRIPPED position in the panel. Provide double pole breakers as required for all multiwire branch circuits.

B.4 Time Clock

Furnish a time clock with an 8-year lithium battery time backup, -40° F to 120° F operating range, 40-year program schedule retention, LCD type, daylight saving time, and leap year correction. Program as required by the City of Madison.

B.5 Selector Switches

Furnish "Hand-Off-Auto" switches to control each circuit separately. Provide a "Hand-Off-Auto" legend plate for each switch. Engrave "ALL NIGHT" and "MIDNIGHT" above each appropriate operator. Mount the switches in a horizontal manner in a NEMA 1 enclosure.

B.6 Cabinet Enclosure

Provide a NEMA 4X enclosure made from .125-inch Type 5052-H32 aluminum. The doorframe shall be double flanged and all exterior seams shall be ground smooth. Door handle shall be 3/4-inch diameter stainless steel with three point latching system and hasp. Main door shall be sealed with a closed-cell neoprene gasket. Main door hinge shall be continuous 0.075-inch thick stainless steel with a 0.25-inch stainless steel hinge pin. Provide an aluminum-mounting panel at back (interior) of enclosure. Provide a weatherproof pad lock with 2-3/8-inch wide body, repinnable/ replacable cylinder, and five keys. There shall be no louvers or Corbin main door lock. Applicable code working clearances shall be maintained between equipment mounted within the enclosure.

B.7 Surge Arrester

Furnish a surge suppressor to protect the panel board. The surge suppressor shall provide 6 modes of surge protection, meet UL1449 Second Edition with 32Ka per phase and 48KA system peak surge current, contain LED line indicators, and approximate dimensions of 4.54-inch X 2.58-inch X 0.22-inch. Connect the surge suppressor to the branch circuit breaker as indicated on the plans.

B.8 Field Wiring Termination Blocks

All connections from the field wiring to equipment in the lighting control cabinet shall be made through termination blocks. Provide quantity of channel mount, NEMA type single terminal blocks as indicated on plans that are capable of holding #12 to #1/0 wire with solderless box lugs, for power, neutral and grounding connections. Mount the terminal blocks on a mounting channel of appropriate length with end anchors and an end barrier. Each terminal block shall have a label indicating the appropriate circuit number, neutral ('N') or ground ('G') wire connected to block; handwritten numbers and letters are not acceptable means of identification. Make connections from the underground field wiring to the equipment in the lighting control cabinet through distribution blocks.

B.9 Convenience GFI Receptacle and Cabinet Light Fixture

Furnish a 20 ampere, 120 commercial grade GFI duplex receptacle within a galvanized steel outlet box with cover. 150 watt, 250 volt commercial grade lamp holder with galvanized steel box and 60 watt incandescent bulb. Furnish switch to turn on cabinet light by opening the cabinet door.

B.10 Incidental Materials

Secure all wiring using screw attachment type straps; adhesive type shall not be allowed.

C Construction

Assemble the control cabinet as shown on the plans. Pretest the cabinet prior to shipment to the site. Mount all equipment to panel in enclosure. Train the cables in straight horizontal and vertical directions and be parallel next to and adjacent to other cables whenever possible. Mount the cabinet to the concrete base per the manufacturer's requirements. The work under this bid item includes connection and termination to the feeder system wiring.

D Measurement

The department will measure Lighting Control Cabinet 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.0060.034	Lighting Control Cabinet	Each

Payment is full compensation for furnishing and installing photo control, contactors, panel, distribution blocks, surge arrestor, enclosure, grounding, wiring and electrical components; mounting to the concrete base.

**71. LED Luminaire and Mounting Bracket Type 1, Item SPV.0060.035;
LED Luminaire and Mounting Bracket Type 2, Item SPV.0060.036;
LED Luminaire and Mounting Bracket Type 3, Item SPV.0060.037.**

A Description

This special provision describes furnishing and installing LED luminaires at the locations shown in the plan.

B Materials

B.1 Material Qualifications

Furnish a complete list of documentation in accordance to standard spec 651.2 and the following requirements. Be prepared to provide the following materials and/or data to the engineer and the City of Madison Traffic Engineering Department, (Brian Smith, 215 Martin Luther King Jr. Boulevard, Suite 100, Madison, WI, 53703; (608) 261-9625; bsmith@cityofmadison.com) for review:

One example unit matching what is proposed for use as LED Luminaire and Mounting Bracket Type 1, Type 2 and Type 3 on the project. Example luminaires shall be available for evaluation for up to two weeks time. Furnish the following list of specific documentation detailing the characteristics of the LED luminaires:

1. Fixture IES files (.ies format) for illumination modeling.
2. Lighting design calculations using the proposed luminaires. Illumination.
3. design must meet IESNA target values for type R3 pavement.
4. Cut sheets, warranty information and parts list for all equipment.
5. Luminaire heat dissipation techniques.
6. Energy usage information.
7. Color spectrum with HID lamp comparison.
8. Optical design and dimming features.
9. Verification of past history manufacturing LED luminaries.

Furnish the information required in the above list to the City of Madison and the engineer after letting. The City of Madison will not approve any materials prior to bid letting. Do not order materials until the engineer approves the list.

B.2 Luminaire

Furnish LED luminaires with a slim, low profile design that minimizes wind loading. Luminaires shall be constructed of heavy duty cast and extruded aluminum with integral, weather-tight LED driver components with high performance heat-sinks to dissipate heat. Each luminaire shall use a terminal block for power input suitable for #2 to #14 AWG wire.

B.2.1 Electronic Components

Luminaire may accommodate varied lighting output from high brightness, but is not required. LED for type 2 and type 3 shall operate at 4000K (+/-500K per unit) color temperature, minimum 70 CRI LED sources. LED for type 1 luminaires shall operate at 3000K (+/-500K per unit) color temperature Drivers shall operate across 120-277V, 50/60 Hertz as standard. LED drivers shall have a power factor greater than 90%. Luminaires for Type 2 and Type 3 shall come equipped with dual drivers wired to alternating LED banks to enable bi-level switching. All luminaires shall come equipped with an integral surge suppression protection standard and a quick disconnect harness suitable for mate and break under load provided on power feed to driver.

B.2.2 Optical / Illumination Performance

Luminaires shall illuminate the subject roadways and areas using the proposed lighting layout and mounting equipment as shown on the plans to the following predetermined criteria:

1. Luminaires tested and certified by an independent test laboratory to meet the photometric performance criteria established by IESNA LM-79. Luminaires shall be IESNA Type II or III distribution.
2. Luminaires may have dimming capability, but is not required.
3. Luminaires shall deliver approximately 4,000 lumens for Type 1 luminaires, 7,000 lumens for Type 2 luminaires and 10,000 lumens for Type 3 luminaires (+/- 15%) and be rated to consume no more than 55 watts for Type 1 luminaires, 110 watts for Type 2 luminaires, and 185 watts for Type 3 luminaires (+/-15%) while operating for a minimum of 70,000 hours (+/- 10%). Lumen output variation may be acceptable if the luminaire is proven to provide the illumination criteria as shown below.
4. The resulting illumination under the proposed lighting layout and mounting equipment shall meet the following illumination levels: 0.8 foot-candles and an average-minimum illumination ratio of 3.0:1 (min.); all within a tolerance of +/-5%. Illumination verification information shall be provided for the following sections of the project:
 - a) Northbound lanes of South Junction Road (CTH M) approaching Mineral Point Road (CTH S).
 - a. 1-13' lane
 - b. 5 - 11' lanes
 - c. 1 - 6' bike lane
 - d. 8' terrace (with curb head) and 5' sidewalk on east side
 - b) Typical divided section of Mineral Point Road (CTH S) west of Jug Handle.
 - a. 22 foot median
 - b. 1-12' and 2-11' lanes in each direction
 - c. 1 - 7' bike lane in each direction
 - d. 7' terrace (with curb head) and 10' path on north side
 - e. 8' terrace (with curb head) and 5' sidewalk on south side

- c) Southbound lanes on South Junction Road (CTH M) bridge crossing Mineral Point Road (CTH S).
 - a. 1-13' lane
 - b. 2 - 11' lanes
 - c. 1 - 6' bike lane
 - d. 5' terrace and 10' path on west side

B.2.3 Finish

The luminaire and mounting arm finish shall feature an epoxy primer with a silver powdered topcoat, providing resistance to corrosion, ultraviolet degradation and abrasion. Alternative equivalent finishes shall be approved by the engineer.

B.2.4 Ratings / Certifications

Rate and/or certify luminaires as follows:

- 1. U.L. listed for wet locations.
- 2. RoHS compliant for lead and mercury standards.
- 3. IP-65 minimum weather fastness rating.
- 4. IDA dark sky full cutoff compliant.

B.2.4 Mounting Bracket

Type 1 luminaires shall come standard with mounting bracket up to a maximum of 24-inches in length. Mounting arm bracket shall accommodate a weathertight and vibration resistant luminaire attachment designed for mounting to a round pole section. Ensure the mounting arm and street light poles selected for the project are compatible prior to ordering materials.

Type 2 luminaires shall come standard with compatibility for mounting on a 2-inch IP (2.375-inch O.D.) horizontal tenon and shall be adjustable +/- 5 degrees to allow for leveling.

C Construction

Install LED Luminaires and Mounting Bracket (Type) in accordance to the pertinent provisions of standard spec 659 and as the manufacturer directs.

D Measurement

The department will measure LED Luminaire and Mounting Bracket (Type) as each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.035	LED Luminaire and Mounting Bracket Type 1	Each
SPV.0060.036	LED Luminaire and Mounting Bracket Type 2	Each
SPV.0060.037	LED Luminaire and Mounting Bracket Type 3	Each

Payment is full compensation for furnishing all materials; installing a complete luminaire.

72. Wall Pack Luminaire LED, Item SPV.0060.038.

A Description

This special provision describes furnishing and installing LED wall pack luminaires at the locations shown in the plan.

B Materials

B.1 Material Qualifications

Furnish a complete list of documentation in accordance to standard spec 651.2 and the following requirements. Be prepared to provide the following materials and/or data to the engineer and the City of Madison Traffic Engineering Department [Brian Smith, 215 Martin Luther King Jr. Boulevard, Suite 100, Madison, WI, 53703; (608) 261-9625; bsmith@cityofmadison.com] for review:

One example unit matching what is proposed for use as Wall Pack Luminaire LED on the project. Example luminaire shall be available for evaluation for up to two weeks time. Furnish the following list of specific documentation detailing the characteristics of the Wall Pack Luminaires:

1. Fixture IES files (.ies format) for illumination modeling.
2. Lighting design calculations using the proposed luminaires. Illumination.
3. design must meet IESNA target values for pedestrian underpasses.
4. Cut sheets, warranty information and parts list for all equipment.
5. Luminaire heat dissipation techniques.
6. Energy usage information.
7. Color spectrum with HID lamp comparison.
8. Optical design and dimming features.
9. Verification of past history manufacturing LED luminaries.

Furnish the information required in the above list to the City of Madison and the engineer after letting. The City of Madison will not approve any materials prior to bid letting. Do not order materials until the engineer approves the list.

B.2 Luminaire

Furnish LED wall pack luminaires with a variable, but maximum size of 20" x 20" x 12" deep. Luminaires shall be constructed of heavy duty cast aluminum with integral, weather-tight LED driver components with high performance heat-sinks to dissipate heat. Provide a terminal block for power input suitable for #2 to #14 AWG wire for each luminaire. The drive current may be field switchable with each unit shall be capable of operating at multiple levels, but is not required. Design the luminaire for flush or recessed mounting capable of being installed inset in a solid concrete box culvert wall. Luminaire shall be vandal resistant rated with non-breakable lens.

B.2.1 Electronic Components

Luminaire may accommodate varied lighting output from high brightness, but is not required. LED shall operate at 4000K (+/-500K per unit) color temperature, minimum 70 CRI LED sources. Drivers shall operate across 120-277V, 50/60 Hertz as standard. LED drivers shall have a power factor greater than 90%. All luminaires shall come equipped with an integral surge suppression protection standard and a quick disconnect harness suitable for mate and break under load provided on power feed to driver.

Luminaires may feature motion sensing dimming activation, but is not required.

B.2.2 Optical / Illumination Performance

Luminaire shall illuminate the pedestrian tunnel using the proposed lighting layout on the subject project to the following preset criteria:

1. Luminaire tested and certified by an independent test laboratory to meet the photometric performance criteria established by IESNA LM-79.
2. Luminaire shall deliver a minimum of 500 lumens and be rated to consume no more than 35 watts (+/- 10%).
3. The resulting illumination on the floor of the pedestrian tunnel under the proposed lighting layout shall meet an average maintained illumination of 1.4 foot-candles and an average-minimum illumination ratio of 1.5:1; all within a tolerance of +/-10%.

B.2.3 Finish

The luminaire finish shall feature an epoxy primer with a silver powdered topcoat, providing resistance to corrosion, ultraviolet degradation and abrasion. Alternative equivalent finishes shall be approved by the engineer.

B.2.4 Ratings / Certifications

Luminaires shall be rated and/or certified as follows:

- U.L. listed for wet locations.
- RoHS compliant for lead and mercury standards.
- IP-65 weather fastness rating.

B.3 Mounting Hardware

Furnish mounting hardware as required for recessed installation of the unit into the wall of the pedestrian tunnel. Refer to structure plans and lighting details for information regarding the recessed luminaire mounting requirements.

C Construction

Install Wall Pack Luminaire LED in accordance to the pertinent provisions of standard spec 659 and as the manufacturer directs.

D Measurement

The department will measure Wall Pack Luminaire LED, as each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.038	Wall Pack Luminaire LED	Each

Payment is full compensation for furnishing all materials; installing a complete luminaire.

73. Outlet Box 4X4X4-Inch, Item SPV.0060.039.**A Description**

This work shall be in accordance to the requirements of standard spec 653, the plans, standard detail drawings, and as hereinafter provided.

B Materials

In accordance to the plans and standard spec 653.2.2, Junction Boxes of the standard specifications.

C Construction

In accordance to the plans and standard spec 653.3.

D Measurement

The department will measure Outlet Box 4x4x4-Inch as each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.039	Outlet Box 4X4X4-Inch	Each

Payment is full compensation in accordance to standard spec 653.5.

74. Pole 30-Foot, 11 Gauge, Item SPV.0060.040; Pole 20-Foot, 7 Gauge, Item SPV.0060.041; Pole 35-Foot, 11 Gauge Item SPV.0060.109.**A Description**

This special provision describes furnishing and installing poles and arms in accordance to section 657 of the standard specifications, the details shown on the plans, and these special provisions.

B Materials

Provide round poles, with a base plate welded to the bottom end of the pole. All 20 foot and 30 foot poles are to be a single section, with an eight-inch diameter shaft at the base and 0.14 inches per foot taper. All 35 foot poles are to be a single section, with an eight and 11/16-inch diameter shaft at the base and 0.14 inches per foot taper.

Provide base plates with a slotted opening for anchor bolts.

Certify that all 30-foot and 35 foot poles have been designed to withstand a 90 mile per hour sustained wind velocity and 117 mile per hour gust velocity with the bracket arm and luminaire in place.

Use 20-foot 7 gauge poles for supporting aluminum trombone arms holding signs and/or signal heads.

Provide a 4" x 6 1/2" galvanized handhole with contoured or flat cover plate joined to the reinforced handhole frame with two bolts. Locate the handhole at 90 degrees clockwise from the bracket arm side of poles as viewed when looking down from the top of the pole. The center of the handhole should be 14 inches from the bottom of the pole. Provide a solid metal bracket, with a drilled and tapped hole for securing cover plate bolts. Clips for holding these bolts are not acceptable. The machine bolts shall be a slotted hex-head style.

Fabricate the pole shaft from the herein specified manufacturer's best grade, hot rolled basic open hearth, or basic oxygen process steel. Provide a shaft with only one longitudinal, electrically welded joint, with the strength rated at not less than 100 percent of the yield strength of the steel and shall have no intermediate horizontal joints or welds. Only one length of steel sheet shall be used, and form it into a continuously tapered shaft, having a taper of approximately 0.14 inches per foot. Provide smooth welds allowing the specified taper to be constant. Provide a pole that is within 1/4" in 10 feet of being straight and centered on its longitudinal axis.

Provide a grounding nut or nut holder for accommodating a 1/2 inch x 13 UNC threaded bolt or stud on the inside of the shaft immediately opposite the center of the handhole. Make the nut completely free of any metal residue that would prevent a bolt from easily screwing entirely into the nut.

Provide all poles holding LED fixtures with mounting and wire raceway holes placed before being hot-dipped galvanized. Coordinate mounting needs with the LED luminaires selected for the project prior to ordering poles.

Furnish and install a pole-top cover and four nut covers for each pole.

Provide each steel pole with a permanent imprinted metal label attached with rivets midway between the base plate and the handhole. State the overall pole height, shaft gauge, and year of manufacture on the label. Provide a label that will conform to the curvature of the pole and not have any sharp edges or corners. Install rivets so they are smooth inside and outside of the pole.

Thoroughly clean the exterior surface of the pole, arm, and hardware to make them free of all loose rust, mill scale, dirt, oil, grease, and other foreign substances after all welding has been completed. Hot-dip galvanize the poles and arms in accordance to the requirements of ASTM Designation A123. Hot-dip galvanize the hardware in accordance to ASTM designation A153. Provide a bright, shiny, and uniform galvanized finish. Matted or dull pole sections will not be accepted.

Furnish non-shrink commercial grout from approved products list.

C Construction

Set and plumb metal poles with the use of leveling nuts furnished with the anchor bolts. Level luminaries after erecting and leveling the metal standards with bracket arms. The proper leveling method may be obtained from the manufacturer's instruction manual. Torque nuts on anchor and transformer bolts to 175-200 foot pounds or as directed by the engineer. Provide rust, corrosion, and anti-seize protection at all threaded assemblies by coating and mating surfaces with Markal (hightemp – E-Z Break), Never-Seez (Marine Grade), LPS 100, Lubriplate, or approved equal.

Attach the stranded copper ground wire that is installed as a part of base construction with an approved connector (Fargo GC 202 or approved equal) to a ground nut locate inside the pole opposite the handhole.

When transformer bases are not installed, trowel grout between the pole and concrete base and finished at an angle from the edge of the pole base to the outer edge of the foundation. Leave a ½ inch slot for drainage through the grouting on the street side at the top of the concrete base.

D Measurement

The department will measure Pole (description) 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.0060.040	Pole 30-Foot 11 Gauge	Each
SPV.0060.041	Pole 20-Foot 7-Gauge	Each
SPV.0060.109	Pole 35-Foot 11-Gauge	Each

Payment is full compensation for furnishing and installing all materials, including poles, all hardware and fittings necessary to completely install the pole; for corrosion prevention where required; for installing identification required plaques.

75. Poles Aluminum 20-Foot Street Light, Item SPV.0060.042.

A Description

This special provision describes Poles Aluminum 20-Foot Street Light in accordance to the plans and as hereinafter provided. It is the intent to describe in these specifications minimum functional and design requirements for aluminum light poles for the City of Madison, Wisconsin.

B Materials

Provide all poles that conform to the electrical detail drawing in the plans; the manufacturer's approved shop drawing; and these specifications. Submit exceptions to these specifications and city drawings to the engineer for review prior to manufacturing.

Coordinate mounting needs with the LED luminaires selected for the project prior to ordering poles to ensure mounting and wire raceway holes are compatible with the selected LED luminaires.

Provide poles that have round aluminum shafts with a base welded to the lower end of each.

Certify that all poles have been designed to withstand a 90-mile-per-hour sustained wind velocity and a 117-mile-per-hour gust velocity, with one light fixture attached.

B.1 Shaft

Provide a grounding nut or nut holder for accommodating a 1/2 inch 13 UNC threaded bolt or stud on the inside of the shaft immediately opposite the center of the handhole.

Provide poles that after fabrication and assembly, will have no sharp edges, corners or points on both the interior and exterior surfaces, except at the base plate.

Restore to the design alloy by heat treating after fabrication.

B.2 Pole Coatings

Confer with Dan C. Dettmann of City Traffic Engineering, (608) 266-6536, as to the specifications for a black anodized finish in order to assure the city that the city's desires are being fulfilled. Spin the poles using a fine (120) grit. Provide a uniform finish appearance free from any streaking during the pole extrusion, spinning and anodizing. Use a two-step matte black anodizing finish (AA-C22-A44-Black) or an alternate process which produces a dark black finish. A light black finish is not acceptable.

B.3 City Approval of Shop Drawings

Submit shop drawings to the City of Madison Traffic Engineering Division, PO Box 2986, Madison, WI 53701-2986, Attn: Brian Smith. Manufacture no poles until the city has approved the shop drawings. City review and approval of shop drawings will be done within three work days of their receipt unless revisions to shop drawings are necessary as determined by the city.

C Construction

Construct according to standard spec 657.

D Measurement

The department will measure Poles Aluminum 20-Foot Street Light 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.0060.042	Poles Aluminum 20-Foot Street Light	Each

Payment is full compensation for furnishing and installing poles, all hardware and fittings necessary to completely install the pole; for corrosion prevention where required; for installing identification required plaques.

76. Decorative Light Cover, Item SPV.0060.044.

A General

This section describes furnishing and installing decorative metal fabrications as shown on the plans and in accordance to the pertinent provisions of standard spec 506 and as hereinafter provided.

Any material and labor not specifically covered by the plans and these specifications that may be found necessary to complete the fabrications shall be furnished by the contractor without extra cost to the department.

A1 Standards

Comply with the following unless otherwise specified or indicated:

1. Welding: "Structural Welding Code - Steel, AWS D 1.1", by The American Welding Society (AWS Code).

A2 Submittals

Submit shop drawings for metal fabrications as specified in standard spec 506 before ordering or fabricating the material. Show fabrication details and connections to adjacent work. Furnish setting drawings and templates for installation of bolts and anchors in other work. Verify the compatibility of the specific unit that will be used for the Wall Pack Luminaire LED bid item and the dimensions shown in the structure plans and lighting

plans. Provide a decorative light cover with correct dimensions as required to work with the equipment that will be used on the project.

Submit manufacturer's catalog cuts, printed specifications, and installation instructions to the engineer.

B Materials

Fabricate metal assemblies and components from the following applicable materials required to produce units conforming to the design and types of metal fabrications indicated.

1. Stainless steel plate, sheet, and strip: ASTM A 480 type 304.
2. Stainless steel bars and shapes: ASTM A 276 type 304.

Fasteners and Anchors: Furnish type, size, and grade required for fabrication and installation of the work of this section. Fasteners and anchors shall be stainless steel unless otherwise indicated.

C Construction

C1 Fabrication

Fabricate metal items of material, size, and thicknesses indicated. If not indicated, use material of required size and thickness to produce adequate strength and durability for the intended use of the finished product.

Fabricate items intended to be exposed to view of material entirely free of surface blemish, including pitting, roller and seam marks, rolled trade names, or roughness. Remove surface blemishes by grinding or by welding and grinding, prior to cleaning, treating, and finishing.

Form work true to line and level with accurate angles and surfaces and straight sharp edges. Ease exposed edges to a radius of approximately 1/32" unless otherwise shown. Form bent-metal corners to the smallest radius possible without causing grain separation or otherwise impairing the material.

Comply with AWS Code for the procedures for manual shielded arc welding, appearance and quality of welds and for the methods used in correcting welding work. Weld corners and seams continuously. Grind exposed welds smooth and flush, to match and blend with adjoining surfaces.

Form exposed connections with flush, smooth hairline joints. Use concealed fasteners wherever possible.

Prepare fabricated metal items for anchorage of the type indicated, coordinated with the supporting structure. Fabricate and space anchoring devices as indicated or as required to provide adequate support for the intended use of the work.

Cut, reinforce, drill, and tap fabricated metal items as required to receive finish hardware and other appurtenant items.

C2 Installation

Fit and set fabricated metal items accurately, in designed locations, at proper elevation and alignment.

D Measurement

The department will measure Decorative Light Cover as each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.044	Decorative Light Cover	Each

Payment for the Decorative Light Cover is full compensation for providing all materials including the wedge anchors and for fabricating and installing the assemblies.

77. Electrical Pullbox Type 1, Item SPV.0060.045; Type 3, Item SPV.0060.046; Type 5, Item SPV.0060.047.

A Description

This special provision describes furnishing and installing pull boxes and manholes in accordance to standard spec 653, the plan details, and as herein provided.

B Materials

Provide Electrical Pullbox, Type I with a gray colored polymer concrete construction. Provide a box with the following dimensions: 19” wide x 32” long x 24” deep and come with a cover rated to withstand 15,000 lbs over a 10” square with a minimum test load of 22,568 lbs.

Provide Electrical Pullbox, Type III with a high density polyethylene box and concrete polymer lid or concrete polymer construction for box and lid. Provide a box with the following dimensions: 12” wide x 12” long x 12” deep with a polymer cover rated to withstand 20,000 lbs.

Provide Electrical Pullbox, Type V, with a gray colored polymer concrete construction. Provide a box with the following dimensions: 24” wide by 36” long by 24” deep with the box and cover being rated at 15,000 lbs over a 10” square.

Manufacturer to imprint each cover with the logo “TRAFFIC SIGNAL”.

C Construction

Install in accordance to the pertinent provisions of standard spec 653.3 and the plan details.

D Measurement

The department will measure Electrical Pullbox (Type) 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.0060.045	Electrical Pullbox Type 1	Each
SPV.0060.046	Electrical Pullbox Type 3	Each
SPV.0060.047	Electrical Pullbox Type 5	Each

Payment is full compensation for for furnishing and installing all materials, including crushed aggregate; for excavation, backfill, and disposal of surplus materials.

78. Electrical Utility Access Structure, Item SPV.0060.048.**A Description**

Perform the work in accordance to the applicable provisions of standard spec 611 and as detailed in the plans.

B (Vacant)**C (Vacant)****D Measurement**

The department will measure Electrical Utility Access Structure 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.0060.048	Electrical Utility Access Structure	Each

Payment for the Electrical Utility Access Structure is full compensation for providing and installing all materials, including all masonry, reinforcement, conduit connections, steps, and other fittings; frame and casting; for furnishing all excavating, backfilling, disposing of surplus material, and for cleaning out and restoring the work site.

79. Concrete Base Type G, Item SPV.0060.049; Type LB-2, Item SPV.0060.050; Type LB-3, Item SPV.0060.051; Type LB-8, Item SPV.0060.052; Type P, Item SPV.0060.053; Type M, Item SPV.0060.054; Type LB-8 Modified, Item SPV.0060.110.

A Description

This special provision describes construction of concrete foundations, including necessary hardware, as shown on the plans, in accordance to the pertinent provisions of standard spec 654 and as hereinafter provided.

B Materials

Provide Grade A, A-WR, A-FA, or A-IP concrete masonry conforming to the requirements of standard spec 501.

Provide Schedule 40 polyvinyl chloride (PVC) electrical conduit that will be cast within the bases that conforms to the requirements of standard spec 652.

Provide anchor bolts for Type G bases made from high-strength steel 50 KSI minimum yield strength, ASTM A36, with each being fitted with a hard washer and heavy hex nut. Provide approximately 3 inches or more of thread on each bolt at the top end. Galvanize the bolts, washers, and nuts. Provide 3/4" x 24" bolts.

Provide anchor bolts for Type LB-3 and Type LB-8 bases made from high strength steel (50 KSI minimum yield strength), ASTM A36, with each being fitted with two hard washers and two heavy hex nuts. Provide approximately 6 inches or more of thread at the top end of each bolt. Galvanize the bolts, washers, and nuts. Provide bolts for the LB-8 base being 1.25 inch by 48 inch, including 4 inch L-bend at the bottom. Provide bolts for the LB-3 base and the LB-8 Modified base being 1.00 inch by 40 inch including 4 inch L-bend at the bottom.

Provide a concrete maintenance platform for all Type P and M bases. Construct Type P and M bases in accordance to the Concrete Control Cabinet Base Standard Detail. Confirm the location of the conduits in the base with the City of Madison. Anchor bolts, nuts, and washers for Concrete Controller Base, Type P, will be provided and installed by the City of Madison when installing signal control cabinets. Conform bar steel reinforcement to the requirements of standard spec 505.

C Construction

Place the bases with one side parallel to the centerline of the street.

Provide forms of sufficient depth to provide a minimum of 12 inches of formed base below the finished grade on the low side of the base. Construct the top surface of the base with a 3/4 inch bevel on the edges with a rubbed finish.

Cast anchor bolts into the base as shown on the plans. Verify bolt circle diameters before constructing the bases.

Furnish and install manufactured elbows in all bases, except as noted on the details. Install elbows that permit conduit to be installed in as nearly straight-line runs as possible, without unnecessary bends. Bases not installed to this standard will not be accepted. Extend existing conduit into the bases. Install an extra elbow as directed by the engineer at each base at the end of a run. Install extra elbows in any new base as directed by the engineer.

Erect poles on the concrete bases until the bases after the concrete has cured for at least seven days.

Provide a rubbed finish down to finished grade for all concrete bases.

D Measurement

The department will measure Concrete Base (Type) 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.0060.049	Concrete Base Type G	Each
SPV.0060.050	Concrete Base Type LB-2	Each
SPV.0060.051	Concrete Base Type LB-3	Each
SPV.0060.052	Concrete Base Type LB-8	Each
SPV.0060.053	Concrete Base Type P	Each
SPV.0060.054	Concrete Base Type M	Each
SPV.0060.110	Concrete Base Type LB-8 Modified	Each

Payment is full compensation for furnishing and installing all materials including conduit, bushings, caps and/or plugs, ground rod, anchor bolts, cadwelding, copper grounding wire; bar steel reinforcement, and concrete masonry; for providing openings through existing pavement where required; for excavation, including hand-digging as required, backfill, and disposal of surplus materials.

80. Concrete Base Offset, Item SPV.0060.055.

A Description

This special provision describes construction of concrete street light bases, including necessary hardware, in accordance to the pertinent provisions of standard spec 654 and as hereinafter provided.

B Materials

Provide Grade A, A-WR, A-FA, or A-IP concrete masonry conforming to the requirements of standard spec 501. Provide Schedule 40 polyvinyl chloride (PVC) electrical conduit that conforms to the requirements of standard spec 652 to be cast within the bases. Provide anchor bolts made from high strength steel (50 KSI minimum yield strength), ASTM A36, with each being fitted with two hard washers and two heavy hex nuts. Provide 6 inches or more of thread on each bolt at the top end. Galvanize the bolts, washers, and nuts. Provide bar steel reinforcement that conforms to the requirements of standard spec 505.

C Construction

Locate proposed street light bases as shown in the plans in accordance to the Construction Staking Electrical Systems bid item. Where potential underground conflicts exist, locate the existing utility. Hand excavation may be required. MG&E gas requires an inspector to be present when excavating near MG&E gas facilities in accordance to the Utilities Article of these special provisions. The engineer will determine whether to adjust the base location laterally to avoid the conflict or require the use of an Offset Base. Install rock shield between the main and street light base as directed by MG&E personnel. MG&E will supply the rock shield.

Provide forms of sufficient depth to provide a minimum of 12 inches of formed base below the finished grade on the low side of the base. Construct the top surface of the base to be level with a 3/4 inch bevel on the edges and shall be given a rubbed finish.

Cast anchor bolts into the base as shown on the plans. Verify bolt circle diameters before constructing the bases.

Furnish and install manufactured elbows in all bases by the contractor, except as noted on the details. Install elbows to permit conduit to be installed in as nearly straight-line runs as possible, without unnecessary bends. Bases not installed to this standard will not be accepted.

Extend existing conduit into the bases. Construct elbows to conform to the requirements of the type of conduit entering the base. Provide and install an extra elbow at each base at the end of a run as directed by the engineer.

Install extra elbows in any base as directed by the engineer. Do not erect poles on the concrete bases until the bases have cured for at least seven days.

Provide a rubbed finish down to finished grade on all concrete bases.

D Measurement

The department will measure Concrete Base Offset 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.0060.055	Concrete Base Offset	Each

Payment is full compensation for furnishing and installing all materials including conduit, bushings, caps and/or plugs, ground rod, anchor bolts, cadwelding, copper grounding wire; bar steel reinforcement, and concrete masonry; for providing openings through existing pavement where required; for excavation, including hand-digging as required, backfill, and disposal of surplus materials.

81. Transformer Base 16-Inch Steel, Item SPV.0060.056.**A Description**

This special provision describes furnishing and installing steel transformer bases as shown on the plans and as follows.

B Materials

Provide hot-dipped galvanized steel transformer bases in accordance to ASTM designation A123. Provide bases with slotted bolt openings. Furnish steel connecting bolts, size 1.25 inches by 4 inches, hold down lugs for 1.00 or 1.25 inch bolts and nuts and washers. Verify the bolt diameter, projection and bolt circle dimension required for each application. Ensure the concrete bases and pole bases are compatible with the transformer bases and bolts. Hot-dip galvanize all material and verify they are of sufficient size and strength to exceed the capacity of the bases. Construct the 16 inch base to conform to the detail in the plan.

Furnish to the engineer at the time of delivery of the bases, a manufacturer's certificate of compliance that the base and hardware as furnished meets the above requirements.

C Construction

Install transformer bases in accordance to the manufacturer's instructions, and as shown on the plans.

D Measurement

The department will measure Transformer Base 16-Inch Steel 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.0060.056	Transformer Base 16-Inch Steel	Each

Payment is full compensation furnishing and installing transformer bases, streetlight pole wire, mechanical grounding connector and related hardware; for leveling shims when required.

82. Monotube Pole, Type 9, Item SPV.0060.057; Monotube Arm, 20-Foot, Item SPV.0060.058; Monotube Arm, 25-Foot, Item SPV.0060.059; Monotube Arm, 30-Foot, Item SPV.0060.060; Monotube Arm, 35-Foot, Item SPV.0060.061.

A Description

This section describes furnishing and installing poles and monotube arms for traffic signals.

B Materials

Design support structures, consisting of poles and arms, conforming to the completed maximum loading configurations and to AASHTO design and fabrication standards for structural supports for highway signs, luminaires, and traffic signals. Use a design life of 50 years. Design to withstand a 3 second gust wind speed of 90 mph. Do not use the methods of appendix C of those AASHTO standards.

Design support structures to the AASHTO fatigue category criteria III.

Along with the materials list, submit a certificate of compliance certifying that poles as furnished, conform to the above structural performance requirements. Ensure that the certificate of compliance is on the manufacturer's letterhead, signed by an authorized company officer, and notarized. Send a copy of the certificate and a copy of the pole shop drawings to the engineer. Furnish poles from an approved manufacturer.

Furnish shop drawings as specified in standard spec 506.3.2, except submit five copies with the materials list. Ensure the drawings contain sufficient detail to allow satisfactory review and show the outside diameters of the pole at the butt, top, and splice locations the plans show. Show the width, depth, length, and thickness of all material, and list all pertinent ASTM specification designations and metal alloy designations together with the tensile strength of all metallic members.

After completing the manufacturing process, ensure that all shafts a nominal 40 feet or less in length for lighting poles only, are round, of one-piece construction, and of the specified length.

Construct poles of materials having sufficient rigidity that, with all material installed and in place as the plans show, the centerline of the shaft is vertical. Include dampers for poles as needed. If the engineer determines that vibration is a problem after a pole has been installed, install dampeners as the engineer directs.

Thoroughly clean all exterior surfaces of the pole, arm, and hardware to free them of all loose rust, mill scale, dirt, oil, grease, and other foreign substances after all welding has

been completed. Hot-dip galvanize the poles and arms in accordance to the requirements of ASTM Designation A123. Hot-dip galvanize the hardware in accordance to ASTM Designation A153. Provide poles with a bright, shiny, and uniform galvanized finish. Matted or dull pole sections will not be accepted.

For monotube pole, provide anchor rods, nuts and washers for the contract base (Type 10).

Provide a reinforced hand hole measuring 5 inches by 8 inches. Locate the hand hole approximately 18 inches from the bottom of the pole base plate to the center of the door. For the hand hole, include an access cover mounted to the pole by two 1/4" -20 x 3/4" hex-head stainless steel bolts.

Provide a grounding lug complete with mounting hardware as required, inside the pole, 180-degrees from the handhole side of the pole.

Provide access to the grounding L-clip from the hand hole. Before galvanizing the pole, weld the grounding L-clip directly opposite the hand hole on the inside wall of the pole. Equip the top of the pole shaft with a removable, ventilated cap held securely in place by at least one 1/4" -20 x 3/4" hex-head stainless steel set screw.

Ensure that all castings are clean, smooth, and with all details well defined and true to pattern.

Attach base plates firmly to the pole shaft by welding or other approved method. Provide and install a permanent imprinted metal label attached with rivets midway between the base plate and the handhole on each steel pole. State the shaft length, manufacturer's name, and year of manufacture on each label. Conform the label to the curvature of the pole and so that it will not have any sharp edges or corners. Make all rivets smooth inside and outside of the pole.

Provide monotube arms with the following:

1. A mounting device welded to the pole end of the monotube arm that allows the attachment of the arm to a pole.
2. Stiffeners or gussets if required between the arm tube and the arm mounting device to provide adequate strength to resist side loads.
3. A wiring raceway.

C Construction

Under each bid item, furnish and install poles, ventilated pole caps, arms, and all necessary miscellaneous hardware needed to complete the installation of the poles and arms.

Install dampeners as the plans show and for poles and arms used in configurations susceptible to vibration. If the engineer determines that vibration is a problem after a pole and arm has been installed, install dampeners as the engineer directs.

After completing erection using normal pole shaft raking techniques, ensure that the centerline of the shaft is vertical.

D Measurement

The department will measure Monotube Pole, Type 9, and Monotube Arm (Length) by each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.057	Monotube Pole, Type 9	Each
SPV.0060.058	Monotube Arm, 20-Foot	Each
SPV.0060.059	Monotube Arm, 25-Foot	Each
SPV.0060.060	Monotube Arm, 30-Foot	Each
SPV.0060.061	Monotube Arm, 35-Foot	Each

Payment is full compensation for furnishing and installing all materials,

Payment for Monotube Pole, Type 9 also includes anchor rods, nuts and washers for the concrete base Type 10.

83. Traffic Signal Control Cabinet, Item SPV.0060.062.

A Description

This special provision describes providing a door-in-door style, open bottom, base mounted cabinet, with exterior dimensions of 55" height, 38" width, and 26" depth. The cabinet shall be of weatherproof construction, fabricated from sheet aluminum at least 0.125-Inches thick and adequately reinforced. A heavy duty stainless steel handle (5/8 inch minimum diameter) and latch shall be provided. The door hinges shall be all stainless steel and continuous for the full height of the door. The cabinet interior shall have a zinc chromate prime coat and be finished with one coat of rust-resistant high gloss white enamel. The cabinet exterior shall be natural mill finish. Two adjustable-height shelves of 12-13 inches depth are required.

B Materials

B.1 Locks

Provide a main cabinet door with a tumbler lock keyed for a Corbin No. 2 key. Equip the auxiliary (Police Panel) door with a lock for a standard police key. Furnish a key for each lock. When the door is closed and latched, with the key removed, the door shall lock. The locking bar shall be a solid non-rusting metal with a square cross-section, equipped with a double roller on each end.

B.2 Door Stop

Equip the cabinet with a door stop assembly to hold the door open at approximately 90° and 150°.

B.3 Weather Protection and Incandescent Light

Equip the cabinet with an electric fan assembly with a minimum capacity of 100 cubic feet per minute. Mount the fan in the top of the cabinet in a manner to prevent rain from entering the cabinet. The fan shall be thermostatically controlled and be manually adjustable to turn on between 80o F and 150o F. Provide fuse protection at 125% of the capacity of the fan motor for the cabinet fan circuit.

Provide a removable filter on the air intake near the bottom of the cabinet via louvered vents, including a gasketed aluminum filter replacement for use in the winter to prevent entrance of snow.

Mount an incandescent light socket in the upper front part of the cabinet.

B.4 Grounding

Provide a copper equipment grounding bus in each cabinet to accept up to #4 stranded wire. Ground the ground bus to the cabinet, and provide at least 14 terminals of the tubular clamp type. Connect all ground bus together with a minimum #8 green copper wire.

B.5 Solid State Flasher

Furnish the cabinet with two 6 pin, 20 amp, double circuit solid state flashers, fully connected and operating.

B.6 Flash Transfer Relays

Provide electromechanical relays for opening and closing traffic signal field circuits. Furnish the cabinet supplied under this specification with four 2-pole transfer relays wired to transfer the vehicle phases. Cover relays used for this purpose, insulate, or locate so that electrically alive parts are not readily exposed. Construct all relays to be next to each other and mounted on the back panel.

Construct all contact points which make, break, and carry current to the signal lamps of silver-cadmium, coin silver or equivalent material. Contact to be capable of making, breaking, and carrying a current of 10 amperes, 120 volts, without undue pitting. Relay coils to have a power consumption of 10 volt amperes or less and shall be designed for continuous duty. Provide contact points which make, break, and carry current to the solid state switchpacks capable of carrying 40 amperes of 120 volts without undue pitting.

Construct the transfer relay to withstand a potential of 1500 volts at 60 Hertz between insulated parts, and between current carrying parts and grounded and non-current carrying parts. Each transfer relay to have a one cycle surge rating of 175 amperes RMS (247.5 amperes peak). Each transfer relay to be unaffected by electrical noise, having a rise time of up to 200 volts per microsecond. Each relay shall be unaffected by the 500 volt power noise transient test.

Construct the flash transfer relay to energize the flasher and transfer field signal light circuit from the controller to flasher, and shall permit flashing lights as programmed on the main street or highway and on the cross street or streets. Operation of the flash transfer relay circuit shall not prohibit the operation of the controller, but shall prohibit operation of the field signal light circuits by the controller.

Provide the flash transfer relay with a connector for the following pin assignments:

Pin Function

1. Relay Coil
2. Relay coil
3. NC Ckt. #1
4. NC Ckt. #2
5. Relay Common Ckt. #1
6. Relay Common Ckt. #2
7. No. Ckt. #1
8. No. Ckt. #2

Wire the flash circuit in a fail-safe manner so that the intersection will revert to and remain in the flashing mode whenever and for as long as either the controller or the monitor is disconnected. Support the relays with a rack at least 8 1/2 inches out from each socket.

B.7 Flash Sequence Programming

Provide a programming means to determine if flashing yellow or red appears on the output field terminals to the signal heads. Accomplish programming with simple tools such as a screwdriver. Conform the sequence timing for flash by automatic call-up with the MUTCD.

B.8 Load Switches

Furnish eight 3-circuit load switches, discrete type, with each cabinet. Provide the load switch panel with a bracket support for its full length and extending out 8 1/2 inches from the panel socket. The bracket support is intended to reduce switch loosening from vibrations and to prevent switches from falling down if disengaged from the socket.

B.9 Harness Wiring

Construct the wiring and cabinet panel arrangement to provide for full dual ring eight phase actuated operation. A 12-channel conflict monitor harness shall be supplied and wired in each cabinet. Construct all cabinet wiring harnesses to be neat, firm and routed to minimize crosstalk and electrical interference. Construct loop harnesses so they are routed to the right (hinge) side of the cabinet and attached up to shelf level to avoid harnesses dangling in front of the door.

Rout and bundle wiring containing AC separately from all low voltage control circuits. Furnish fuses and surge protection for all interconnect circuits. Cover all conductors and live terminals or parts, which could be hazardous to maintenance personnel, with suitable insulating material.

B.10 Terminal Blocks

Construct terminal block connections to be a minimum of 8 inches from the bottom of the cabinet. Provide terminal blocks of the two-position barrier type. Arrange terminal blocks so that they shall not upset the entrance, training and connection of incoming field conductors. Clearly identify and permanently associate all terminals with the terminal block.

Provide terminal blocks used for field wiring connections (field terminals) that are capable of securing conductors with 10-32 or larger nickel or cadmium plated brass binder head screws.

Provide terminal blocks used for the applied AC power that are capable of securing conductors with a 10-32 nickel or cadmium plated brass binder head screws.

Provide field terminal blocks for the connection of all loop detectors. Where a card rack is required, provide terminal blocks to accommodate 16 detector channels.

B.11 Detectors Card Rack

Provide detector card racks with four slots for four-channel detectors (a total of 16 detector channels) and a power supply slot. The card rack to have its flanges turned out. Construct the card rack so that it is fully wired and connected to cabinet terminals 1 through 16. Associate terminals 1 through 8 with vehicle phases 1 through 8, respectively. Supply a four-channel power supply with per-channel fusing and output indicators for each channel. Mount the card rack on the top shelf, left side as one looks into the cabinet.

B.12 Detectors

Provide cabinets with four 4 channel digital loop detector amplifiers approved for use by City of Madison Traffic Engineering and have at the minimum the following characteristics: Rack mount design, 2" maximum width for front panel. User selection for the following must be available on the front panel without requiring auxiliary devices:

1. Pulse or presence.
2. Sensitivity, minimum of 6 levels.
3. Sequentially scan channels or other suitable means to reduce crosstalk.
4. Display detection and faults for each channel.
5. Self tuning.

B.13 Power Panel

Provide cabinets with a power distribution panel containing the following elements:

1. Surge protection provided by use of a varistor or other suitable equipment.
2. Two 30 amp Radio Interference Suppressors.
3. 50 amp single pole Main Breaker followed by dual 30 amp Main Circuit Breakers with single common trip.
4. 15 amp Auxiliary Equipment Circuit Breaker.
5. Two 30 amp Power Relays (Mercury Contactors).
6. Neutral Bus Bar Isolated from Cabinet Ground.
7. Ground Bus Bar.
8. EDCO SHP 300-10 Power Line Surge Protector.

Construct the mercury contactor to be normally open and capable of switching 30 amperes at 120 volts AC.

Provide a neutral bus terminal with at least 14 terminals of the tubular clamp type able to accept up to #4 stranded wire.

B.14 Police Panel

Provide the main door of the cabinet with a police panel door. Behind this door will be a panel with a minimum of a toggle switch labeled "SIGNALS ON-OFF" and a toggle switch labeled "SIGNALS FLASH-AUTO." The signals on-off switch shall cause all intersection displays to be turned off and the controller AC power to be removed when placed in the off position.

In the flash position, the signals flash switch shall cause the intersection to be placed in flashing position and the controller shall stop time.

B.15 Maintenance Panel

Provide a maintenance panel on the inside of the main door containing the following:

1. GFCI duplex convenience outlet.
2. Stop time switch.
3. Controller on/off switch.
4. Vehicle and pedestrian detector actuation test push buttons.
5. Incandescent light switch.

Provide a stop time switch with a three-position toggle switch labeled ON, OFF, and AUTO. In the ON position, stop timing power shall be applied to the controller. In the OFF position, stop timing shall be removed from the controller if it has been applied by the conflict monitor or other auxiliary device. The AUTO position shall be the normal operating position and allow auxiliary devices to apply stop timing inputs to the controller. Wire the conflict monitor through the stop time switch such that when in the AUTO setting and a conflict is detected, stop timing shall be applied to the controller.

Provide a controller switch with a two-position toggle switch labeled ON and OFF. In the OFF position, the intersection shall be placed in flashing operation and the controller turned off.

Provide a detector test push button or toggle switch for each vehicle and pedestrian phase. Locate these to preclude accidental activation when the door is closed.

B.16 Pedestrian Button Wiring

Provide pedestrian push button logic to be opto-isolated such that there will be no logic common carried out to each individual push button. The AC- from the field pedestrian push button shall activate the opto-isolated pedestrian push button relays when the field button is activated.

B.17 Testing, Labeling and Wiring Diagram

Thoroughly test the cabinet wiring and auxiliary devices with a controller and monitor (if the harness is to be furnished by the vendor) in place.

Clearly and permanently label all equipment furnished in the cabinet.

Supply a good reproducible 24 inch by 26 inch mylar wiring diagram to the city.

B.18 Manufacturer's Warranty

Warrant the performance and construction of the fully-wired cabinet to meet the requirements of this specification, and shall warrant all wiring parts, components, and appurtenances against defects in design, material and workmanship for a period of one year from the date of installation. Repair and/or replace all defective parts or appurtenances at no additional expense to the city in the event defects and failures become apparent during this time. This specification is to construe that replacement of any part, or parts, that fail to function properly are at no charge to the city.

B.19 Cabinet Design for City Review Before Manufacturing.

Supply the city with a complete set of plans for the cabinet for review before manufacturing the cabinet. After city approval of the design as received or as modified by joint agreement between the city and the vendor, wire the cabinets according to the approved design and specifications. The city will complete its review within five work days from receipt of the cabinet design.

C (Vacant)

D Measurement

The department will measure Traffic Signal Control Cabinet by each individual unit, acceptably completed and delivered to the City of Madison.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.062	Traffic Signal Control Cabinet	Each

Payment is full compensation for furnishing and delivering all materials to the City of Madison, 1120 Sayle Street and for furnishing all labor, equipment and incidentals necessary to complete the work.

84. Traffic Signal Controller, Item SPV.0060.063.**A Description**

This special provision describes furnishing a traffic signal controller with auxiliary equipment to the City of Madison.

B Materials

Furnish the following:

1. Econolite ASC/3-2100 with HTR, data key, and Ethernet.
2. FSK TLM 25 pin for this controller.
3. Econolite TIO board with harness.
4. D connector interface harness and board.

C (Vacant)**D Measurement**

The department will measure Traffic Signal Controller by each individual unit, acceptably completed and delivered to the City of Madison.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.063	Traffic Signal Controller	Each

Payment is full compensation for furnishing and delivering the signal controller, and all auxiliary equipment, to the City of Madison, 1120 Sayle Street.

85. NEMA-Plus Conflict Monitor, Item SPV.0060.064.**A Description**

This special provision describes furnishing a NEMA-Plus 12-Channel Conflict Monitor to the City of Madison.

B Materials

Furnish a NEMA-Plus 12-Channel Signal Conflict Monitor, with LCD display, and a Ejector Tab card release on side of card.

C (Vacant)**D Measurement**

The department will measure NEMA-Plus Conflict Monitor by each individual unit, acceptably completed and delivered to the City of Madison

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.064	NEMA-Plus Conflict Monitor	Each

Payment is full compensation for furnishing and delivering the conflict monitor to the City of Madison, 1120 Sayle Street.

86. Traffic Signal Trombone Arms Aluminum 15-Foot, Item SPV.0060.065.**A Description**

This special provision describes furnishing and installing trombone mast arms and all necessary miscellaneous hardware needed to complete the installation of the trombone mast arm as shown on the plans, in the standard specifications, and as hereinafter provided.

B Material

Furnish traffic signal trombone arms designed to withstand loadings resulting from a 12" 3-section aluminum signal with backplate and an 18" x 90" aluminum street name sign mounted on the arm as shown on the drawing. Design factors in accordance to the AASHTO Specifications for the Design and Construction of Structural Supports for Traffic Signals, Signs, and Highway Lighting, together with a wind pressure resulting from a wind velocity of 80 miles per hour plus gust factor, shall be applied to these arms, with the above signals attached.

Furnish certification of compliance with these stated AASHTO performance requirements with submission of the material list.

Submit shop drawings that include dimensions of width, depth, length and thickness of all members and ASTM designation and alloy designation of aluminum members.

Construct trombone arms of aluminum consisting of round or oval upper and lower members joined by one or more tubular vertical struts welded to them. Construct the pole end of the mast arm with a mounting clamp welded to it which will permit the attachment of the mast arm to a round pole of varying diameter. Construct the lower clamp to be 5-7/8" I.D. and the upper clamp to be 5-1/2" I.D. Design the clamps to accommodate some variation in pole diameter while still attaining full contact between the clamp and the pole. The surface area of the clamp contacting the pole shall be sufficiently large and designed to prevent horizontal rotation in windy conditions. Provide bolts connecting the arm bracket to the back bracket from galvanized steel; stainless steel bolts are not acceptable. Design the vertical strut, which has provision for mounting the signal head, to provide for horizontal adjustability along the main mast arm members so that signal heads of various lengths with backplates, up to and including 5-section 12" heads, can be accommodated within the confines of the mast arm. Design the cross tees for signal heads to have two slots on the threaded hubs that face each other.

Provide the wiring raceway entrance to be through the lower mounting bracket.

Provide the mast arm with a uniform natural aluminum finish and clean. No painting or other corrosion preventive maintenance will be required.

Construct the portion of the main members of the arm to which the arm attachment bands are welded as one piece of seamless tapered aluminum tubes.

Attach the main arm member to the pole using extruded aluminum clamps fastened with continuously threaded stainless steel bolts with nuts and washers meeting the requirements of ASTM Designation A-320. List the strength and/or grade specification ratings on the shop drawings. Provide stiffeners or gussets at the joints between the main arm tubes and arm clamps to provide adequate strength to resist side loads.

Provide shims made of an aluminum alloy.

Provide a permanent imprint of the "Type" and "Year of Manufacture" on the underside of the lower member of each arm.

C (Vacant)

D Measurement

The department will measure Traffic Signal Trombone Arm Aluminum 15-Foot by each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.065	Traffic Signal Trombone Arms Aluminum 15-Foot	Each

Payment is full compensation furnishing and installing all materials including all hardware, fittings, mounting clamps, shims and attachments necessary to completely install the mast arm.

87. Traffic Signal Heads 12-Inch, 1-Section Vertical, Item SPV.0060.066; 12-Inch 3-Section Vertical, Item SPV.0060.067; 12-Inch 5-Section Vertical, Item SPV.0060.068; 12-Inch Pedestrian, Item SPV.0060.069; 12-Inch Pedestrian Countdown, Item SPV.0060.070.

A Description

This special provision describes furnishing and installing vehicle and pedestrian signals with LED indications in accordance to the standard specifications and these special provisions.

B Materials

Furnish circular and arrow LED modules from the department's approved product list and conforming to ITE VTCSH-LED.

Furnish 12-Inch Pedestrian LED Full Hand/Full Man Overlay Module conforming to the following requirements:

1. Module shall fit in a standard 12" x 12" housing.. A foam weatherstripping, approximately 1/4" x 1/4", shall be applied to the outside edge of the front face. The housing is not included in this item.
2. Display size shall be 9" minimum.
3. Each symbol shall be fully filled when illuminated. Outlines of the hand or man are not acceptable.
4. Modules shall come with spade adapters at the end of wire of sufficient length to reach the terminal strip in the signal housing.
5. Module shall meet all requirements and recommendations of the current Manual on Uniform Traffic Control Devices (MUTCD) and the current Performance Specifications of the Institute of Transportation Engineers (ITE).
6. The module shall be warranted in full for a minimum of five years.

Furnish 12-Inch Pedestrian Countdown LED signal timer conforming to the following requirements:

1. Timer shall fit in a standard 12" x 12 housing. A standard size gasket shall be supplied. The housing is not included in this item.
2. Numeral size shall be 9" minimum.
3. The timer shall automatically calculate and display the length of the remaining pedestrian change interval (WALK display not included).
4. A control wire shall be provided so that when 120V AC current is applied, the timer will immediately go dark. This control wire will be used by the city when the signal is preempted and the length of the pedestrian change interval is shortened.

5. Modules shall come with spade adapters at the end of wire of sufficient length to reach the terminal strip in the signal housing.
6. Timer shall meet all requirements and recommendations of the current Manual on Uniform Traffic Control Devices (MUTCD).
7. The timer shall be warranted in full for a minimum of five years.

Provide all pedestrian signals with tunnel visors.

Provide all vehicle signals with cutaway visors.

Provide snow-shedding shield on each signal indication on all signals mounted on monotube arms or trombone arms. The shield shall be impact resistant polycarbonate, designed and installed specifically to reduce snow accumulation, while not allowing water to enter or reside in the signal unit. If there are not any far side signals on monotube arms or trombone arms, then install snow-shedding shields on each signal indication of the far right signal.

Pedestrian countdown timers have a control wire so that when 120V AC current is applied, the timer will immediately go dark. This control wire shall be wired back to the signal control cabinet.

Provide either CH-SIG, Siemens LFE/SG, McCain, or Peek/TCT or a make and model approved by City of Madison Traffic Engineering for all vehicle and pedestrian signal heads. Provide drain channels so that rainwater does not pond on top of the units.

Make all vehicle and pedestrian signal heads with polycarbonate material, UV stabilized, with color impregnated in the material. All features and performance shall meet the requirements outlined in the latest revision of the Institute of Transportation Engineers' publication, "Adjustable Face Vehicular Traffic Control Signal Heads" The front face and all visors (inside and outside) shall be flat or semi-gloss black. All other exterior parts shall be Federal Highway yellow. Use only exterior hardware made of stainless steel.

C Construction

Construct according to standard spec 658.

D Measurement

The department will measure Traffic Signal Heads 12-Inch (Description) by each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.066	Traffic Signal Heads 12-Inch, 1-Section Vertical	Each
SPV.0060.067	Traffic Signal Heads 12-Inch, 3-Section Vertical	Each
SPV.0060.068	Traffic Signal Heads 12-Inch, 5-Section Vertical	Each
SPV.0060.069	Traffic Signal Heads 12-Inch, Pedestrian	Each
SPV.0060.070	Traffic Signal Heads 12-Inch, Pedestrian Countdown	Each

Payment is full compensation for furnishing and installing all materials, and for furnishing all equipment and incidentals necessary to complete the work.

**88. Backplates Signal Face, 1-Section 12-Inch, Item SPV.0060.071;
Backplates Signal Face, 3-Section 12-Inch, Item SPV.0060.072;
Backplates Signal Face, 5-Section 12-Inch, Item SPV.0060.073.**

A Description

This special provision describes furnishing and installing backplates for signal faces.

B Materials

Furnish Backplates Signal Face (Size) that are in accordance to the pertinent requirements of standard spec 658 and these special provisions.

Provide a 5" wide black band around the signal head backplates for 12" signal heads. Make the backplates with an approved black rigid material, such as vacuum formed ABS plastic. Match the backplates to the signal heads being furnished under this bid, equipped with all necessary holes, mounting devices. Use only stainless steel mounting hardware.

C Construction

Install the backplates in accordance to standard spec 658.3, the manufacturer's instructions, and as shown on the plans.

D Measurement

The department will measure Backplates Signal Face (Description) 12-Inch by each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.071	Backplates Signal Face, 1 Section 12-Inch	Each
SPV.0060.072	Backplates Signal Face, 3 Section 12-Inch	Each
SPV.0060.073	Backplates Signal Face, 5 Section 12-Inch	Each

Payment is full compensation for furnishing and installing all materials.

89. Permanent Grass, Crested Oval Sedge, Item SPV.0060.074; Permanent Grass, Bottlebrush Sedge, Item SPV.0060.075; Permanent Grass, Fox Sedge, Item SPV.0060.076; Permanent Grass, Virginia Wild Rye, Item SPV.0060.077; Permanent Grass, Fowl Manna Grass, Item SPV.0060.078; Permanent Grass, Common Rush, Item SPV.0060.079; Permanent Grass, Torrey's Rush, Item SPV.0060.080; Permanent Grass, Rice Cut Grass, Item SPV.0060.081; Permanent Grass, Switch Grass, Item SPV.0060.082; Permanent Grass, Dark Green Rush, Item SPV.0060.083; Permanent Grass, Wool Grass, Item SPV.0060.084; Permanent Grass, River Rush, Item SPV.0060.085; Permanent Grass, Great Bulrush, Item SPV.0060.086; Forb, Common Water Plantain, Item SPV.0060.087; Forb, Swamp Milkweed, Item SPV.0060.088; Forb, White False Indigo, Item SPV.0060.089; Forb, Northern Blue Fig Iris, Item SPV.0060.090; Forb, Sneezeweed, Item SPV.0060.091; Forb, Common Water Horehound, Item SPV.0060.092; Forb, Monkey Flower, Item SPV.0060.093; Forb, Ditch Stonecrop, Item SPV.0060.094; Forb, Pinkweed, Item SPV.0060.095; Forb, Sweet Black Eyed Susan, Item SPV.0060.096; Forb, Common Arrowhead, Item SPV.0060.097; Forb, Wild Senna, Item SPV.0060.098; Forb, Purple Meadow Rue, Item SPV.0060.099.

A Description

This section describes furnishing and planting permanent grasses and forbs in the bio-swale as shown on the plans. This includes furnishing all necessary materials, excavating plant holes, backfilling, watering and disposing of waste materials and following the requirements of standard spec 632 Plant Materials.

B Materials

Furnish plantings in the variety and size noted on the planting schedule; as well as topsoil, mulch, fertilizer and water as required to construct the planting bed.

C Construction

Install the grasses and forbs as defined in standard spec 632 Plant Materials and the planting details.

Do not fertilize bulb plantings.

D Measurement

The department will measure Permanent Grasses and Forbs as each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.074	Permanent Grass, Crested Oval Sedge	Each
SPV.0060.075	Permanent Grass, Bottlebrush Sedge	Each
SPV.0060.076	Permanent Grass, Fox Sedge	Each
SPV.0060.077	Permanent Grass, Virginia Wild Rye	Each
SPV.0060.078	Permanent Grass, Fowl Manna Grass	Each
SPV.0060.079	Permanent Grass, Common Rush	Each
SPV.0060.080	Permanent Grass, Torrey's Rush	Each
SPV.0060.081	Permanent Grass, Rice Cut Grass	Each
SPV.0060.082	Permanent Grass, Switch Grass	Each
SPV.0060.083	Permanent Grass, Dark Green Rush	Each
SPV.0060.084	Permanent Grass, Wool Grass	Each
SPV.0060.085	Permanent Grass, River Rush	Each
SPV.0060.086	Permanent Grass, Great Bulrush	Each
SPV.0060.087	Forb, Common Water Plantain	Each
SPV.0060.088	Forb, Swamp Milkweed	Each
SPV.0060.089	Forb, White False Indigo	Each
SPV.0060.090	Forb, Northern Blue Fig Iris	Each
SPV.0060.091	Forb, Sneezeweed	Each
SPV.0060.092	Forb, Common Water Horehound	Each
SPV.0060.093	Forb, Monkey Flower	Each
SPV.0060.094	Forb, Ditch Stonecrop	Each
SPV.0060.095	Forb, Pinkweed	Each
SPV.0060.096	Forb, Sweet Black Eyed Susan	Each
SPV.0060.097	Forb, Common Arrowhead	Each
SPV.0060.098	Forb, Wild Senna	Each
SPV.0060.099	Forb, Purple Meadow Rue	Each

Payment is full compensation for providing and installing all materials necessary to completely install each permanent grass and forb; constructing the planting beds, furnishing and installing planting, topsoil, mulch, watering; creating proper soils for the planting bed; for performing all grading, excavating, backfilling, proper disposing of surplus material and restoration.

90. Pipe Supports, Item SPV.0060.100.**A Description**

Work under this item shall include installing 2 concrete pipe supports as shown on the plans or as directed by the engineer. This item is needed when the vertical clearance between pipes is less than 12”.

B Materials

Construct Pipe Supports meeting the requirements of Standard Detail Drawing 5.8.1 and Article 508.1(b) of the City of Madison Standard Specifications for Public Works Construction – Latest Edition.

C Construction

Install Pipe Supports in accordance to Article 508.1(b) of the City of Madison Standard Specifications for Public Works Construction – Latest Edition.

D Measurement

The department will measure Pipe Supports as each individual pipe support unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.100	Pipe Supports	Each

Payment is full compensation for support of each pipe, which shall include all materials, equipment, labor, and incidentals necessary to complete the work. Each Pipe Support shall have 2 vertical concrete blocks in accordance to Article 508 of the City of Madison Standard Specifications for Public Works Construction – Latest Edition.

91. Pipe Plug, Item SPV.0060.101.**A Description**

This work consists of plugging pipes as shown in the plans and as hereinafter provided.

B (Vacant)**C Construction**

Plug existing pipes at the structure, as noted in the plans for all structures called out for removal and/or abandonment, and the work will be paid for under this bid item. All work to comply with Article 203 of the City of Madison Standard Specifications. The contract price for removing or abandoning pipe and other miscellaneous structures, as the case may be, shall be payment in full for trimming and chipping; for breaking down, removing, or sealing; for cutting, protecting or removing reinforcing steel, if any, as required; for procurement of any required work permits; for disposal of materials; for backfilling; for furnishing any required concrete masonry; and for furnishing all labor, tools, equipment and incidentals necessary to complete the item of work in accordance to the requirements of the contract.

D Measurement

The department will measure Pipe Plug as each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.101	Pipe Plug	Each

Payment is full compensation for furnishing all materials, labor, tools, equipment and incidentals necessary to complete this item of work.

92. Pole 30-Foot, 7 Gauge, Item SPV.0060.102.

A Description

This special provision describes furnishing and installing poles and arms in accordance to standard spec 657, the details shown on the plans, and these special provisions.

B Materials

Provide round poles, with a base plate welded to the bottom end of the pole. All poles are to be a single section, with an eight-inch diameter shaft at the base and 0.14 inches per foot taper

Provide base plates with a slotted opening for anchor bolts.

Provide 30-foot poles designed to withstand a 90 mile per hour sustained wind velocity and 117 mile per hour gust velocity with the bracket arm and luminaire in place. Poles will be used for supporting aluminum trombone arms holding signs and/or street lights.

Provide a 4" x 6 1/2" galvanized handhole with contoured or flat cover plate joined to the reinforced handhole frame with two bolts. Locate the handhole 90 degrees clockwise from the bracket arm side of poles as viewed when looking down from the top of the pole. The center of the handhole should be 14 inches from the bottom of the pole. Provide a solid metal bracket, with a drilled and tapped hole, for securing cover plate bolts. Clips for holding these bolts are not acceptable. Use machine bolts with a slotted hex-head style.

Fabricate the pole shaft from the herein specified manufacturer's best grade, hot rolled basic open hearth, or basic oxygen process steel. Construct the shaft with only one longitudinal, electrically welded joint, with the strength rated at not less than 100 percent of the yield strength of the steel and shall have no intermediate horizontal joints or welds. Use only one length of steel sheet formed into a continuously tapered shaft, having a taper of approximately 0.14 inches per foot. Make the weld smooth, allowing the specified taper to be constant. Construct the pole to be within 1/4" in 10 feet of being straight and centered on its longitudinal axis.

Provide a grounding nut or nut holder for accommodating a 1/2 inch x 13 UNC threaded bolt or stud on the inside of the shaft immediately opposite the center of the handhole. Provide a nut completely free of any metal residue that would prevent a bolt from easily screwing entirely into the nut.

Provide mounting and wire raceway holes placed before being hot-dipped galvanized on all poles holding LED fixtures. Coordinate mounting needs with the LED luminaires selected for the project prior to ordering poles.

Furnish and install a pole-top cover and four nut covers for each pole.

Provide each steel pole with a permanent imprinted metal label attached with rivets midway between the base plate and the handhole. State the overall pole height, shaft gauge, and year of manufacture on the label. Conform the label to the curvature of the pole and not have any sharp edges or corners. Construct so that all rivets are smooth inside and outside of the pole.

Thoroughly clean, after all welding has been completed, the exterior surface of the pole, arm, and hardware so that it is free of all loose rust, mill scale, dirt, oil, grease, and other foreign substances. Hot-dip galvanize the poles and arms in accordance to the requirements of ASTM Designation A123. Hot-dip galvanize the hardware in accordance to ASTM designation A153. Construct poles to have a bright, shiny, and uniform galvanized finish. Matted or dull pole sections will not be accepted.

Furnish non-shrink commercial grout from approved products list.

C Construction

Set and plumb metal poles with the use of leveling nuts furnished with the anchor bolts. Level luminaries after erecting and leveling the metal standards with bracket arms. The proper leveling method may be obtained from the manufacturer's instruction manual. Torque nuts on anchor and transformer bolts to 175-200 foot pounds or as directed by the engineer. Provide rust, corrosion, and anti-seize protection at all threaded assemblies by coating and mating surfaces with Markal (hightemp – E-Z Break), Never-Seez (Marine Grade), LPS 100, Lubriplate, or approved equal.

Attach the stranded copper ground wire that is installed as a part of base construction with an approved connector (Fargo GC 202 or approved equal) to a ground nut locate inside the pole opposite the handhole.

When transformer bases are not installed, trowel grout between the pole and concrete base and finished at an angle from the edge of the pole base to the outer edge of the foundation. Construct a ½ inch slot for drainage through the grouting on the street side at the top of the concrete base.

D Measurement

The department will measure Pole (description) 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.0060.102	Pole 30-Foot 7-Gauge	Each

Payment is full compensation for furnishing and installing all materials, including poles, all hardware and fittings necessary to completely install the pole; for corrosion prevention where required; for installing identification required plaques.

93. Soil Nail Verification Tests R-13-213, Item SPV.0060.103; Soil Nail Proof Tests R-13-213, Item SPV.0060.104.

A Description

This special provision describes verification and proof testing of soil nails.

B Materials

Test soil nails in accordance to the contract and as directed. "Verification tests" are performed on nails not incorporated into soil nail walls, i.e., sacrificial nails and "proof tests" are performed on nails incorporated into walls, i.e., production nails. Define "verification test nail" and "proof test nail" as a nail tested with either a verification or proof test, respectively. Define "test nails" as verification or proof test nails.

Verification tests are typically required for at least one nail per soil type per soil nail wall or 2 nails per wall, whichever is greater. Proof tests are typically required for at least one nail per nail row per soil nail wall or at least 5% of production nails, whichever is greater. More or less test nails may be required depending on subsurface conditions encountered. The engineer will determine the number and locations of verification and proof tests required. The approximate known test nail locations are shown in the plans.

Do not test nails until grout and shotcrete attain the required 3 day compressive strength. Do not install any production nails until verification tests are accepted.

Test Equipment

Use the following equipment to test nails:

1. Two dial gauges with rigid supports,
2. Hydraulic jack and pressure gauge,
3. Jacking block or reaction frame and
4. Electrical resistance load cell (verification tests only).

Provide dial gauges with enough range and precision to measure the maximum test nail movement to 0.001". Use pressure gauges graduated in 100 psi increments or less. Submit identification numbers and calibration records for load cells, jacks and pressure gauges with the soil nail wall construction plan. Calibrate each jack and pressure gauge as a unit.

Align test equipment to uniformly and evenly load test nails. Use a jacking block or reaction frame that does not damage or contact shotcrete within 3 feet of nail heads. Place dial gauges opposite each other on either side of test nails and align gauges within 5° of bar inclinations. Set up test equipment so resetting or repositioning equipment during nail testing is not needed.

C Construction

C.1 Test Nails

Test nails include both unbonded and bond lengths. Grout only bond lengths before nail testing. Provide unbonded and bond lengths of at least 3 feet and 10 ft, respectively.

Steel bars for production nails may be overstressed under higher test nail loads. If necessary, use larger size or higher grade bars with more capacity for test nails instead of shortening bond lengths to less than the minimum required.

C.2 Verification Tests

Install verification test nails with the same equipment, installation methods and drill hole diameter and inclination as production nails.

Determine maximum bond length for verification test nails (LBVT) using the following:

$$LBVT \leq (CRT \times A_t \times f_y) / (QALL \times 3)$$

Where,

LBVT = bond length (ft),

CRT = reduction coefficient, 0.9 for Grade 60 and 75 bars or 0.8 for Grade 150 bars,

A_t = bar area (in²),

f_y = bar yield stress (ksi) and

QALL = allowable unit grout/ground bond strength (kips/ft).

Determine design test load for verification test nails (DTLVT) based on as-built bond length and allowable unit grout/ground bond strength using the following:

$$DTLVT = LBVT \times QALL$$

Where,

DTLVT = design test load (kips).

Perform verification tests by incrementally loading nails to failure or a load of 300% of DTLVT based on the following schedule:

Load	Hold Time
AL*	1 minute
0.25 DTLVT	10 minute
0.50 DTLVT	10 minute
0.75 DTLVT	10 minute
1.00 DTLVT	10 minute
1.25 DTLVT	10 minute
1.50 DTLVT	60 minute (creep test)
1.75 DTLVT	10 minute
2.00 DTLVT	10 minute
2.50 DTLVT	10 minute
3.00 DTLVT	10 minute
AL*	1 minute

* Alignment load (AL) is the minimum load needed to align test equipment and should not exceed 0.05 DTLVT.

Reset dial gauges to zero after applying alignment load. Record test nail movement at each load increment and permanent set after load is reduced to alignment load. Monitor verification test nails for creep at the 1.5 DTLVT load increment. Measure and record movement during creep test at 1, 2, 3, 5, 6, 10, 20, 30, 50 and 60 minutes. Repump jack as needed to maintain load during hold times.

C.3 Proof Tests

Determine maximum bond length for proof test nails (LBPT) using the following:

$$LBPT \leq (CRT \times A_t \times f_y) / (QALL \times 1.5)$$

Where variables are defined in Section 5.0(C) above.

Determine design test load for proof test nails (DTLPT) based on as-built bond length and allowable unit grout/ground bond strength using the following:

$$DTLPT = LBPT \times QALL$$

Where variables are defined in Section 5.0(C) above.

Perform proof tests by incrementally loading nails to failure or a load of 150% of DTLPT based on the following schedule:

Load	Hold Time
AL*	Until movement stabilizes
0.25 DTL _{PT}	Until movement stabilizes
0.50 DTL _{PT}	Until movement stabilizes
0.75 DTL _{PT}	Until movement stabilizes
1.00 DTL _{PT}	Until movement stabilizes
1.25 DTL _{PT}	Until movement stabilizes
1.50 DTL _{PT}	10 or 60 minutes (creep test)
AL*	1 minute

* Alignment load (AL) is the minimum load needed to align test equipment and should not exceed 0.05 DTL_{PT}.

Reset dial gauges to zero after applying alignment load. Record test nail movement at each load increment and monitor proof test nails for creep at the 1.5 DTL_{PT} load increment. Measure and record movement during creep test at 1, 2, 3, 5, 6 and 10 minutes. If test nail movement between 1 and 10 minutes is greater than 0.04", maintain the 1.5 DTL_{PT} load increment for an additional 50 minutes and record movement at 20, 30, 50 and 60 minutes. Repump jack as needed to maintain load during hold times.

C.4 Test Nail Acceptance

Submit 2 copies of test nail records including load versus movement and time versus creep movement plots within 24 hours of completing each verification or proof test. The engineer will review the test nail records to determine if test nails are acceptable. Test nail acceptance is based in part on the following criteria.

1. For verification tests, total movement during creep test is less than 0.08" between the 6 and 60 minute readings and creep rate is linear or decreasing throughout hold time.
2. For proof tests, total movement during creep test is less than 0.04" between the 1 and 10 minute readings or less than 0.08" between the 6 and 60 minute readings and creep rate is linear or decreasing throughout hold time.
3. Total movement at maximum load exceeds 80% of the theoretical elastic elongation of the unbonded length.
4. Pullout failure does not occur at or before the 2.0 DTL_{VT} or 1.5 DTL_{PT} load increment. Define "pullout failure" as the inability to increase load while movement continues. Record pullout failure load as part of test nail data.

For proof test nails, maintain stability of unbonded lengths for subsequent grouting. If a proof test nail is accepted but the unbonded length cannot be satisfactorily grouted, do not incorporate the proof test nail into the soil nail wall and add another production nail to replace the test nail.

If the engineer determines a verification test nail is unacceptable, revise the soil nail design or installation methods. Submit a revised soil nail wall design or construction plan for acceptance and provide acceptable verification test nails with the revised design or installation methods.

If the engineer determines a proof test nail is unacceptable, either perform additional proof tests on adjacent production nails or revise the soil nail design or installation methods for the production nails represented by the unacceptable proof test nail as determined by the engineer. Submit a revised soil nail wall design or construction plan for acceptance, provide an acceptable proof test nail with the revised design or installation methods and install additional production nails for the nails represented by the unacceptable proof test nail.

After completing nail testing for each soil nail wall or stage of a wall, provide a PDF copy of all corresponding test nail records.

D Measurement

The department will measure Soil Nail Verification Tests and Soil Nail Proof Tests as each individual test, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.103	Soil Nail Verification Tests R-13-213	Each
SPV.0060.104	Soil Nail Proof Tests R-13-213	Each

Payment for Soil Nail Verification Tests and Soil Nail Proof Tests is full compensation for initial nail testing. No payment will be made for subsequent nail testing performed on the same or replacement test nails.

94. Reset Existing Property Corner, Item SPV.0060.105.

A Description

Protect and carefully preserve all land boundary property corners and survey control monuments which exist within the project limits. Replace, using a Licensed Surveyor at the contractor's expense, any of these monument types which are disturbed or removed by the contractor through the negligence or the carelessness of the contractor's employees or subcontractors. Contact the city surveyor at (608) 267-1971 two days prior to any work adjacent to the monument or property corner to allow a city surveyor to confirm the monument location. Contact the city surveyor after the work has been completed in order to confirm the monument location has not been compromised or has been replaced properly.

B Materials

Salvage or attempt to salvage the existing monument if feasible. If unable to salvage or if it is in poor condition, supply a new monument of the same size and type.

C Construction**C.1 Reset Property Corner**

Reset Property Corner shall include hand excavation around the existing monument, salvage of the existing monument, and resetting the salvaged/new monument.

D Measurement

The department will measure Reset Monument or Property Corner 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.0060.105	Reset Existing Property Corner	Each

Payment shall be full compensation for furnishing all excavation around existing monument, salvage/removal of existing monument, for furnishing and placing salvaged or new monument, and for disposal of surplus materials.

95. **Landmark Reference Monuments Special, Item SPV.0060.106.**

A Description

This special provision describes preserving the location and constructing new reference monuments for existing Public Land Survey System (PLSS) section corner monuments within the proposed construction limits.

B Materials

The City of Madison will furnish the monument and cast iron covers.

C Construction

Complete the work in accordance to the pertinent requirements of standard spec 621.3 and as follows:

The approximate location of the section corners that will likely be disturbed due to the proposed construction:

Landmark Reference Monument

Station	Offset	Township	Range	Section Corner
115+96.04	12.65' RT	T07N	R08E	North ¼ Corner Section 27
142+20.51	90.97' RT	T07N	R08E	Northeast ¼ Corner Section 27

Notify Eric Pederson, RLS, with City of Madison Construction Inspection/Survey Unit two working days prior to removing or performing any construction activity that may disturb the existing monument. Eric can be reached at (608) 266-4056 or EPederson@cityofmadison.com The city will furnish a new monument for installation.

Salvage the existing casting, if possible. The city will furnish a new casting if the existing casting is not salvageable.

The city will perpetuate or reset the PLSS monuments and prepare the new PLSS monument records and tie downs in accordance to the Wisconsin Administrative Code Chapter AE-7. The city will file new monument records with the Dane County Surveyor in accordance to AE-7.

The city will develop vertical bench mark information as outlined below:

The city will establish project elevation on all existing PLSS monuments within the project area as well as on all new PLSS monuments. The city, based solely on the measured relative vertical difference between the original and new PLSS monuments, will adjust the NAVD88 elevation published on the existing City of Madison US Public Land Survey Monument Record on file for this monument. The city will report the previous published NAVD88 value as well as the new relative NAVD88 elevation on the new U.S. Public Land Survey Monument Record tie sheet.

The city will file the new U.S. Public Land Survey Monument tie sheet, which includes reference to the relative vertical difference between old and new PLSS monument, with the Dane County Surveyor's Office as required per AE-7. Any questions can be directed to Eric Pederson via email at epederson@cityofmadison.com or (608) 266-4056.

Replacement of the existing Landmark reference Monument to include hand excavation around the existing monument, removal of the existing monument if necessary, and excavation for setting the new monument. A city surveyor will supervise the proper placement of the new monument. Set the new monument using mechanically compacted 1-1/2" crushed stone extending one foot beyond the monument on all sides.

D Measurement

The department will measure Landmark Reference Monuments Special by each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.106	Landmark Reference Monuments Special	Each

Payment is full compensation for furnishing all excavation around the existing monument, removal of the existing monument if necessary, excavating for the placement of the new monument, for coordination with the city surveyor, for furnishing, placing and compacting crushed stone, and for disposal of surplus materials.

96. Inlets 2x3-FT Special, Item SPV.0060.107.

A Description

Work under this item shall include the construction of a drop inlet on top of the proposed Precast Concrete Box Culvert 8-FTx4-FT. This work shall conform to details in the plan and standard spec 611 and herein as described.

B (Vacant)

C Construction

Provide Precast Concrete Box Culvert 12-FTx4-FT with a 2'x3' opening for the drop inlet. Form a reinforced concrete inlet around this opening, in line with the curb and gutter, and constructed to the required depth as shown in the plans. Dowel #4 bars into the box to anchor the walls of the inlet and embed four inches. Construct all reinforcement with a minimum of three inches clear of all exposed surfaces of the concrete. Grout all dowels in place with epoxy mortar. Construct the inlet walls to be reinforced with #4 epoxy coated rebar placed longitudinally eight inches on center in the vertical direction. The details for the inside dimensions of the opening and other incidentals are shown in the Standard Detail Drawings.

D Measurement

The department will measure Inlet 2x3-FT Special by each individual inlet, 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.0060.107	Inlet 2x3-FT Special	Each

Payment is full compensation for furnishing all work, materials, labor and incidentals required to complete the work set forth in the description.

97. Traffic Signal Trombone Arms Aluminum 18-Foot, Item SPV.0060.108.

A Description

This special provision describes furnishing and installing trombone mast arms and all necessary miscellaneous hardware needed to complete the installation of the trombone mast arm as shown on the plans, in the standard specifications, and as hereinafter provided.

B Material

Provide traffic signal trombone arm designed to withstand loadings resulting from a 12" 3-section aluminum signal with backplate and an 18" x 90" aluminum street name sign mounted on the arm as shown on the drawing. Design factors in accordance to the AASHTO Specifications for the Design and Construction of Structural Supports for Traffic Signals, Signs, and Highway Lighting, together with a wind pressure resulting from a wind velocity of 80 miles per hour plus gust factor, shall be applied to these arms, with the above signals attached.

Furnish certification of compliance with these stated AASHTO performance requirements with submission of the material list.

Submit shop drawings that include dimensions of width, depth, length and thickness of all members and ASTM designation and alloy designation of aluminum members.

Construct trombone arms of aluminum that consists of round or oval upper and lower members joined by one or more tubular vertical struts welded to them. Construct the pole end of the mast arm to have a mounting clamp welded to it which will permit the attachment of the mast arm to a round pole of varying diameter. Construct the lower clamp to be 5-7/8" I.D. and the upper clamp to be 5-1/2" I.D. The design of the clamps need to accommodate some variation in pole diameter while still attaining full contact between the clamp and the pole. Construct the surface area of the clamp contacting the pole to be sufficiently large and designed to prevent horizontal rotation in windy conditions. Provide bolts connecting the arm bracket to the back bracket made of galvanized steel. Stainless steel bolts are not acceptable. Construct the vertical strut, which has provision for mounting the signal head, to provide for horizontal adjustability along the main mast arm members so that signal heads of various lengths with backplates, up to and including 5-section 12" heads, can be accommodated within the confines of the mast arm. Construct the cross tees for signal heads to have two slots on the threaded hubs that face each other.

Construct the wiring raceway entrance through the lower mounting bracket.

Construct the mast arm to have a uniform natural aluminum finish and shall be clean. No painting or other corrosion preventive maintenance will be required.

Construct the portion of the main members of the arm to which the arm attachment bands are welded from one piece seamless tapered aluminum tubes.

Attach the main arm member to the pole using extruded aluminum clamps fastened with continuously threaded stainless steel bolts with nuts and washers meeting the requirements of ASTM Designation A-320. List strength and/or grade specification ratings on the shop drawings. Provide stiffeners or gussets at the joints between the main arm tubes and arm clamps to provide adequate strength to resist side loads.

Make shims of an aluminum alloy.

Make a permanent imprint of the "Type" and "Year of Manufacture" on the underside of the lower member of each arm.

C Construction

Construct according to standard spec 657.

D Measurement

The department will measure Traffic Signal Trombone Arm Aluminum 18-Foot by each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.108	Traffic Signal Trombone Arms Aluminum 18-Foot	Each

Payment is full compensation furnishing and installing all materials including all hardware, fittings, mounting clamps, shims and attachments necessary to completely install the mast arm.

98. Wet-Mesic Seed Mix, Item SPV.0085.01.

A Description

This special provision describes furnishing and installing a wet-mesic seed mix in areas as shown on the plan.

B Materials

Provide seed from Wisconsin nurseries specializing in growing native species from Wisconsin genotypes or similar nurseries in Minnesota, Iowa or parts of Illinois in zone 4 of the Plant Hardiness Zone Map, miscellaneous publication 1475, revised 1990.

In order to assure seed availability, early contact with seed sources is highly recommended. Have seed sources confirmed and approved by the engineer. No substitutions can be made without the approval of the engineer.

B1 Seed

1. Supply the grass seed and the forb or wildflower seed in separate packages, each labeled according to content, percentage of each and weight.
2. Provide the following Wet-Mesic Prairie species at the application rates stated:

Botanical Name	Common Name	Amount per Acre
Grasses		
Andropogon gerardii	Big Bluestem	20 oz.
Calamagrostis canadensis	Blue Joint Grass	0.25 oz.
Elymus canadensis	Canada Wild Rye	16 oz.
Glyceria striata	Fowl Manna Grass	0.25 oz.
Panicum virgatum	Switch Grass	12 oz.
Sorghastrum nutans	Indian Grass	8 oz.
Spartina pectinata	Prairie Cord Grass	4 oz.
Sedges		
Carex stipata	Common Fox Sedge	1 oz.
Carex vulpinoidea	Brown Fox Sedge	1 oz.
Rushes		
Scirpus atrovirens	Dark Green Rush	1 oz.
Scirpus cyperinus	Wool Grass	1 oz.
Scirpus validus	Great Bulrush	1 oz.
Forbs		
Asclepias incarnate	Swamp Milkweed	3 oz.
Aster novae-angliae	New England Aster	2 oz.
Bidens cernua	Nodding Bur Marigold	1.75 oz.
Desmodium canadense	Showy Tick Trefoil	1 oz.
Helianthus grosseserratus	Sawtooth Sunflower	2 oz.
Liatris pycnostachya	Prairie Blazing Star	2 oz.
Lobelia siphilitica	Great Blue Lobelia	0.75 oz.
Monarda fistulosa	Wild Bergamot	1 oz.
Rudbeckia laciniata	Wild Golden Glow	1.5 oz.
Silphium perfoliatum	Cup Plant	2 oz.
Silphium terebinthinaceum	Prairie Dock	2 oz.
Solidago graminifolia	Hairy Grass Leaved Goldenrod	0.25 oz.
Verbena hastata	Blue Vervain	0.5 oz.
Zizia aurea	Golden Alexanders	2 oz.

Cover Crop:

Avena sativa (oats) at 30 lbs/acre and annual rye at 10 lbs/acre.

C Construction

Install seed mix in accordance to standard spec 630 and as follows.

C.1 Planting Seasons

C.1.1 Spring Planting Seasons and Conditions

Install materials between May 15 through June 30.

Do not plant when conditions are unfavorable such as during high winds, extremely wet or muddy conditions.

C.1.2 Fall Planting Seasons and Conditions

Install materials in a dormant state after October 15 or later as weather permits.

Do not plant when conditions are unfavorable such as during high winds, extremely wet or muddy conditions.

C.2 Planting Equipment

For planting wet-mesic prairie seed, use a warm season grass drill capable of metering seeds independently and able to sow fluffy seed or a rotary spreader specifically made to plant prairie seed.

Use seeding equipment specifically designed to uniformly plant highly diverse native grasses and forbs.

Provide a device designed to lightly roll the seed bed to provide good contact between the seed and the soil with a seed cover of 1/4" maximum.

Recalibrate during seeding as requested by the engineer.

Roll seed after seeding to ensure proper seed/soil contact.

C.3 Seeding

Calibrate equipment to the satisfaction of the engineer.

Initiate installation as soon as possible after seed bed has been prepared and graded.

Uniformly apply seed to all areas at the designated rates of 15 lbs per acre.

Seed all areas in at least two perpendicular directions.

D Measurement

The department will measure Wet-Mesic Seed Mix by the pound, acceptably completed.

The department will measure quantities based on net weights of seed shipments, or on quantities weighed on department-approved scales the contractor furnishes.

The department will make deductions for all quantities wasted or not actually incorporated in the work according to the contract.

The department will determine the equivalent pounds of seed furnished and applied by dividing the actual pounds of seed applied by the sum of the unadjusted and adjusted percentages of the various species in the seed mixture sown.

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	Wet-Mesic Seed Mix	LB

Payment for the Wet-Mesic Seed Mix is full compensation for providing, handling, and storing all seed; for providing the required culture and inoculating seed as specified; and for preparing the seed bed, sowing, covering and firming the seed.

99. Select Fill for Sanitary Sewer, Item SPV.0090.01.**A Description**

Work under this item shall include furnishing and placing select backfill over the sanitary sewer main and laterals along the entire length of the pipe.

B Materials

Provide select fill for sanitary sewer mains and laterals meeting the requirements of Article 202.2(b) of the City of Madison Standard Specifications for Public Works Construction – Latest Edition.

C Construction

Install select fill in accordance to all applicable provisions of Article 502.1 of the City of Madison Standard Specifications for Public Works Construction – Latest Edition.

D Measurement

The department will measure Select Fill for Sanitary Sewer by the linear foot, measured along the centerline of the pipe, acceptably completed. The quantity to be paid for includes construction through Sewer Access Structures.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.01	Select Fill for Sanitary Sewer	LF

Payment is full compensation for furnishing all labor, tools, equipment, materials, and incidentals necessary to furnish and place select fill in accordance to Article 502.1 of the City of Madison Standard Specifications for Public Works Construction - Latest Edition.

100. Sanitary Sewer Pipe PVC 8-Inch SDR-26, Item SPV.0090.02.**A Description**

Work under this item shall include furnishing and installing 8-inch sewer pipe at the alignment and grades shown on the plan set.

Conduct a low pressure air test as specified in Article 501.3(b) of the City of Madison Standard Specifications for Public Works Construction – Latest Edition on all sections of the sewer mainline. A passing test is required in order to be accepted. Include all costs associated with the testing of the gravity main in the contract unit price bid for this item.

B Materials

Provide all sewer pipe and fittings with solid-wall Poly (Vinyl Chloride) (PVC) conforming to the requirements of the Specification for Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings, ASTM D 3034.

Provide all pipe and fittings with a standard dimension ratio of 26.

Provide pipe joints made of either elastomeric or solvent cement and made as recommended by the manufacturer.

C Construction

Install the sewer pipe shall in accordance to all applicable provisions of the City of Madison Standard Specifications for Public Works Construction – Latest Edition.

Remove all abandon or existing material located in the new sanitary sewer alignment. Removal of material (including existing sanitary sewer/watermain/etc) is incidental to this bid item.

Use manufactured wye fittings to install new laterals to the new main as called for on the plans; provide and place in accordance to Article 503 of Standard Specifications for Public Works Construction – Latest Edition. Do not install saddle type wyes without prior approval of the engineer.

D Measurement

The department will measure Sanitary Sewer Pipe PVC 8-Inch SDR-26 by the linear foot, acceptably completed, to the nearest whole foot of each of the various types, classes and sizes of pipe installed at the various depths, measured along the center line of the pipe center to center of junctions and fittings. The quantity to be paid for includes construction through Sewer Access Structures, from center of Sewer Access Structure casting to center of Sewer Access Structure casting. Main extensions continuing through Sewer Access Structures shall be measured from center of Sewer Access Structure casting to the end of pipe. The depths of installation shall be measured in feet from the invert of the sewer pipe to the elevation of the existing ground. There shall be no deductions from the measured lengths for wye installations.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.02	Sanitary Sewer Pipe PVC 8-Inch SDR-26	LF

Payment is full compensation for furnishing all materials, necessary to perform the work; excavation of the trench, except tunneling and jacking; installation and removal of sheeting and bracing; removal of water from the trench; disposal of surplus material from the trench; backfilling the trench and compaction of the backfill material; embankment over the sewer using surplus material from the excavation of the trench; bedding the pipe; laying the pipe and installing the fittings and accessories; jointing and sealing of joints in pipe, fittings and accessories; encasement, where specified; connections to existing structures; cleaning out the sewer; restoring the site; and all other work incidental to the installation of sanitary sewers.

101. Sanitary Sewer Pressure Pipe PVC 15-Inch C900, Item SPV.0090.05.

A Description

Work under this item shall include installing 15-inch sewer pipe at the alignment and grades shown on the plan set.

Conduct a low pressure air test as specified in Article 501.3(b) of the City of Madison Standard Specifications for Public Works Construction – Latest Edition on all sections of the sewer mainline. A passing test is required in order to be acceptable. Include all costs associated with the testing of the gravity main in the contract unit price bid for this item.

Maintain the normal flow of wastewater at all times during replacement of the existing sanitary sewer main with the new sanitary sewer main. Payment for furnishing all bypass pumping, temporary piping, and/or temporary connections, which are required to maintain the normal flow of wastewater throughout the sewer construction, is under SPV.0105.03 Heavy Wastewater Control. It is anticipated that Heavy Wastewater Control will be needed for the sewer being installed on Mineral Point Road (CTH S).

B Materials

Provide all sewer pipe and fittings of solid-wall Poly (Vinyl Chloride) (PVC) conforming to the requirements of the Specification for Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings, AWWA C900 Class 150, DR-18.

Provide fittings conforming to the requirements of the American National Standard for Ductile- Iron and Gray-Iron fittings 15 inch for Water and other liquids, ASA A21.10 (AWWA C110).

Provide joints with integral bell with elastomeric gaskets, or couplings with elastomeric gaskets. Make solvent cement as recommended by the manufacturer.

C Construction

Install sewer pipe in accordance to all applicable provisions of the City of Madison Standard Specifications for Public Works Construction – Latest Edition.

Remove all abandon or existing material located in the new sanitary sewer alignment. Removal of material (including existing sanitary sewer/water main/etc) is incidental to this bid item.

Use manufactured wye fittings to install new laterals to the new main as called for on the plans; provide and place in accordance to Article 503 of Standard Specifications for Public Works Construction – Latest Edition. Do not install saddle type wyes without prior approval of the engineer.

D Measurement

The department will measure Sanitary Sewer Pressure Pipe PVC 15-Inch C900 by the linear foot, acceptably completed, to the nearest whole foot of each of the various types, classes and sizes of pipe installed at the various depths, measured along the centerline of the pipe center to center of junctions and fittings. The quantity to be paid for includes construction through Sewer Access Structures, from center of Sewer Access Structure casting to center of Sewer Access Structure casting. Main extensions continuing through Sewer Access Structures shall be measured from center of Sewer Access Structure casting to the end of pipe. The depths of installation shall be measured in feet from the invert of the sewer pipe to the elevation of the existing ground. There shall be no deductions from the measured lengths for wye installations.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.05	Sanitary Sewer Pressure Pipe PVC 15-Inch C900	LF

Payment is full compensation for furnishing all materials, except wyes, necessary to perform the work; excavation of the trench, except tunneling and jacking; installation and removal of sheeting and bracing; removal of water from the trench; disposal of surplus material from the trench; backfilling the trench and compaction of the backfill material; embankment over the sewer using surplus material from the excavation of the trench; bedding the pipe; laying the pipe and installing the fittings and accessories; jointing and sealing of joints in pipe, fittings and accessories; encasement, where specified; connections to existing structures; cleaning out the sewer; restoring the site; and all other work incidental to the installation of sanitary sewers.

102. Utility Trench Patch Type III, Item SPV.0090.06.

A Description

Constructed work under this item to conform with the requirements of Article 502 and Standard Detail Drawing 5.2.4 of the City of Madison Standard Specifications for Public Works Construction – Latest Edition for Type III Trench Patch.

B Material

Provide new crushed stone meeting the requirements of standard spec 305, Base Aggregate Dense, 1 ¼-Inch. Provide new asphaltic surface per standard spec 465.

C Construction

Install Utility Trench patch in accordance to all applicable provisions of Article 502.1(f) and SDD 5.2.4 of the City of Madison Standard Specifications for Public Works Construction – Latest Edition for Type III Patch.

D Measurement

The department will measure Utility Trench Patch Type III by the linear foot, measured along the centerline of the patch, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.06	Utility Trench Patch Type III	LF

Payment is full compensation for furnishing all materials necessary to restore the pavement, but not include the Select Fill material required to backfill the trench; and includes placing, consolidating and compacting the materials used to restore the pavement' and all other work incidental the installation of utility trench patches.

103. Furnish and Install 6-Inch Pipe and Fittings, Item SPV.0090.07; 8-Inch, Item SPV.0090.08; 10-Inch, Item SPV.0090.09; 12-Inch, Item SPV.0090.10; 16-Inch, Item SPV.0090.11.

A Description

Furnish and install pipe and fittings of the size specified in the plans in accordance to section 704.6 of the *City Standard Specifications*.

B Materials

Furnish materials in accordance to section 702.2 of the *City Standard Specifications*.

C Construction

Install water main pipe and fittings in accordance to section 703 of the *City Standard Specifications*.

D Measurement

The department will measure Furnish and Install (Size) Pipe and Fittings by the linear foot, in accordance to section 704.6 of the *City Standard Specifications*.

All fittings shown on the plan set are included in the linear foot price for Water Pipe and Fittings. Any additional fittings such as bends, offsets, tees, and reducers that are not specified on the plans shall be measured by the unit acceptably completed. The engineer must provide written authority to allow any installations of additional fittings.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.07	Furnish and Install 6 Inch Pipe and Fittings	LF
SPV.0090.08	Furnish and Install 8 Inch Pipe and Fittings	LF
SPV.0090.09	Furnish and Install 10 Inch Pipe and Fittings	LF
SPV.0090.10	Furnish and Install 12 Inch Pipe and Fittings	LF
SPV.0090.11	Furnish and Install 16 Inch Pipe and Fittings	LF

Where authorized, the department will pay for additional fittings as follows:

DESCRIPTION	UNIT	PRICE
6-Inch Fitting	Each	\$620.00
8-Inch Fitting	Each	\$840.00
10-Inch Fitting	Each	\$1,000.00
12-Inch Fitting	Each	\$1,295.00
16-Inch Fitting	Each	\$1,890.00

Additional fittings to be paid will be offset by any fittings identified on the plan set to be furnished and installed, but that were not furnished and installed. Additional tee fittings will be paid as 1.5 fittings. Additional offset or cross fittings will be paid as 2 fittings.

Payment is full compensation in accordance to section 704.6 of the *City Standard Specifications*. Additional fittings will be paid in accordance to section 104 of the *City Standard Specifications*.

104. Select Fill – Sand for Water Main and Laterals, Item SPV.0090.12.**A Description**

This special provision describes furnishing and placing select fill backfill over the water main and water services along the entire length of the pipeline in accordance to section 704.8 of the *City Standard Specifications*.

B Materials

Provide Select Fill Sand for Water Main and Laterals meeting the requirements of section 202.2 (b) and section 703 of the *City Standard Specifications*.

C Construction

Place Select Fill Sand for Water Main and Laterals in accordance to section 703 of the *City Standard Specifications*.

D Measurement

The department will measure Select Fill-Sand for Water Main and Laterals by the linear foot of trench, in accordance to section 704.8 of the *City Standard 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.0090.12	Select Fill – Sand for Water Main and Laterals	LF

Payment is full compensation for furnishing all labor, tools, equipment, materials, and incidentals necessary to complete all work necessary to furnish and place select fill in accordance with Article 502.1 of the City of Madison Standard Specifications for Public Works Construction - Latest Edition.

105. Furnish and Install Foam Board Insulation, Item SPV.0090.13.**A Description**

Furnish and install foam board insulation consists of placing rigid foam board in order to insulate water mains and/or water service laterals. This section includes but is not necessarily limited to; all materials, equipment, labor and incidentals necessary to complete the insulation of the pipe, and shall be executed in compliance with section 704.13 of the *City Standard Specifications*.

B Materials

Provide foam board insulation complying with section 702.12 of the *City Standard Specifications*.

C Construction

Install foam board insulation at all locations where there is 5 or less feet of cover, where water main crosses below existing or proposed storm sewer pipe, or when specified, shown on the drawings or ordered by the engineer conforming to section 703.13 of the *City Standard Specifications*.

D Measurement

The department will measure Furnish and Install Foam Board Insulation by linear foot of pipe insulated measured along the centerline of the pipe at the surface, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.13	Furnish and Install Foam Board Insulation	L.F.

Payment is full compensation for furnishing all work in insulating the pipe as required. Broken insulation shall not be considered for payment.

106. Replace Copper Service Lateral 1-Inch, SPV.0090.14.

A Description

The work under this item shall include but not necessarily be limited to; furnishing all labor and materials, including all required fittings; curb box and stop; excavating the trench; installing and removing sheeting and bracing; trimming tree roots as needed per section 107.13 of the *City Standard Specifications*; dewatering; backfilling the trench; compacting the backfill material; making the tap; bedding the pipe; laying the pipe; installing fittings and curb box; installing and/or repairing polyethylene encasement; restoration; adjusting the curb box to finish grade and other work incidental to the installation of replacing copper service laterals. This item also includes abandoning the existing service, curb box and stop.

B Materials

Provide all materials conforming to the requirements of section 702 of the *City Standard Specifications*.

C Construction

Construct all associated work conforming to the requirements of section 703 of the *City Standard Specifications*.

D Measurement

The department will measure Replace Copper Service Lateral 1-Inch by the linear foot, acceptably completed, of the pipe installed, measured along the centerline of the service lateral at the surface from the center of the water main to the center of the curb stop. If the construction inspector or engineer relocates a curb stop due to conflict, tail extensions beyond the curb stop will be paid along the centerline of the service lateral at the surface from the curb stop to the property service connection.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.14	Replace Copper Service Lateral 1 Inch	LF

Payment is full compensation for furnishing all materials and associated work as specified herein.

107. Concrete Curb and Gutter 24-Inch Type A Special, Item SPV.0090.15; Concrete Curb and Gutter 24-Inch Type D Special, Item SPV.0090.16.

A Description

Work consists of constructing concrete curb and gutter as shown in the plans in accordance to standard spec 601.

B (Vacant)

C (Vacant)

D Measurement

The department will measure Concrete Curb and Gutter 24-Inch (Type) Special in accordance to standard spec 601.4.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.15	Concrete Curb and Gutter 24-Inch Type A Special	LF
SPV.0090.16	Concrete Curb and Gutter 24-Inch Type D Special	LF

Payment is full compensation for furnishing all work, equipment, materials, labor, and incidentals required to complete the work as set for in the description.

108. Sign Post, Item SPV.0090.17; Reflective Sign Post, Item SPV.0090.18.

A Description

This special provision describes furnishing and installing new sign posts, reflective sign posts, and or powder coated sign posts for signs. All signposts shall be round tubular steel and installed as shown in the plans.

B Materials

Provide all materials conforming to the standard specifications for hot rolled carbon sheet steel, commercial quality, ASTM A-570-GR-33 for zinc coated tubing to resist corrosion. Provide 2-inch, schedule-40 tube and end cap. Provide reflective sign post with two sheets of engineer grade yellow sheeting completely around pipe as shown in the plans.

C Construction

Install the signposts at the locations shown on the plans and approved by the engineer. If the finished grade cannot be determined, ask the engineer to identify the final grade. Install all signs in a true vertical position conforming to the latest edition of the Manual on Uniform Traffic Control Devices. Also, locate all underground utilities prior to placing sign posts. Cut off excess length of post in the field to provide the desired sign clearance.

D Measurement

The department will measure (Type) Sign Post by the linear foot, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.16	Sign Post	LF
SPV.0090.17	Reflective Sign Post	LF

Payment is full compensation for furnishing and installing all necessary posts, reflective sheeting, finials, hardware and anchors. All materials damaged during construction shall be replaced with new items at no cost to the department.

109. Electrical Wire Lighting, 14-3 Grounded, Item, SPV.0090.19.**A Description**

This special provision describes furnishing and installing electrical wire lighting, 14-3 type UF cable according to standard spec 655 and these specifications.

B Material

Furnish type UF cable with ground including the number and size of conductors as the plans show. Use cable conforming to ANSI/UL 493.

C Construction

Furnish and install one cable to each LED luminaire from base of pole to the luminaire. Luminaires designated as all night (A) are to have both drivers wired to the all-night lighting circuit. Type 2 and Type 3 Luminaires designated as midnight (M) are to have one driver wired to the all-night lighting circuit and the other to the midnight lighting circuit.

D Measurement

The department will measure Electrical Wire Lighting, 14-3 Grounded by the linear foot acceptably completed, measured from the splice with the system lighting circuit in the pole base to the connection terminals in the luminaire.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.18	Electrical Wire Lighting, 14-3 Grounded	LF

Payment is full compensation for furnishing and installing all materials, and for furnishing all equipment and incidentals necessary to complete the work.

110. 60" Storm Sewer Pipeline Installation, Item SPV.0090.20.

A Description

This special provision describes 60" Storm Sewer Pipeline Installation.

Work under this item shall include the furnishing and installation of a 60" storm sewer pipe with or without a casing pipe under the Beltline Highway (U.S. Hwy 12 and 14) at Mineral Point Road (CTH S) and the Beltline Highway (U.S. Hwy 12 and 14). The work shall also include reinforced concrete apron endwalls, all materials, equipment, and labor required to restore the work site to a condition satisfactory to the engineer as is shown on the plan. The contractor is directed to review the plan set for details.

Available methods include, but are not limited to, microtunneling, boring and jacking, or a combination of these or other methods. If boring and jacking methods are chosen include with this bid item, a suitably sized "casing" pipe. Open trench construction is not allowed for this installation.

Choose an installation method that suits your purposes, however the method must be reviewed and approved by the engineer for compliance with all requirements and conditions of the plans and specifications.

Regardless of the method of installation chosen by the contractor the work under this item includes all work, materials, labor, and incidentals necessary to successfully provide and install the 60" reinforced concrete pipe and endwalls as shown on the plan from S-1 to S-2. The method/methods chosen provides for the new pipe to be installed per plan and protects the existing utilities from damage.

Further, include all costs for furnishing and installing any needed, soil stabilization, fencing, erosion control, traffic control, shoring, steel casing pipe, casing spacers, sand or pea gravel filler, reinforced concrete carrier pipe, apron endwalls, access, receiving pits, topsoiling, seeding and mulching in this bid item. Include all necessary excavation and backfilling for receiving pits, disposal of excess material and backfill in this bid item. Excess excavation shall be removed from the site by the contractor, and disposed of offsite at a location to be provided by the contractor. Provide any necessary backfill that meets City of Madison Standard Specifications for road construction.

Include any necessary work and materials to adequately secure pits with full cover or security fencing in this bid item. Include any dewatering required for the construction, in this bid item.

B Materials

Furnish 60" Storm Sewer Pipeline Installation according to the pertinent requirements of standard spec 522.

The 60" Storm Sewer Pipeline Installation includes all materials necessary to install the 60" RCP in accordance to the requirements above. If a bore and jack method is proposed and a casing pipe is utilized the casing pipe shall be in accordance to the following:

1. ASTM specification A139 Grade B or AWWA specification C200.
2. outside diameter as specified by the contractor.
3. Not coated or cathodically protected, no hydrostatic testing required.
4. 0.5" minimum thickness.
5. Specified minimum yield strength, SMYS, of at least 35,000 psi.
6. New and unused pipe.
7. Straight and round pipe.
8. Beveled ends for butt welding.

C Construction

60" Storm Sewer Pipeline Installation - Submit a plan for installation of the 60" RCP to the engineer. Continue the pipe installation operation, once is started, without interruption until completion.

If a bore and jack installation method is proposed, meet the following minimums during installation:

Construct the borehole diameter essentially the same as the outside diameter of the pipe. In soft, unstable soil, keep the auger inside the casing, but not undersized, so as not to create a void between the casing and the soil. If voids should develop or if the bore hole diameter is greater than the outside diameter of the pipe by more than approximately 1 inch, Pressure grout the voids.

Construct connections of adjacent lengths of steel casing pipe by continuous, circumferential, field butt-welding in accordance to AWWA C206. Construct the connection to result in a straight and true casing with a watertight seal.

Install the carrier pipe on line and grade through the casing pipe. Install approved casing spacers at the approved distances. Fill the annular space between the casing and carrier pipe with the approved material (sand or pea gravel).

Take care to ensure that developed thrust pressures do not disturb existing utilities in or around the bore pit area.

D Measurement

The department will measure 60" Storm Sewer Pipeline Installation by the linear foot of actual pipeline installed including the endwalls, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.20	60" Storm Sewer Pipeline Installation	LF

Payment is full compensation for 60" Storm Sewer Pipeline Installation at the contract price which shall be full compensation for furnishing all work, materials, labor, and incidentals required to complete the work as set forth in the description, materials, and method of construction and as shown on the plan.

111. Loop Detector Lead-In Cable Special, Item, SPV.0090.21.**A Description**

This special provision describes furnishing and installing loop detector lead in cable according to standard spec 655.

B Materials

Furnish 0.25 inch diameter, 4-conductor, #18 AWG, waterproof, shielded, polypropylene insulation cable, with HDPE outer jacket. Meeting IMSA specifications. Provide loop detector lead in cable to be smooth on the outside without any ripples or ribbing from cable wires.

C Construction

Furnish and install one cable for every two loops from each loop handhole to the intersection control cabinet via the most direct route, without intermediate splicing. Most of the loops will be new and are shown on the plan. Install cable for some existing loops. Verify cable needs with the City of Madison Traffic Engineering staff before completing intersection wiring.

D Measurement

The department will measure Loop Detector Lead In Cable by the linear foot, acceptably completed, measured from the splice with the loop lead in wire along the centerline of the conduit to its connection with terminals in the control cabinet.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.21	Loop Detector Lead In Cable Special	LF

Payment is full compensation for furnishing and installing all materials, and for furnishing all equipment and incidentals necessary to complete the work.

112. Construction Staking Water Main Project 5992-08-88, Item SPV.0105.01.

A Description

Perform the work in accordance to the applicable provisions of standard spec 650.3.2 and 650.3.6.

B (Vacant)

C (Vacant)

D Measurement

The department will measure Construction Staking Water Main Project 5992-08-88 as a single lump sum unit of work for construction staking, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.01	Construction Staking Water Main Project 5992-08-88	LS

Payment for Construction Staking Water Main Project 5992-08-88 is full compensation for locating and setting all construction stakes; for relocating and resetting damaged or missing construction stakes.

113. Construction Staking Sanitary Sewer Project 5992-08-89, Item SPV.0105.02.

A Description

Perform the work in accordance to the applicable provisions of standard spec 650.3.2 and 650.3.6.

B (Vacant)

C (Vacant)

D Measurement

The department will measure Construction Staking Sanitary Sewer Project 5992-08-89 as a single lump sum unit of work, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.02	Construction Staking Sanitary Sewer Project 5992-08-89	LS

Payment for Construction Staking Sanitary Sewer Project 5992-08-89 is full compensation for locating and setting all construction stakes; for relocating and resetting damaged or missing construction stakes.

114. Heavy Wastewater Control, Item SPV.0105.03.

A Description

Work under this item shall include all equipment, labor, materials, coordination, and incidentals required to control or divert, to the engineer's satisfaction, sanitary sewer flows during reconstruction of the sanitary sewer.

B (Vacant)

C Construction

Provide a pump with a capacity of 500 g.p.m. and all associated equipment required to maintain a functioning sanitary sewer system during construction. The normal flow of wastewater in sanitary sewer service laterals is not to be disrupted without prior approval from the engineer. This condition also holds at the time of connection of an existing lateral to the new sewer main.

If the contractor elects to use bypass pumping as a means of wastewater control, the methods, equipment, type of hose, etc. is subject to approval by the engineer. Hoses crossing streets, driveways, parking areas, etc., are to be ramped over to prevent damage to hoses. Spillage of wastewater is to be contained within the trenches and disposed of downstream to previously installed sewer piping. No spillage of wastewater to adjacent streets, lawns, etc. is tolerated. If any such spillage should occur, all construction operations shall cease. Commence cleanup immediately and be completed to the satisfaction of the engineer prior to the resumption of any construction operations.

D Measurement

The department will measure Heavy Wastewater Control as a single lump sum unit of work for all sanitary sewer control and diverting required to reconnect sewer laterals to main lines and to construct the sanitary sewer as designed, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.03	Heavy Wastewater Control	LS

Payment is full compensation for furnishing all work as outlined in the description.

- 115. Parapet Concrete Type TX B-13-655, Item SPV.0105.04.01; Parapet Concrete Type TX C-13-2054, Item SPV.0105.04.02; Parapet Concrete Type TX R-13-209, Item SPV.0105.04.03; Parapet Concrete Type TX R-13-210, Item SPV.0105.04.04; Parapet Concrete Type TX R-13-211, Item SPV.0105.04.05; Parapet Concrete Type TX R-13-214, Item SPV.0105.04.06; Parapet Concrete Type TX R-13-215, Item SPV.0105.04.07; Parapet Concrete Type TX R-13-216, Item SPV.0105.04.08; Parapet Concrete Type TX R-13-217, Item SPV.0105.04.09; Parapet Concrete Type TX R-13-218, Item SPV.0105.04.10.**

A Description

This special provision describes construction of a decorative concrete parapet in accordance to standard spec 501, 502, and 505, as shown on the plans, and as hereinafter provided. The concrete mix used for this parapet shall include polypropylene fibers.

B Materials

Provide polypropylene fibers of engineered synthetic reinforcing fibers of 100% polypropylene collated fibers.

The physical properties of the fibers shall be as follows:

Specific Gravity:	0.91
Denier:	Less than 100
Modulus of Elasticity:	0.5x10 ⁶ to 0.7x10 ⁶ psi
Tensile Strength:	70 to 110 ksi
Length:	1/2 to 2-1/2 inches

Ceritfy, in writing, that all polypropylene fibers are specifically manufactured for use in concrete from virgin polypropylene and the physical properties are within the limits specified above.

If the fiber manufacturer is other than the brand name listed on the literature and/or packaging, the certification must be from the original manufacturer of the polypropylene fivers.

Manufacturer to certify the fiber length to be compatible with the concrete mix design.

Consider concrete to be Type 1 for QMP testing purposes.

C Construction

The polypropylene fiber manufacturer or authorized distributor to provide the services of a qualified engineer or employee for a pre-construction meeting and initial job start up.

Use polypropylene fibers at the rate of one bag weighing 1.5 to 1.6 pounds per cubic yard of concrete. The fibers may be added with the fine and coarse aggregates or in the mixer after all ingredients have been blended and mixed in accordance to manufacturer's recommendations.

D Measurement

The department will measure Parapet Concrete Type TX as a single lump sum unit of work for parapet, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.04.01	Parapet Concrete Type TX B-13-655	LS
SPV.0105.04.02	Parapet Concrete Type TX C-13-2054	LS
SPV.0105.04.03	Parapet Concrete Type TX R-13-209	LS
SPV.0105.04.04	Parapet Concrete Type TX R-13-210	LS
SPV.0105.04.05	Parapet Concrete Type TX R-13-211	LS
SPV.0105.04.06	Parapet Concrete Type TX R-13-214	LS
SPV.0105.04.07	Parapet Concrete Type TX R-13-215	LS
SPV.0105.04.08	Parapet Concrete Type TX R-13-216	LS
SPV.0105.04.09	Parapet Concrete Type TX R-13-217	LS
SPV.0105.04.10	Parapet Concrete Type TX R-13-218	LS

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

116. Abandoning Water Main, Item SPV.0105.06.

A Description

This special provision describes abandoning existing water main by filling it with cellular concrete in accordance to the pertinent requirements of sections 204 and 501 of the standard specifications, removing hydrants that are being replaced, and removing existing valve boxes as shown in the plans, and as hereinafter provided.

B Materials

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

C Construction

Fill the abandoned water pipe with cellular concrete as directed by the engineer. If the pipe cannot be completely filled from existing ends, tap the pipe where necessary and fill from these locations.

D Measurement

The department will measure Abandoning Water Main as a single lump sum unit of work, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.06	Abandoning Water Main	LS

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

117. Temporary Traffic Signals (Mineral Point Road-CTH S and Junction Road), Item SPV.0105.07; Temporary Traffic Signals (South Junction Road-CTH M and Watts Road), Item SPV.0105.08; Temporary Traffic Signals (Mineral Point Road-CTH S and Jug Handle), Item SPV.0105.09.

A Description

This special provision describes installing temporary traffic signals for intersections, using overhead electrical wiring to temporary traffic signal poles and temporary supports, in accordance to standard spec 661 and as amended herein.

The City of Madison traffic signal personnel will perform the traffic signal inspection.

B Materials

Furnish and use materials that are in accordance to standard spec 661.2 and as amended herein.

Maintain and extend signal interconnectivity as necessary. Furnish and install Opticom signal preempt for the temporary signals. The following approach directions each need to be detected and brought back individually to the signal control cabinet: northbound, eastbound and westbound at Mineral Point and Junction Road intersection, southbound, northbound and westbound at South Junction and Watts Road intersection, and eastbound and westbound at Mineral Point Road (CTH S) and Jug Handle intersection.

B.1 Luminaires

Furnish and install luminaire arms and luminaries conforming to the pertinent requirements of standard spec 657 and 659. The luminaries shall be 400 watt, full cutoff, high-pressure sodium and shall be furnished with photo electric cells to turn the luminaire on and off.

B.2 Signal Poles and Signal Faces

Furnish new or used poles and traffic signal standards for use in temporary signals conforming to the pertinent requirements of standard spec 657 and 661. Furnish signal faces in accordance to standard spec 661.2.2.2.

B.3 Pedestrian Push Buttons

Furnish pedestrian push buttons conforming to standard spec 658.

B.4 Signal Cabinet

Furnish new or equivalent to new materials as specified in standard spec 661.2 and as follows:

B.5 Controller

Furnish a new or equivalent to new Econolite ASC3-2100 controller with Telemetry Module for each Econolite Controller. The controller shall be compatible with the City of Madison closed loop system (CLS).

B.6 Conflict Monitor

Furnish a new or equivalent to new NEMA+ 12-Channel Signal Conflict Monitor, with LCD display, and an Ejector Tab card release on side of card.

Provide keys to the temporary signal control cabinet to the City of Madison in addition to other required keys in accordance to standard spec 661.2.1.

C Construction**C.1 General**

The City of Madison will load the timing programs into the controller.

Do not use new permanent signal conduit for temporary signal wiring. Provide horizontal and vertical clearance between sidewalks and guy wires.

Arrange for all required electrical service modifications with the utility. Pay all utility company installation costs for modifications required to maintain the Temporary Traffic Signal. The City of Madison will pay for energy costs.

Locate and avoid all underground and aboveground utilities and structures. Install temporary supports as required to avoid conflicts with proposed curb and gutter, sidewalk, and traffic signal poles. The engineer will approve the final location of wood poles prior to installation.

Limited right-of-way will pose a problem for down guys in the NE and SE quadrants at the intersection of South Junction Road (CTH M) and Watts Road. Use of self-supporting poles will likely be required. Self-supporting poles may be required elsewhere on the project depending on contractor operations.

Maintain temporary signals throughout the construction of the project, including during the winter suspension period, until such time that the new signals are operational and have been accepted by, and turned over to the city.

C.2 Existing City Equipment

City forces will remove all existing signal equipment after temporary signals are in place. Contact Michael Christoph at (608) 266- 9031 to coordinate signal removals.

C.3 Signal Heads

Install signal heads for the same vehicle travel direction at a minimum of 11 feet from each other. Provide pedestrian signals for each crosswalk open to pedestrians and locate them so that they are clearly visible to pedestrians prior to and during their crossing. Move signal heads as necessary or as directed by the engineer.

C.4 Pedestrian Push Buttons

Install pedestrian push buttons for pedestrian crossings. Mount push buttons so that they are wheelchair accessible from temporary crosswalks. Install pedestrian push buttons as required by the MUTCD chapter 4.

C.5 Luminaires

Orient luminaires as shown on the plans to illuminate both traffic lanes and sidewalks on both sides of the respective street.

C.6 Cabinet

Provide a representative of the supplier of their cabinet on site at the time of the turn on. Install equipment in the cabinet as follows:

C.6.1 Controller

Install the controller and ensure that it is operational as part of the City of Madison closed loop system.

C.7 Maintenance

When a signal installation is not in operation, hood, turn, or take down the signal head(s) to clearly indicate that the signal is not in operation. (See MUTCD 4D-1).

C.8 Pre-emption Hardware, Cable, and Equipment

Install detector cards, sensors, cables, and all required ancillary equipment, appurtenances and mounting hardware at the temporary signals to provide a fully function pre-emption system. Arrange testing of the pre-emption system with Mike Christoph, (608) 266-9031 before turn-on of the temporary signal.

C.9 Contractor Qualifications

Demonstrate the ability to operate all required traffic signal equipment listed in this special provision for the engineer and the City of Madison prior to starting work.

Provide proof of the ability to obtain all required traffic signal equipment listed in this special provision to the engineer and the City of Madison prior to starting work.

D Measurement

The department will measure Temporary Traffic Signals (Location), completed in accordance to the contract and accepted, as a single complete lump sum unit of work, and in accordance to standard spec 661.4.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.07	Temporary Traffic Signals (Mineral Point Road- CTH S and Junction Road)	LS
SPV.0105.08	Temporary Traffic Signals (South Junction Road- CTH M and Watts Road)	LS
SPV.0105.09	Temporary Traffic Signals (Mineral Point Road- CTH S and Jug Handle)	LS

Payment is full compensation in accordance to standard spec 661.5.

118. Temporary Crosswalk Access (Mineral Point Road-CTH S and Junction Road), Item SPV.0105.11; Temporary Crosswalk Access (South Junction Road-CTH M and Watts Road), Item SPV.0105.12; Temporary Crosswalk Access (Mineral Point Road-CTH S and Jug Handle), Item SPV.0105.13.

A Description

This work shall consist of furnishing, installing and maintaining temporary access for pedestrian crossings and access of the project area.

B (Vacant)

C Construction

Construct Temporary Crosswalk Access at intersections noted below to meet requirements of the Americans with Disabilities Act Accessibility Guidelines (ADAAG) consisting of temporary asphaltic surface, any grade of concrete, skid resistant steel plating, or alternative material as approved by the engineer. Gravel or base course material is not acceptable. Maintain ADAAG accessible crosswalk accesses that are free from mud, sand, and construction debris.

D Measurement

The department will measure Temporary Crosswalk Access (Location), completed in accordance to the contract and accepted, as a single complete lump sum unit of work, and in accordance to subsection 661.4 of the standard specifications.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.11	Temporary Crosswalk Access (Mineral Point Road- CTH S and Junction Road)	LS
SPV.0105.12	Temporary Crosswalk Access (South Junction Road- CTH M and Watts Road)	LS
SPV.0105.13	Temporary Crosswalk Access (Mineral Point Road- CTH S and Jug Handle)	LS

119. Temporary Vehicle Detection (Mineral Point Road-CTH S and Junction Road), Item SPV.0105.14; Temporary Vehicle Detection (South Junction Road-CTH M and Watts Road), Item SPV.0105.15; Temporary Vehicle Detection (Mineral Point Road-CTH S and Jug Handle), Item SPV.0105.16.

A General

Work under this item shall consist of furnishing, installing, and maintaining vehicle detection systems at the intersections of Mineral Point Road (CTH S) and Junction Road, South Junction Road (CTH M) and Watts Road, Mineral Point Road (CTH S) and Jug Handle, and Mineral Point Road (CTH S) and Commerce Drive, in conjunction with temporary traffic signals as shown in the Plans.

The desired vehicle detection zones and their operational parameters are shown in the plans.

Select, with prior approval of the engineer and City of Madison, the vehicle detection technology best suited for the site conditions and the anticipated construction work zones and activities. The engineer reserves the right to request a demonstration of any or all temporary vehicle detection technologies prior to said approval. All vehicle detection technologies are to be considered but are not limited to temporary inductive loops, microwave detection, or video detection. Damage to new pavement for temporary detection loops will not be allowed.

The temporary vehicle detection system is be considered part of the temporary traffic signals and is subject to the same maintenance and repair requirements as described in the Temporary Traffic Signal (location) bid item.

B Materials

Provide all necessary equipment for the approved method of temporary vehicle detection.

C (Vacant)

D Measurement

The department will measure Temporary Vehicle Detection (location) as a single lump sum unit of work per intersection, complete in place and accepted.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.14	Temporary Vehicle Detection (Mineral Point Road- CTH S and Junction Road)	LS
SPV.0105.15	Temporary Vehicle Detection (South Junction Road-CTH M and Watts Road)	LS
SPV.0105.16	Temporary Vehicle Detection (Mineral Point Road- CTH S and Jug Handle)	LS

Payment is full compensation for demonstrating and selecting the vehicle detector technology, furnishing and installing the equipment, including all required materials, tools, and supplies; for furnishing all labor; for clean-up and waste disposal; and for furnishing all incidentals necessary to complete this item of work.

120. Bio Swale, Item SPV.0105.18.

A Description

This special provision describes all work (including but not limited to excavation, removal and disposal of existing material, provision and placement of engineered material), all materials (including but not limited to underdrain pipes, engineered fill and mulch), labor, and incidentals required to construct the bio swale system meeting the size, location, specifications, and detail drawings contained in this document and in the plan set.

Review the detail drawings for each system in detail. The size of the bio swale is specific as is the means of providing stormwater to the system. This item does not include planting of the bio-swale system. Planting will be completed by others.

B Materials

B 1.1 Engineered Soil

Provide a soil mixture consisting of a mixture of sand, compost and topsoil. Design the mix to approximate the following percentages, by volume. Construct the mix such that it is free of rocks, stumps, roots, brush or other material over 1 inch in diameter. Do not mix other materials with the planting soil that may be harmful to plant growth or prove a hindrance to planting or maintenance.

Engineered Soil Component	% Composition by Volume
Sand	45-55%
Topsoil	10-15%
Compost	30-50%

B 1.2 Sand

Provide sand to be used in the engineered soil mix so that it meets one of the following gradation requirements:

- a) Crushed and screened sandstone
- b) 100% passing a #4 sieve
- c) Maximum of 5% passing a #200 sieve

B 1.3 Topsoil

Provide topsoil components meeting a USDA classified sandy loam, loamy sand or loam texture. Verify the topsoil component textural class by a laboratory analysis or a professional acceptable to the jurisdiction having authority. Pulverize the topsoil prior to mixing with the other materials. No soil particle size over 1" diameter is acceptable and will require removal of all material from the site and a new mix being provided.

B 1.4 Compost

Provide a compost component meeting the following requirements:

- a) Particle Size – 98% of the compost shall pass through a 0.75-inch screen.
- b) Physical Contaminants – Less than 1% combined glass, metal and plastic.
- c) Organic Matter/Ash Content – At least 40% organic matter; less than 60% ash content.
- d) Carbon to Nitrogen Ratio – 10-20:1 C:N ratio.
- e) pH – Between 6 and 8.
- f) Soluble Salts – Electrical conductivity below 10 dS m⁻¹ (mmhos cm⁻¹).
- g) Moisture Content – Between 35% and 50% by weight.
- h) Maturity – The compost shall be resistant to further decomposition and free of compounds, such as ammonia and organic acids, in concentrations toxic to plant growth.
- i) Residual Seeds and Pathogens – Pathogens and noxious seeds shall be minimized.
- j) Pathogens – The compost shall meet the Class A requirements for pathogens as specified in s. NR 204.07(6)(a), Wis. Adm. Code.
- k) Other Chemical Contaminants – The compost shall meet the high quality pollutant concentrations as specified in s. NR 204.07(5)(c), Wis. Adm. Code.

B 1.5 Clear Stone

Provide clear stone meeting the requirements for No. 2 gradation coarse aggregate in standard spec 501.2.5.4.4.

C Construction

Construction includes all excavation, removal and disposal offsite, at a location provided by the contractor, of existing material to the bottom of bio swale system grade shown on the detail drawings.

Begin Standard excavation at the outer polygon shown on the detail drawings and be on a continuous slope from the existing elevation to the finish horizontal location and elevation as depicted by the inner polygon. This inner polygon represents the bottom of the bio swale. Excavation below finish grade and replacement of existing material with engineered fill is required only below the inner polygon. Fill this volume with engineered fill (meeting the specifications above) to the finish grade noted on the detail.

Provide all required engineered fill as called out on the typical section including compost, topsoil, sand, and shredded mulch to be placed upon complete construction of the garden. Mix engineered soil at an offsite location and deliver to the site. All finishing work required to provide a finished engineered soil layer prior to placement of mulch. Furnish and install mulch consisting of 3 inches of double shredded hardwood mulch. Install mulch once the garden has been brought to finish grade. The 3" of mulch is to be added on top of engineered fill and above the finish grade noted in the plan set.

D Measurement

The department will measure Bio Swale as a single lump sum unit of work for bio swale, 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.0105.18	Bio Swale	LS

Payment is full compensation for excavation and disposal of material, clear stone, geotextile fabric, drain tile, engineered soil, and all work, materials and incidentals to complete the work as described above.

- 121. Railing Steel Type 1 Galvanized B-13-655, Item SPV.0105.19; Railing Steel Type 1 Galvanized R-13-210, Item SPV.0105.20; Railing Steel Type 1 Galvanized R-13-211, Item SPV.0105.21; Railing Steel Type 1 Galvanized R-13-217, Item SPV.0105.22; Railing Steel Type 1 Galvanized R-13-218, Item SPV.0105.23; Railing Steel Type 2 Galvanized B-13-656, Item SPV.0105.24; Railing Steel Type 2 Galvanized B-13-657, Item SPV.0105.25; Railing Steel Type 2 Galvanized R-13-208, Item SPV.0105.26; Railing Steel Type 2 Galvanized R-13-212, Item SPV.0105.27; Railing Steel Type 2 Galvanized R-13-219, Item SPV.0105.28; Railing Steel Type 2 Galvanized Retaining Wall #1, Item SPV.0105.29.**

A Description

This special provision describes fabricating, galvanizing, painting and installing railing in accordance to standard spec 506, 513 and 517 and the plan details, as directed by the engineer, and as hereinafter provided.

B Materials

Provide materials for railing that are new stock, free from defects impairing strength, durability and appearance. Galvanize railing assemblies and then apply a two-coat paint system. Bubbles, blisters and flaking in the coating will be a basis for rejection.

B1 Coating System

B1.1 Galvanizing

After fabrication, blast clean steel railing assemblies per SSPC-SP6 and galvanize according to ASTM A123. Drill vent holes in members as required to facilitate galvanizing and drainage. Location and size of vent holes are to be shown on the shop drawings. Remove all burrs at component edges, corners and at holes and sharp edges chamfered before galvanizing. Condition any thermal cut edges before blast cleaning by shallow grinding or other cleaning to remove any hardened surface layer. Remove all evident steel defects exposed in accordance to AASHTO M 160 prior to blast cleaning. Lumps, projections, globules, or heavy deposits of galvanizing, which will provide surface conditions that when painted, will produce unacceptable aesthetic and/or visual qualities, will not be permitted.

B1.2 Two-Coat Paint System

After galvanizing, paint all exterior surfaces of steel railing assemblies and inside of rail elements at field erection and expansion joints as hereinafter provided. Clean all galvanized surfaces to be painted per SSPC-SP1 to remove chlorides, sulfates, zinc salts, oil, dirt, organic matter and other contaminants. Brush blast cleaned surface per SSPC-SP16 to create a slight angular surface profile per manufacturer's recommendation for adhesion of the tie coat. Do not fracture the galvanized finish or remove any dry film thickness during installation. After cleaning, apply a tie coat from an approved coating system that is specifically intended to be used on a galvanized surface, per manufacturer's recommendations. Etch the galvanized rail and prepare the surface for the top coat using the tie coat. Apply a top coat per manufacturer's recommendations, matching the specified color shown on the plans. Use a preapproved top coat that is resistant to the effects of the sun and is suitable for a marine environment. The tie and top coats should be of contrasting colors, and come from the same manufacturer.

Ensure that the paint manufacturer reviews the process to be used for surface preparation and application of the paint coating system with the paint applier. The review includes a visit to the facility performing the work if requested by the paint manufacturer. Provide written confirmation, from the paint manufacturer to the engineer, that the review has taken place and that issues raised have been addressed before beginning coating work under the contract.

Use one of the qualified paint manufacturers and products given below. An equivalent system may be used with the written approval of the engineer.

Manufacturer	Coat	Products	Dry Film Minimum Thickness (mils)	Min. Time¹ Between Coats (hours)
Sherwin Williams 1051 Perimeter Drive Suite 710 Schaumburg, IL 60173 (847) 330-1562	Tie	Recoatable Epoxy Primer B67-5 Series / B67V5	2.0 to 4.0	6
	Top	Acrolon 218 HS Polyurethane, B65-650	2.0 to 4.0	NA
	Tie	Rustbond Penetrating Sealer FC	1	36
Carboline 350 Hanley Industrial St. Louis, MO 63144 (314) 644-1000	Tie	Carboguard 60	4.0 to 6.0	10
	Tie	Carboguard 635	4.0 to 6.0	1
	Top	Carbothane 133 LH(satin)	4	NA
Wasser Corporation 4118 B Place NW Suite B Auburn, WA 98001 (253) 850-2967	Tie	MC-Ferrox B 100	3.0 to 5.0	8
	Top	MC-Luster 100	2.0 to 4.0	NA

¹ Time is dependent on temperature and humidity. Contact manufacturer for more specific information.

B2 Shop Drawings

Submit shop drawings showing the details of railing construction. Show the railing height post spacing, rail location, weld sizes and locations and all dimensions necessary for the construction of the railing. Show location of shop rail splices, field erection joints and expansion joints. State the name of the paint manufacturer and the product name of the tie coat and top coat used along with the color. State the size and material type used for all components. Also show the size and location of any vent or drainage holes provided.

C Construction

C1 Delivery, Storage and Handling

Deliver material to the site in an undamaged condition. Upon receipt at the job site, thoroughly inspect all materials to ensure that no damage occurred during shipping or handling and conditions of materials is in conformance with these specifications. If coating is damaged, repair or replace railing assemblies to the approval of the engineer at no additional cost to the Owner. Carefully store the material off the ground to ensure proper ventilation and drainage. Exercise care so as not to damage the coated surface

during railing installation. No field welding, field cutting or drilling will be permitted without the approval of the engineer.

C2 Touch-up and Repair

For minor damage caused by shipping, handling or installation to coated surfaces, touch-up the surface in conformance with the manufacturer's recommendations. If damage is excessive, replace the railing assembly at no additional cost to the Owner. Provide the engineer with a copy of the manufacturer's recommended repair procedure and materials before repairing damaged coatings.

D Measurement

The department will measure Railing Steel (Type) Galvanized X-XX-XXX as a single lump sum unit of work for each structure where railing is 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.0105.19	Railing Steel Type 1 Galvanized B-13-655	LS
SPV.0105.20	Railing Steel Type 1 Galvanized R-13-210	LS
SPV.0105.21	Railing Steel Type 1 Galvanized R-13-211	LS
SPV.0105.22	Railing Steel Type 1 Galvanized R-13-217	LS
SPV.0105.23	Railing Steel Type 1 Galvanized R-13-218	LS
SPV.0105.24	Railing Steel Type 2 Galvanized B-13-656	LS
SPV.0105.25	Railing Steel Type 2 Galvanized B-13-657	LS
SPV.0105.26	Railing Steel Type 2 Galvanized R-13-208	LS
SPV.0105.27	Railing Steel Type 2 Galvanized R-13-212	LS
SPV.0105.28	Railing Steel Type 2 Galvanized R-13-219	LS
SPV.0105.29	Railing Steel Type 2 Galvanized Retaining Wall #1	LS

Payment is full compensation for fabricating, galvanizing, painting, transporting, and installing the railing, including any touch-up and repairs.

122. Construction Site Maintenance – Mowing, Item SPV.0105.30.

A Description

Work consists of keeping the project site clean and kept up by mowing permanently seeded or sodded areas within the project limits for the duration of the project.

B (Vacant)

C Construction

Set mower height at 3 inches. Mow turf when growth height is at 6 inches maximum.

D Measurement

The department will measure Construction Site Maintenance – Mowing as a single lump sum unit of work for mowing, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.30	Construction Site Maintenance – Mowing	LS

Payment for Construction Site Maintenance – Mowing is full compensation for transporting mower equipment, fuel and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

123. Optical Signal Preempt, Item SPV.0105.31.**A Description**

This special provision describes furnishing and installing optical signal preempt equipment for the 5 signalized intersections. The acceptability of alternate equipment rests solely with the City of Madison Traffic Engineering Division.

B Materials

Provide the following material:

1. Two channel discriminator for each of three intersections.
2. Three channel discriminator for each of two intersections.
3. Optical detectors, eleven total.
4. Card rack for each intersection, five total.
5. Detector cable as necessary.
6. Cables and auxiliary equipment as necessary for a complete operating system.

Provide all equipment from the same manufacturer and fully compatible. The discriminator shall detect and prioritize Tomar and Opticom brand emitters. The discriminator shall be capable of locking out non-coded emitters. The acceptability of equipment rests solely with the City of Madison Traffic Engineering Division.

C Construction

Install detectors on the top horizontal member of monotube arms, between the first and second traffic signal head, and as otherwise shown on the plan or directed by Madison Traffic Engineering.

The detectors will generally be on the far side of the intersection, and aimed at approaching traffic, as further directed by Madison Traffic Engineering staff. Install detector cable from the detector to the control cabinet at each intersection, using the shortest path.

All installation methods to be consistent with the manufacturers instructions. Card rack and discriminator installation, as well as cabinet connections, will be made by City of Madison Traffic Engineering staff.

D Measurement

The department will measure Optical Signal Preempt as a single lump sum unit of work for optical signal preempt, 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.0105.31	Optical Signal Preempt	LS

Payment is full compensation furnishing and installing detectors and cable; for furnishing and delivering discriminators, card racks, cables and miscellaneous materials to the city Traffic Engineering Field Office, 1120 Sayle Street.

124. Construction Staking Detention Pond, Item SPV.0105.32; Construction Staking Bio-Swale, Item SPV.0105.33; Construction Staking Sidewalk, Item SPV.0105.34.

A Description

Perform the work in accordance to the applicable provisions of standard spec 650.3.2 and 650.3.6.

B (Vacant)**C (Vacant)****D Measurement**

The department will measure Construction Staking Detention Pond, Construction Staking Bio-Swale, and Construction Staking Sidewalk as a single lump sum unit of work for construction staking, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.32	Construction Staking Detention Pond	LS
SPV.0105.33	Construction Staking Bio-Swale	LS
SPV.0105.34	Construction Staking Sidewalk	LS

Payment for Construction Staking Detention Pond, Construction Staking Bio-Swale, and Construction Staking Sidewalk is full compensation for locating and setting all construction stakes; and for relocating and resetting damaged or missing construction stakes.

125. Architectural Concrete Pavement 5-Inch, Item SPV.0165.01.

A Description

This special provision describes the construction of stamped colored concrete pavement, on a prepared foundation.

B Materials

Provide all materials in accordance to standard spec 602. Provide the stamping pattern as detailed on the plans and color to be approved by the engineer.

B.1 Concrete

Conform to standard spec 501 and as hereinafter provided:

Integrally color the concrete using non-fading synthetic iron oxides conforming to ASTM C979 at a minimum percent loading of 6% and a maximum percent loading of 8% by weight of the cementitious materials in the mix.

Coordinate with the city to select the desired color of the concrete.

The department will accept the color based on contractor supplied comparison sample panels as hereinafter provided.

Add integral concrete colorant according to manufacturer's instructions.

Maintain mix characteristics for all colored concrete requiring a matching finish. Use the same source, brand, type, and color of portland cement, supplementary cementitious materials, aggregates and admixtures for colored concrete pavement throughout the project. Use constant cement content, supplementary cementitious material content. Except for minor adjustments, maintain a constant water/cementitious materials ratio.

B.2 Form Release Agent

Supply a powder antiquing form release agent. Apply form release agent according to manufacturer's instructions using manufacturer's recommended application techniques.

B.3 Concrete Curing

Supply a liquid membrane-forming clear curing compound conforming to AASHTO M 148, type 1. Apply curing compound for integrally colored concrete according to manufacturer's instructions using manufacturer's recommended application techniques. Apply curing compound at a standard time after each pour.

Do not cure colored concrete using plastic sheeting, unless necessary due to weather conditions.

B.4 Admixtures

Use admixtures designed for use and compatible with colored concrete pigments. Do not use calcium chloride or admixtures containing chlorides. Use the same admixtures for colored concrete pavement throughout the project.

B.5 Imprinting Pattern: 6"x6" cobble stone pattern applied parallel to roadway centerline or city approved alternative.

C Construction

Construct stamped colored concrete pavement in accordance to standard spec 602 and as hereinafter provided.

Prior to work commencing for stamped colored concrete, provide a finished stamped colored concrete sample having minimum dimensions of 2 feet by 2 feet by 2 inches (length, width, thickness). Up to five sample panels may be submitted to the engineer to demonstrate the typical pattern, texture, surface finish, color, and standard workmanship. Notify the engineer seven days in advance of delivering the finished stamped colored concrete samples.

Produce consistent colored concrete mixes. Except as required to maintain constant color, the engineer will not allow variations in the amounts, types, or source of materials. The contractor may make minor adjustments of water and air-entraining agent as field conditions dictate.

Colored concrete mixes for the entire project are to be consistent. If the contractor chooses to provide mixes with High Early Strength, then all colored concrete will be provided as High Early Strength. Switching from regular colored concrete to High Early Strength colored concrete or High Early Strength colored concrete to regular colored concrete will not be allowed.

If additional water is added to the colored concrete once a truck is on site, this concrete will be rejected.

Cover and protect adjacent construction and concrete from discoloration and spillage during placement and curing of colored concrete. Remove and replace discolored concrete as the engineer directs.

Uniformly apply liquid release agent onto the colored still plastic state concrete to provide clean release of imprinting tools from the concrete surface without lifting imprint or tearing concrete.

While initially finished concrete is in plastic state, accurately align and place imprinting stamps. Contractor will need to monitor the setting up of the concrete. Once the concrete has set to the point it can be stamped begin stamping. Uniformly pound or press imprint tools into concrete to produce required pattern and depth of imprint on concrete surface. Remove platform tools immediately. Hand texture and stamp edges and surfaces unable to be imprinted by stamp mats. Touch up imperfections such as broken corners, double imprints and surface cracks.

Stamp concrete consistently so that stamped concrete does not have a vertical elevation difference of 1/2 inch or depressions in concrete capable of causing ponding water or ice.

For concrete hand stamp edges and surfaces that are unable to be imprinted by platform tools, use texture mats and single blade hand stamps to match platform tool stamping pattern. Finish imprinting to match sample panels.

After concrete has been stamped and the sheen has left the surface of the colored concrete, seal colored concrete. Apply per manufacturer's recommendations. Apply two coats of seal. Apply second coat after first coat has dried. Do not seal over blemishes or imperfections caused by rainfall or protection materials.

Protect colored concrete from premature drying and excessive cold or hot temperatures. Apply evaporation retarders to concrete surfaces during initial finishing only if hot, dry, or windy conditions cause a moisture loss approaching 0.20 lb/sf/hr before and during initial finishing. Apply according to manufacturer's written instructions.

Protect the colored concrete from damage. Do not permit construction traffic or material storage on colored concrete sidewalk. Exclude other foot traffic from colored concrete sidewalk for at least 5 days after placement.

Remove and replace adjacent concrete that is discolored to the approval of the engineer.

D Measurement

The department will measure Architectural Concrete Pavement 5-Inch by the square foot, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.01	Architectural Concrete Pavement 5-Inch	SF

Payment is full compensation in accordance to standard spec 602.

Payment also includes full compensation for excavation, forming, for providing placing and finishing stamped colored concrete; for furnishing materials including concrete masonry, colored pigments, stamping and patterning, curing and release agents, and

necessary admixtures; for providing sample panels; and for protecting adjacent pavements and curb and gutter.

- 126. Concrete Staining B-13-655, Item SPV.0165.02; Concrete Staining B-13-656, Item SPV.0165.03; Concrete Staining B-13-657, Item SPV.0165.04; Concrete Staining C-13-2054, Item SPV.0165.05; Concrete Staining R-13-209, Item SPV.0165.07; Concrete Staining R-13-210, Item SPV.0165.08; Concrete Staining R-13-211, Item SPV.0165.09; Concrete Staining R-13-214, Item SPV.0165.10; Concrete Staining R-13-215, Item SPV.0165.11; Concrete Staining R-13-216, Item SPV.0165.12; Concrete Staining R-13-217, Item SPV.0165.13; Concrete Staining R-13-218, Item SPV.0165.14; Concrete Staining R-13-208, Item SPV.0165.15; Concrete Staining R-13-212, Item SPV.0165.16; Concrete Staining R-13-213, Item SPV.0165.17; Concrete Staining R-13-219, Item SPV.0165.18.**

A Description

This special provision describes furnishing and applying a two-coat concrete stain to the exposed concrete surfaces of the structure as detailed in the plans, and as hereinafter provided.

B Materials

B.1 Mortar

Use mortar for sack rubbing the concrete surfaces as given in standard spec 502.3.7.5 or use one of the following products:

Preblended, Packaged Type II Cement: Tri-Mix by TK Products
ThoroSeal Pearl Gray by Thoro Products
or approved equal

Provide mortar containing one of the following Acrylic Bonding Admixtures mixed and applied as given by the manufacturer:

Acrylic Bonding Admixture: TK-225 by TK Products
Achro 60 by Thoro Products
Achro Set by Master Builders

B.2 Concrete Stain

Use concrete stain manufactured for use on exterior concrete surfaces, consisting of a base coat and a pigmented sealer finish coat. Use the following products, or equal as approved by the department, as part of the two-coat finish system:

Tri-Sheen Concrete Surfacer, Smooth by TK Products
Tri-Sheen Acrylic by TK Products
*TK-1450 Urethane Anti-Graffiti Primer by TK Products
Safe-Cure and Seal EPX by Chem Masters
H + C Shield Plus by Sherwin-Williams
(*Natural Look)

Use the following base and accent stain colors for structures, columns and pilasters:

Base color - Interactive Cream, Sherwin-Williams SW6113 or equivalent.

Accent Color "A" - Butterfield, Sherwin-Williams SW6676 or equivalent

Accent Color "B" - Heartthrob, Sherwin-Williams SW6866 or equivalent.

Accent Color "C" - Danube, Sherwin-Williams SW6803 or equivalent

Accent Color "D" - Honeycomb, Sherwin-Williams SW6375 or equivalent.

Use the following base and accent stain colors for City of Madison medallion:

Day Sky, Night Sky Rays and Stars and Capital Structure - Interactive Cream, Sherwin-Williams SW6113 or equivalent

Day Sky Rays and Night Sky – Roycraft Copper Red, Sherwin Williams SW2839 or equivalent

Outer Ring Front and Side, Inner Ring Inside and Capital Shadows – Craft Paper, Sherwin Williams SW6125 or equivalent

Raised Band – Kendal Green, Sherwin Williams SW6467 or equivalent

C Construction

Furnish, prepare, apply, cure and store all materials according to product manufacturer directions specified for the type and condition of application required.

Match or exceed the stain manufacturer's minimum recommended curing time of the concrete or 28 days, whichever is greater, prior to staining.

C.1 Preparation of Concrete Surfaces

Provide a sack rubbed finish as given in standard spec 502.3.7.5, using mortar as indicated above, on concrete surfaces with open voids or honeycombing.

Following the sack rubbing, clean all concrete surfaces that are to be coated to ensure that the surface is free of all laitance, dirt, dust, grease, efflorescence, and any foreign material in order to accept the coating material according to product requirements. As a minimum, the cleaning should consist of a 3000-psi water blast. Hold the nozzle of the water blaster approximately 6" from the concrete surface and move it continuously in a sweeping motion. Give special attention to smooth concrete surfaces to produce an acceptable surface texture. Correct any surface problems resulting from the surface preparation methods. Grit blasting of the concrete surface is not allowed.

C.2 Staining Concrete Surfaces

Apply the concrete stain in accordance to the manufacturer's recommendations.

Apply the concrete stain when the temperature of the concrete surface is 45°F or higher, or as given by the manufacturer.

Do not begin staining the structure until earthwork operations are completed to a point where this work can begin without receiving damage. Where this work is adjacent to

exposed soil or pavement areas, provide temporary covering protection from overspray or splatter.

C.3 Test Areas

Prior to applying stain to the structure, test applications shall be required on sample panels measuring a minimum of 48" x 48", and constructed to demonstrate workmanship in the use of the form liner specified on the structure, if applicable. Match or exceed the stain manufacturer's minimum recommended curing time of the concrete or 28 days, whichever is greater, prior to staining. Prepare the concrete surfaces of the sample panels and apply stain using the same materials and in the same manner as proposed for the structure, including staining of the joints between stones produced by the form liner if applicable. Stain one side of the test panel with a two foot square sample of the base color, a one foot square sample of accent color "C" and the remainder of the side with accent color "B". Stain the other side of the test specimen slab with additional colors if requested by the engineer. Do not apply stain to the structure until the department and City of Madison approves the test panels.

C.4 Surfaces to be Coated

Apply concrete stain to the surfaces as given on the plan.

D Measurement

The department will measure Concrete Staining (Structure) in area by the square foot, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.02	Concrete Staining B-13-655	SF
SPV.0165.03	Concrete Staining B-13-656	SF
SPV.0165.04	Concrete Staining B-13-657	SF
SPV.0165.05	Concrete Staining C-13-2054	SF
SPV.0165.07	Concrete Staining R-13-209	SF
SPV.0165.08	Concrete Staining R-13-210	SF
SPV.0165.09	Concrete Staining R-13-211	SF
SPV.0165.10	Concrete Staining R-13-214	SF
SPV.0165.11	Concrete Staining R-13-215	SF
SPV.0165.12	Concrete Staining R-13-216	SF
SPV.0165.13	Concrete Staining R-13-217	SF
SPV.0165.14	Concrete Staining R-13-218	SF
SPV.0165.15	Concrete Staining R-13-208	SF
SPV.0165.16	Concrete Staining R-13-212	SF
SPV.0165.17	Concrete Staining R-13-213	SF
SPV.0165.18	Concrete Staining R-13-219	SF

Payment is full compensation for furnishing and applying the two-coat system; and for preparing the concrete surface and sample panels.

127. Soil Nail Retaining Wall R-13-213, Item SPV.0165.19.

A Description

This special provision describes designing and constructing soil nail retaining walls consisting of soil nails spaced at a regular pattern and connected to a cast-in-place reinforced concrete face. A soil nail consists of a steel bar grouted in a drilled hole inclined at an angle below horizontal. Use shotcrete for temporary support of excavations during construction. Design and construct soil nail retaining walls based on actual elevations and wall dimensions in accordance to the contract and accepted submittals. Use a prequalified anchored wall contractor, who has completed at least 3 permanent soil nail walls in the past 3 years totaling at least 1200 square feet of face area and 500 permanent soil nails, to construct soil nail retaining walls. Define “soil nail wall” as a soil nail retaining wall and “soil nail wall contractor” as the anchored wall contractor installing soil nails and applying shotcrete. Define “nail” as a soil nail and “concrete facing” as a cast-in-place reinforced concrete face.

B Materials

Refer to the Standard Specifications.

Item	Standard Spec
Curing Agents	501
Geocomposites	645
Concrete Masonry Retaining Walls	501
Reinforcing Steel	505
Base Aggregate Dense 1 ¼-inch	305
Wall Drain Materials	612
Welded Stud Shear Connectors	506

Provide Base Aggregate Dense 1 ¼-inch for leveling pads. Use Class A concrete for concrete facing.

Provide soil nails consisting of grouted steel bars and nail head assemblies. Use epoxy coated or encapsulated deformed steel bars that meet AASHTO M 275 or M 31, Grade 60 or 75. Splice bars in accordance to the State of Wisconsin Bridge Manual. Provide epoxy coated bars that meet standard spec 505.

Nail Grout consisting of neat cement or sand/cement mixture with a minimum 3-day compressive strength of 1,500psi and a minimum 28-day compressive strength of 3,000psi per AASHTO T106.

All shotcrete mixes shall be designed by a PCC Tech II in the State of Wisconsin. Shotcrete shall be applied by a nozzelman certified as an ACI Shotcrete Nozzelman in accordance to ACI Certification Publication CP-60. Nozzlemen shall be certified in either dry-mix or wet-mix shotcrete based on the process to be used for the work. Provide

shotcrete with a 3-day compressive strength of 2,000psi and a 28-day strength of 4,000psi.

For encapsulated bars, use nonperforated corrugated HDPE sheaths at least 0.04" thick that meet AASHTO M 252. Provide at least 0.4" of grout cover between bars and sheathing and at least 0.8" of grout cover between sheathing and drill hole walls.

Fabricate centralizers from schedule 40 PVC plastic pipe or tube, steel or other material not detrimental to steel bars (no wood). Size centralizers to position bars within 1" of drill hole centers and allow tremies to be inserted to ends of holes. Use centralizers that do not interfere with grout placement or flow around bars. Centralizers are required both inside and outside sheaths for encapsulated nails.

Provide galvanized nail head assemblies consisting of nuts, washers and bearing plates with welded stud shear connectors. Use steel bearing plates that meet ASTM A36 and steel washers and hex nuts recommended by the Soil Nail Manufacturer.

Provide material certifications for soil nail materials in accordance to standard spec 506. Store steel materials on blocking at least 12" above the ground and protect it at all times from damage; and when placing in the work make sure it is free from dirt, dust, loose mill scale, loose rust, paint, oil or other foreign materials. Load, transport, unload and store soil nail wall materials so materials are kept clean and free of damage. Do not crack, fracture or otherwise damage grout inside sheaths of encapsulated nails. Damaged or deformed materials will be rejected.

C Construction

C.1 Preconstruction Requirements

C.1.1 Soil Nail Wall Surveys

The Retaining Wall Plans show a plan view, typical sections, details, notes and an elevation or profile view (wall envelope) for each soil nail wall. Before beginning soil nail wall design, survey existing ground elevations shown in the plans and other elevations in the vicinity of soil nail wall locations as needed. Based on these elevations, finished grades and actual soil nail wall dimensions and details, submit revised wall envelopes for acceptance. Use accepted wall envelopes for design.

C1.2 Soil Nail Wall Designs

Submit 5 copies of working drawings and 3 copies of design calculations and a PDF copy to the engineer of each for soil nail wall designs at least 30 days before the starting construction of the soil nail wall. Do not begin soil nail wall construction until a design submittal has been accepted.

Use a prequalified Anchored Wall Design Consultant to design soil nail walls. Provide designs sealed by a professional engineer who has completed at least 3 permanent soil nail walls in the past 3 years totaling at least 1200 square feet of face area with at least 500 permanent soil nails for the Anchored Wall Design Consultant.

Design soil nail walls in accordance to the plans and allowable stress design method in the FHWA Geotechnical Engineering Circular No. 7 "Soil Nail Walls" (Publication No. FHWA-IF-03-017) unless otherwise required. Design soil nail walls for seismic if walls are located in seismic zone 2 based on Figure 2-1 of the Structure Design Manual.

Design soil nails that meet the following unless otherwise approved:

1. Horizontal and vertical spacing of at least 3 ft.
2. Inclination of at least 12° below horizontal.
3. Clearance between ends of bars and drill holes of at least 6".
4. Diameter of 6" to 10".

Four inch diameter soil nails may be approved for nails in rock at the discretion of the engineer. Do not extend nails beyond right-of-way or easement limits. If existing or future obstructions such as foundations, guardrail, fence or handrail posts, pavements, pipes, inlets or utilities will interfere with nails, maintain a clearance of at least 6" between obstructions and nails.

When design soil nail walls for a live load (traffic) surcharge of 250 lb/sf.

Provide wall drainage systems consisting of geocomposite drain strips, drains and outlet components. Place drain strips with a horizontal spacing of no more than 10 feet and center strips between adjacent nails. Attach drain strips to excavation faces and connect strips to leveling pads. Locate a continuous aggregate shoulder drain along the base of concrete facing in front of leveling pads.

Use shotcrete at least 4" thick and reinforce shotcrete with #4 waler bars around nail heads. Two waler bars (one on each side of nail head) in the horizontal and vertical directions are required for a total of 4 bars per nail.

Use Base Aggregate Dense 1 1/4-inch for aggregate leveling pads. Use 6" thick leveling pads beneath concrete facing. Unless required otherwise in the plans, embed top of leveling pads at least 12" below bottom of walls shown in the plans.

Attach concrete facing to nail heads with welded stud shear connectors. Use concrete facing at least 8" thick and extend facing at least 6" above where the grade intersects back of concrete facing unless required otherwise in the plans.

Submit working drawings and design calculations including unit grout/ground bond strengths for acceptance. Submit working drawings showing plan views, wall profiles with nail locations including known test nail locations, typical sections and details of nails, drainage, shotcrete, leveling pads and concrete facing. If necessary, include details on working drawings for concrete barrier rail with moment slab and obstructions extending through walls or interfering with nails, barriers or moment slabs. Submit design calculations for each wall section with different surcharge loads, geometry or material parameters. At least one analysis is required for each wall section with different

nail lengths. When designing soil nail walls with computer software, a hand calculation is required for the wall section with the longest nails.

C.1.3 Soil Nail Wall Construction Plan

Submit 5 copies and a PDF copy of a soil nail wall construction plan at least 30 days before the preconstruction meeting. Do not begin soil nail wall construction until the construction plan submittal is accepted. Provide detailed project specific information in the soil nail wall construction plan that includes the following:

1. Overall description and sequence of soil nail wall construction.
2. List and sizes of excavation equipment, drill rigs and tools, tremies and grouting equipment.
3. Procedures for excavations, drilling and grouting, soil nail and wall drainage system installation and facing construction.
4. Details of shotcrete equipment and application including mix process, test panels, thickness gauges and shooting methods.
5. Shotcrete nozzleman with ACI nozzleman certification.
6. Plan and methods for nail testing with calibration certificates dated within 90 days of the submittal date.
7. Examples of construction and test nail records to be used in accordance to Sections 4.0(F) and 5.0(E) of this provision.
8. Approved packaged grout or grout mix design with acceptable ranges for grout flow and density.
9. Shotcrete mix design.
10. Other information shown in the plans or requested by the engineer.

If alternate construction procedures are proposed or necessary, a revised soil nail wall construction plan submittal may be required. If the work deviates from the accepted submittal without prior approval, the engineer may suspend soil nail wall construction until a revised plan is accepted.

C1.4 Preconstruction Meeting

Before starting soil nail wall construction, hold a preconstruction meeting to discuss the construction, inspection and testing of the soil nail walls. Schedule this meeting after all soil nail wall submittals have been accepted. The resident or bridge maintenance engineer, bridge construction engineer, geotechnical operations engineer, contractor and soil nail wall contractor superintendent will attend this preconstruction meeting.

C.2 Construction Methods

Control drainage during construction in the vicinity of soil nail walls. Direct run off away from soil nail walls and areas above and behind walls.

Notify the engineer before blasting in the vicinity of soil nail walls. Perform blasting in accordance to the contract. Unless required otherwise in the plans, install foundations located behind soil nail walls before beginning wall construction.

Install soil nail walls in accordance to the accepted submittals and as directed. Do not excavate behind soil nail walls. If overexcavation occurs, repair walls with an approved method and a revised soil nail wall design or construction plan may be required.

C.2.1 Excavation

Excavate for soil nail walls from the top down in accordance to the accepted submittals. Excavate in staged horizontal lifts with no negative batter (excavation face leaning forward). Excavate lifts in accordance to the following:

1. Heights not to exceed vertical nail spacing.
2. Bottom of lifts no more than 3 feet below nail locations for current lift.
3. Horizontal and vertical alignment within 2" of location shown in the accepted submittals.

Remove any cobbles, boulders, rubble or debris that will protrude more than 2" into the required shotcrete thickness. Rocky ground such as colluvium, boulder fills and weathered rock may be difficult to excavate without leaving voids.

Apply shotcrete to excavation faces within 24 hours of excavating each lift unless otherwise approved. Shotcreting may be delayed if it can be demonstrated that delays will not adversely affect excavation stability. If excavation faces will be exposed for more than 24 hours, use polyethylene sheets anchored at top and bottom of lifts to protect excavation faces from changes in moisture content.

If an excavation becomes unstable at any time, suspend soil nail wall construction and temporarily stabilize the excavation by immediately placing an earth berm up against the unstable excavation face. When this occurs, repair walls with an approved method and a revised soil nail wall design or construction plan may be required.

Do not excavate the next lift until nail installations and testing and shotcrete application for the current lift are accepted and grout and shotcrete for the current lift have cured at least 3 days and 1 day, respectively.

C.2.2 Soil Nails

Install soil nails in the same way as acceptable test nails. Drill and grout nails the same day and do not leave drill holes open overnight.

Control drilling and grouting to prevent excessive ground movements, damaging structures and pavements or fracturing rock and soil formations. If ground heave or subsidence occurs, suspend soil nail wall construction and take corrective action to minimize movement. If property damage occurs, make repairs with an approved method and a revised soil nail wall design or construction plan may be required.

C.2.2.1 Drilling

Use drill rigs of the sizes necessary to install soil nails and with sufficient capacity to drill through whatever materials are encountered. Drill straight and clean holes with the dimensions and inclination shown in the accepted submittals. Drill holes within 6" of locations and 2° of inclination shown in the accepted submittals unless otherwise approved.

Stabilize drill holes with temporary casings if unstable, caving or sloughing material is anticipated or encountered. Do not use drilling fluids to stabilize drill holes or remove cuttings.

C.2.2.2 Steel Bars

Center steel bars in drill holes with centralizers. Securely attach centralizers along bars at no more than 8 feet centers. Attach uppermost and lowermost centralizers 18" from excavation faces and ends of holes.

Do not insert steel bars into drill holes until hole locations, dimensions, inclination and cleanliness are approved. Do not vibrate, drive or otherwise force bars into holes. If a steel bar cannot be completely and easily inserted into a drill hole, remove the bar and clean or redrill the hole.

C.2.2.3 Grouting

Remove oil, rust inhibitors, residual drilling fluids and similar foreign materials from holding tanks/hoppers, stirring devices, pumps, lines, tremie pipes and any other equipment in contact with grout before use.

Inject grout at the lowest point of drill holes through tremies, e.g., grout tubes, casings, hollow-stem augers or drill rods, in one continuous operation. Fill drill holes progressively from ends of holes to excavation faces and withdraw tremies at a slow even rate as holes are filled to prevent voids in grout. Extend tremies into grout at least 5 feet at all times except when grout is initially placed in holes.

Provide grout free of segregation, intrusions, contamination, structural damage or inadequate consolidation (honeycombing). Cold joints in grout are not allowed except for test nails. Remove any temporary casings as grout is placed and record grout volume for each drill hole.

C.2.2.4 Nail Heads

Weld stud shear connectors to bearing plates of nails in accordance to standard spec 506. Install nail head assemblies after shotcreting. Before shotcrete reaches initial set, seat bearing plates and tighten nuts so plates contact shotcrete uniformly. If uniform contact is not possible, install nail head assemblies on mortar pads so nail heads are evenly loaded.

C.2.3 Wall Drainage Systems

Install wall drainage systems as shown in the accepted submittals as detailed in the plans. Before shotcreting, place geocomposite drain strips with the geotextile side against excavation faces. For highly irregular faces and at the discretion of the engineer, drain strips may be placed after shotcreting over weep holes through the shotcrete. Hold drain strips in place with anchor pins so strips are in continuous contact with surfaces to which they are attached and allow for full flow the entire height of soil nail walls. Discontinuous drain strips are not allowed. If splices are needed, overlap drain strips at least 12" so flow is not impeded. Connect drain strips to leveling pads by embedding strip ends at least 4" into Base Aggregate Dense 1 1/4-inch.

C.2.4 Shotcrete

Clean ungrouted zones of drill holes and excavation faces of loose materials, mud, rebound and other foreign material. Moisten surfaces to receive shotcrete. Secure reinforcing steel so shooting does not displace or vibrate reinforcement. Install approved thickness gauges on 5 feet centers in the horizontal and vertical directions to measure shotcrete thickness.

Apply shotcrete in accordance to the contract and accepted submittals. Use approved shotcrete nozzlemen who made satisfactory preconstruction test panels to apply shotcrete. Direct shotcrete at right angles to excavation faces except when shooting around reinforcing steel. Rotate nozzle steadily in small circular patterns and apply shotcrete from bottom of lifts up.

Make shotcrete surfaces uniform and free of sloughing or sagging. Completely fill ungrouted zones of drill holes and any other voids with shotcrete. Taper construction joints to a thin edge over a horizontal distance of at least the shotcrete thickness. Wet joint surfaces before shooting adjacent sections.

Repair surface defects as soon as possible after shooting. Remove any shotcrete which lacks uniformity, exhibits segregation, honeycombing or lamination or contains any voids or sand pockets and replace with fresh shotcrete to the satisfaction of the engineer. Protect shotcrete from freezing and rain until shotcrete reaches initial set.

C.2.5 Leveling Pads and Concrete Facing

Construct aggregate leveling pads at elevations and with dimensions shown in the accepted submittals. Compact leveling pads with a vibratory compactor to the satisfaction of the engineer.

Construct concrete facing in accordance to the accepted submittals and standard spec 501. Do not remove forms until concrete attains a compressive strength of at least 2,400 psi. Construct concrete facing joints at a maximum spacing of 30 feet unless required otherwise in the plans. Make 1/2" thick expansion joints in conformance to the plan details for every third joint and 1/2" deep grooved contraction joints in conformance to the plan details for the remaining joints. Stop reinforcing steel for concrete facing 2" on either side of expansion joints.

If a stone form liner is required, construct in accordance to the plan details.

Seal joints above and behind soil nail walls between concrete facing and ditches or concrete slope protection with silicone sealant.

C.2.6 Construction Records

Provide 2 copies of soil nail wall construction records within 24 hours of completing each lift. Include the following in construction records:

1. Names of soil nail wall contractor, superintendent, nozzleman, drill rig operator, project manager and design engineer.
2. Wall description, county, department's contract, TIP and WBS element number.
3. Wall station and number and lift location, dimensions, elevations and description.
4. Nail locations, dimensions and inclinations, bar types, sizes and grades, corrosion protection and temporary casing information.
5. Date and time drilling begins and ends, steel bars are inserted into drill holes, grout and shotcrete are mixed and arrives on-site and grout placement and shotcrete application begins and ends.
6. Grout volume, temperature, flow and density records.
7. Ground and surface water conditions and elevations if applicable.
8. Weather conditions including air temperature at time of grout placement and shotcrete application.
9. All other pertinent details related to soil nail wall construction.

After completing each soil nail wall or stage of a wall, provide a PDF copy of all corresponding construction records.

D Measurement

The department will measure Soil Nail Retaining Wall R-13-213 in square feet of wall face, acceptably completed. Soil nail walls will be measured as the square feet of exposed wall face area with the height equal to the difference between top and bottom of wall elevations. Define "top of wall" as top of concrete facing. Define "bottom of wall" as shown in the plans and no measurement will be made for portions of soil nail walls embedded below bottom of wall elevations.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.19	Soil Nail Retaining Wall R-13-213	SF

Payment for Soil Nail Retaining Walls is full compensation for providing designs, submittals, labor, tools, equipment and soil nail wall materials, excavating, hauling and removing excavated materials, installing soil nails, grouting, shotcreting and supplying

wall drainage systems, leveling pads, concrete facing, and reinforcement and any incidentals necessary to construct soil nail walls.

The contract unit price for Soil Nail Retaining Walls is also full compensation for stone form liner concrete. No additional payment will be made and no extension of completion date or time will be allowed for repairing property damage, overexcavations or unstable excavations, unacceptable test nails or thicker shotcrete or concrete facing.

The contract unit price for Soil Nail Retaining Walls does not include the cost for ditches, fences, handrails, barrier or guardrail associated with soil nail walls as these items will be paid for elsewhere in the contract.

128. Test Rolling, Item SPV.0170.01.

A Description

This work consists of testing the stability of the finished earth subgrade by rolling with a tri-axle dump truck, the restoration of any soft or yielding areas evidenced by the test rolling, and retesting as determined by the engineer.

B Equipment

Fully load the tri-axle dump truck to within three tons of the vehicle legal load limit and provide a minimum gross vehicle weight of twenty-five tons. When test rolling, uniformly inflate all tires to the pressure recommended by the manufacturer for the applicable wheel load.

C Construction

Completely compact the earth subgrade to be test rolled, and shape to approximate grade and cross section; but not yet staked for blue top grades. Perform the test rolling at normal walking speed under the direction of the engineer.

Roll the earth subgrade to a width equal to the finished base course width. The truck shall make multiple passes throughout the length of the subgrade test area. Center each pass on a proposed lane.

Satisfactorily repair any soft or yielding areas or depressions evidenced under the action of the test rolling and consolidate to withstand retesting. Corrective work may require the excavation and replacement of unstable material from the roadbed with selected materials. Correct the yielding subgrade areas discovered during the test rolling operations, prior to blue top staking and finish grading operations. Perform corrective work in accordance to the standard specifications.

D Measurement

The department will measure Test Rolling of the earth subgrade by the 100-foot unit measured along the roadway centerline or reference line, acceptably completed. When two or more separate roadways occur, the quantity of test rolling will be measured by the 100-foot unit along each separate roadway as designated on the plans.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0170.01	Test Rolling	Sta

Payment is full for performing all the work of test rolling; for preparing the subgrade, including the furnishing and incorporation of water, if required; for furnishing all labor, tools, equipment and incidentals necessary to complete the work; and for retesting as determined by the engineer.

1. Backfill Granular Special, Item SPV.0195.01.**A Description**

Perform the work in accordance with the applicable provisions of standard spec 209 except as follows:

B Material

Supply backfill granular material conforming to Grade 1 of standard spec 209.2.2.

Replace standard spec 209.4 with the following:

209.4 Measurement

(1) The department will measure the Backfill Granular Special bid item by the ton acceptably completed.

(2) The department will not measure granular backfill placed outside the designated fill limits or in areas specifically designated as incidental to other contract bid items.

C (Vacant)**D (Vacant)****E Payment**

Replace standard spec 209.5 with the following:

209.5 Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0195.01	Backfill Granular Special	Ton

(2) Payment for Backfill Granular Special is full compensation for providing all granular backfill material; for excavating, loading, hauling, placing, compacting, special compaction, and finishing the material; for stripping, clearing, grubbing, shaping, trimming and cleaning up the pits; for salvaging, stockpiling, rehandling, and spreading salvaged material over excavated pit areas; and for disposing of surplus materials.

(3) The department will not pay separately for granular backfill material specifically designated as incidental to other contract bid items.

(4) The department will pay for erosion control, fertilizing and seeding of pits and associated areas separately as specified for borrow sites and material disposal sites in 628.5.1.

**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 8 (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 3 (number) TrANS Apprentice(s) be utilized on this contract.

- 3) The maximum duration of reimbursement is two years as a TrANS graduate plus time in apprentice status.
- 4) If a TrANS program is not available in the contractor's area and another training program is utilized, payment of On-the-Job Training hours may be approved by the Wisconsin Department of Transportation (WisDOT) if the training program meets the established acceptance criteria. Only On-the-Job Training Hours accumulated after WisDOT approval will be reimbursed as specified under Items ASP.1T0G and ASP.1T0A. For more information, contact the Disadvantaged Business Enterprise Office at the phone numbers listed above.
- 5) WisDOT reserves the right to deny payments under items ASP.1T0G and ASP.1T0A if the contractor either fails to provide training or there is evidence of a lack of good faith in meeting the requirements of this training special provision.

I. RATIONALE AND SPECIAL NOTE

The \$5.00 per hour now being paid for TrANS placements is intended to cover the duration of two years to allow for reaching entry-level laborer status. An additional incentive, the \$5.00 rate, would promote movement into the underutilized skilled trades' apprenticeships and applies until the individual completes their apprenticeship. These incentives benefit TrANS candidates by giving them a better opportunity to enter a skilled trade; benefits contractors who will be assisted in meeting their EEO profiles and goals; and benefits the public who will see the program reinforce larger public-private employment reform in Wisconsin. The pool of TrANS graduates was created for the purpose of addressing underutilization in the skilled trades, an objective that is further reinforced by a parallel retention pilot program, known as the Companywide Reporting. *Whether or not reimbursement is involved, the WisDOT reassures contractors who are in the Companywide Program that TrANS placements still contribute toward fulfilling the new hire goal of 50% women and minorities.* Based on data administered by United States Department of Labor (US DOL), the highway skilled trades remain underutilized for women statewide (less than 6.9%); and for minorities in all counties (% varies by county).

NOTE: *Unless using other advancement strategies, contractors are encouraged to use some or all of this monetary incentive to offset the cut in hourly wages an individual may incur when entering an apprenticeship if the full general laborer hourly rate has been previously paid. No special accounting measures are required.*

II. IMPLEMENTATION

The implementation of ASP 1 is intended to cover only the amount of time it takes for underutilization to be resolved across the trades. This will be measured annually at the county and/or state levels using data administered by WisDWD in relation to goals set by the USDOL-

OFCCP. With appropriate state and federal approvals, we may also do some measurement at the company level.

It is the contractor's responsibility to note on their Certified Payrolls if their employee is a TrANS graduate or a TrANS apprentice. The District EEO Coordinators utilize the information on the Certified Payrolls to track the hours accumulated by TrANS Graduates and TrANS apprentices on WisDOT contracts. Payment under this ASP 1 is made based on the hours recorded off of the Certified Payrolls. Tracking may eventually include improved linkages with the WisDWD apprentice database, information from company and committee level sources.

TrANS is nondiscriminatory by regulation, and is a tool for optional use by contractors to address the underutilization of women and minorities as laborers and apprentices in our industry's skilled trades.

IV. TRANS TRAINING

As part of the contractor's equal employment opportunity affirmative action program, training shall be provided to employees enrolled in apprenticeship and on-the-job training programs as follows:

The contractor shall provide on-the-job training aimed at developing full journey workers in the type of trade or job classifications involved. In the event the contractor subcontracts a portion of the contract work, the contractor shall determine how many, if any, of the trainees are to be trained by the subcontractor provided, however, that the contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The contractor shall also insure that this training special provision is made applicable to such subcontract.

Training and upgrading of minorities and women toward journey workers status is a primary objective of this training special provision. Accordingly, the contractor shall make every effort to enroll minority trainees and women (e.g., by conducting systematic and direct recruitment through public and private sources likely to yield minority trainees and women trainees); to the extent such persons are available within a reasonable area of recruitment. The contractor will be given an opportunity and will be responsible for demonstrating the steps that they have taken in pursuance thereof, prior to determination as to whether the contractor is in compliance with this training special provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which they have successfully completed a training course leading to journey workers status or in which they have been employed as a journey worker. The contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used, the contractor's records should document the findings in each case.

V. APPRENTICESHIP TRAINING

The Federal Highway Administration's (FHWA) policy is to require full use of all available training and skill improvement opportunities to assure increased participation of minority groups, disadvantaged persons and women in all phases of the highway construction industry. The FHWA On-the-Job Training (OJT) Program requires the State transportation agencies (STAs) to establish apprenticeships and training programs targeted to move women, minorities, and disadvantaged individuals into journey-level positions to ensure that a competent workforce is available to meet highway construction hiring needs, and to address the historical underrepresentation of members of these groups in highway construction skilled crafts.

The OJT Supportive Services (OJT/SS) Program was established in Title 23 Code of Federal Regulations (CFR), Part 230) to supplement the OJT program and support STA training programs by providing services to highway construction contractors and assistance to highway construction apprentices and trainees. The primary objectives of OJT/SS are:

- (1) To increase the overall effectiveness of the State highway agencies' approved training programs.
- (2) To seek other ways to increase the training opportunities for women, minorities, and disadvantaged individuals.

The STAs are responsible for establishing procedures, subject to the availability of Surface Transportation and Bridge Funds under 23 U.S.C. §140(b) (Nondiscrimination), for the provision of supportive services with respect to training programs approved under 23 CFR, Part 230(a) (Equal Employment Opportunity on Federal and Federal-aid Construction Contracts – including Supportive Services).

The contractor and subcontractor shall maintain records to demonstrate compliance with these apprenticeship requirements. Reasonable exemptions and modifications to and from any or all of these requirements will be determined by the Wisconsin Department of Transportation-Civil Rights Office. A request for an exemption or modification, with justification, shall be made in writing, addressed to WisDOT Civil Rights Office, 4802 Sheboygan Avenue, P.O. Box 7965, Rm. 451, Madison, WI 53707.

ADDITIONAL SPECIAL PROVISION 3 DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

1. Description

General

- a. The disadvantaged business enterprise (DBE) requirements of 49 CFR Part 26 apply to this contract. The department's DBE goal is shown on the cover of the bidding proposal. The contractor can meet the specified contract DBE goal by procuring services or materials from a DBE or by subcontracting work to a DBE. The department calculates the DBE participation as the dollar value of DBE participation included in the bid expressed as a percentage of the total contract bid amount.
- b. Under the contract, the contractor agrees to provide the assistance to participating DBE's in the following areas:
 - i. Produce accurate and complete quotes.
 - ii. Understand highway plans applicable to their work.
 - iii. Understand specifications and contract requirements applicable to their work.
 - iv. Understand contracting reporting requirements.
- c. The department encourages the contractor to assist and develop DBE firms to become fully knowledgeable contractors to successfully perform on its contracts.
- d. For information on the disadvantaged business program, visit the department's Civil Rights and Compliance Section website at:

<http://www.dot.wisconsin.gov/business/engrserv/dbe-main.htm>

2. Definitions

- a. Interpret these terms, used throughout this additional special provision, as follows:
 - i. **Bid Percentage:** The DBE percentage indicated in the bidding proposal at the time of bid.
 - ii. **DBE:** A disadvantaged business enterprise (DBE) certified as a DBE by the department and included on the department's list of certified DBE's who are determined to be ready, willing and able.
 - iii. **DBE goal:** The amount of DBE participation expected in the contract as shown on the cover of the Highway Work Proposal.
 - iv. **Discretionary Goal:** A contractor assigned DBE goal, typically abbreviated as "Disc" on the cover of the Highway Work Proposal, which is enforced as committed.
 - v. **Manufacturer:** A firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract.
 - vi. **Supplier:** A firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment required under the contract are bought, kept in stock, and regularly sold or leased to the public.
 - vii. **Voluntary Achievement:** The amount of DBE participation achieved and reported in the contract in excess of the assigned goal.

3. DBE Percentage Required at Bid Submission

Indicate the bid percentage (i.e. 0% through 100%) of DBE participation on the completed bidding proposal, including projects with discretionary goals. For electronic submittals, show the percentage in the miscellaneous data folder, Item 3, DBE Percent. For paper submittals, show the percentage on the sheet included after the schedule of items. By submission of the bid, the bidder contractually commits to DBE participation at or above the bid percentage, or certifies that they have utilized

comprehensive good faith efforts to solicit and utilize DBE firms to meet the DBE participation requirements of this contract proposal, and that the bid percentage is reflective of these good faith efforts. If the bidder does not indicate the bid percentage of DBE participation on the completed bidding proposal, the department will consider the bid irregular and may reject the bid.

4. Department's DBE Evaluation Process

a. Documentation Submittal

Within 10 business days after the notification of contract award, the contractor is to identify, by name, the DBE firms whose utilization is intended to satisfy this provision, the items of work of the DBE subcontract or supply agreement and the dollar value of those items of work by completing the Commitment to Subcontract to DBE Form [DT1506] and all necessary attachment A forms, as well as, Good Faith Waiver Form [DT1202] and supporting documentation as necessary. If the contractor fails to furnish the required forms within the specified time, the department may cancel the award. Delay in fulfilling this requirement is not a cause for extension of the contract time and shall not be used as a tool to delay execution.

i. Bidder Meets DBE Goal

If the bidder indicates that the contract DBE goal is met, after award and before execution, the department will evaluate the Commitment to Subcontract to DBE Form DT1506 and attachment A(s) to verify the actual DBE percentage achieved. If the DBE commitment is verified, the contract is eligible for execution with respect to the DBE commitment.

ii. Bidder Does Not Meet DBE Goal

- (1) If the bidder indicates a bid percentage on the Commitment to Subcontract to DBE Form [DT1506] that does not meet the contract DBE goal, the bidder must submit a Good Faith Waiver Form [DT1202] and supporting documentation. After award and before execution, the department will evaluate the bidder's DBE commitment and consider the bidder's good faith waiver request.
- (2) The department will review the bidder's good faith waiver request and notify the bidder of one of the following:
 - a. If the department grants a good faith waiver, the bid is eligible for contract execution with respect to DBE commitment.
 - b. If the department rejects the good faith waiver request, the department may declare the bid ineligible for execution. The department will provide a written explanation of why the good faith waiver request was rejected. The bidder may appeal the department's rejection as allowed under 7 a. & b.

5. Department's Criteria for Good Faith Effort

The Code of Federal Regulations {CFR}, 49 CFR Part 26-Appendix A, is the guiding regulation concerning good faith efforts. However, the federal regulations do not define "good faith" but states that bidder must actively and aggressively attempt to meet the goal. The federal regulations are general and do not include every factor or effort that can be considered. As a result, each state must establish its own processes and consider the factors established in its own process when making a determination of good faith.

- a. The department will only grant a good faith waiver if the bidder has made the effort, given the relevant circumstances under the contract that a bidder actively and aggressively seeking to meet the goal would make. The department will evaluate the bidder's good faith effort to determine whether a good faith waiver will be granted. The bidder must demonstrate, on the DT1202 that they have aggressively solicited DBE participation in an attempt to meet the contract DBE goal and attaining the stated DBE goal is not feasible.

- b. The department, in conjunction with industry stakeholders, has developed the following guidance for contractor good faith effort. The guidance and the attached appendices provide a framework for the actions required by all parties in the processing and evaluation of bidder's total efforts to achieve the project specific DBE goal prior to the bid letting date.
- c. Prime Contractors should:
 - i. Document all efforts and decisions made toward achieving the DBE goal on the contract. The bidder should use the Civil Rights & Compliance System [CRCS] and related WisDOT-approved DBE outreach tools, including the Bid Express Small Business Network, to foster DBE participation on all applicable contracts.
 - ii. Request quotes by identifying potential items to subcontract and solicit. Prime contractors are strongly encouraged to include in their initial contacts a single page including a detailed list of items for which they are accepting quotes, by project, within a letting. *See attached sample entitled "Sample Contractor Solicitation Letter" in Appendix A.* Prime contractors should also indicate a willingness to accept quotes in areas they are planning to perform themselves, **as required by federal rules**. In some cases, it might be appropriate to use DBE's to do work in a prime contractor's area of specialization.
 - (1) Solicit quotes through all reasonable and available means from certified DBE firms who match 'possible items to subcontract' and send copies to DBESS office, highlighting areas in which you are seeking quotes. Email is acceptable.
 - (2) SBN is the preferred outreach tool. <https://www.bidx.com/wi/main>. Other acceptable means include postal mail, email, fax, phone call.
 - a. Primes must ask DBE firms for a response in their solicitations. See *Sample Contractors Solicitation Letter* in Appendix. This letter can be included as an attachment to the SBN sub-quote request.
 - b. Solicit quotes at least 10 calendar days prior to the letting date {ideally two Fridays before the letting} to allow DBE firms sufficient time to respond. Prime contractors should contact DBE firms early, asking them if they need help in putting together a quote, or helping to arrange for equipment needs, or solve other problems.
 - (3) Second solicitation should take place within 5 days
 - a. An email solicitation is highly recommended for this second solicitation
 - (4) Upon request, provide interested DBE firms with adequate information about plans, specifications and the requirements of the contract by letter, information session, email, phone call and/or referral.
 - (5) When potential exists, advise interested DBE firms on how to obtain bonding, line of credit or insurance as may be requested.
 - (6) Document DBE firm's interest in quoting by taking appropriate steps to follow up initial solicitation with:
 - a. Email to all prospective DBE firms in relevant work areas
 - b. Phone call log to DBE firms who express interest via written response or call.
 - c. Fax/letter confirmation
 - d. Copy of the DBE quotes
 - e. Signed copy of Bid Express SBN Record of Subcontractor Outreach Effort.
- d. Evaluate DBE quotes as documentation is critical if the prime does not utilize the DBE firm's quote for any reason.
 - i. Evaluate DBE firm's capability to perform 'possible items to subcontract' using legitimate reasons, including but not limited to, **a discussion with the DBE firm** regarding its

- capabilities prior to the bid letting. If lack of capacity is your reason for not utilizing the DBE quote, you are required to contact the DBE directly regarding their ability to perform the work indicated in the UCP directory as their work area [NAICS code]; only the work area and/or NAICS code listed in the UCP directory will be counted for DBE credit. Documentation of the conversation is required.
- ii. In striving to meet a DBE conscious contract goal, prime contractors are expected to use DBE quotes that are responsive and reasonable. This includes DBE quotes that are not the low quote.
 - iii. **Special Circumstance:** Evaluation of DBE quotes with tied bid items. "Tied quotes are the condition in which a subcontractor submits quotes including multiple areas of expertise across multiple work areas noting that the items and price are tied. Typically this type of quoting represents a cost saving to the prime but is not clearly stated as a discount; tied quotes are usually presented as 'all or none' quote to the prime." When non-DBE subcontractors submit tied bid items in their quotes to the prime, the DBE firms' quote may seem not competitive. In such a case, the following steps are taken in comparing the relevant quotes. These are qualitative examples.
 - (1) Compare bid items common to both quotes, noting the reasonableness in the price comparison.
 - (2) Review quotes from other firms for the bid items not quoted by the DBE firm to see if combining both can provide the same competitive advantage that the tied bid items offered.
- e. After notification of contract award, submit '**Commitment to Subcontract**' form within the time period specified in the contract.
 - i. Provide the following information along with department form DT1202:
 - (1) The names, addresses, e-mail addresses, telephone numbers of DBE's contacted. The dates of both initial and follow-up contact. A printed copy of SBN solicitation is acceptable.
 - (2) A description of information provided to the DBE's regarding the plans, specifications, and estimated quantities for portions of the work to be performed by that DBE.
 - (3) Photocopies or electronic copies of all written solicitations to DBE's.
 - (4) Documentation of each quote received from a DBE and, if rejected, the reason for that rejection.
 - (5) Bidder attendance at any pre-solicitation or pre-bid meetings the department held to inform DBE's of participation opportunities available on the project.
 - f. The department's DBE Support Services Office is available by phone, email or in writing to request assistance in meeting the DBE goal:

DBE Support Services Office
6150 Fond du Lac Ave.
Milwaukee, WI 53218
Phone: 414-438-4583 / 608-266-6961
Fax: 414-438-5392
E-mail: DOTDBESupportServices@dot.wi.gov

6. Bidder's Appeal Process

- a. A bidder can appeal the department's decision to deny the bidder's good faith waiver request. The bidder must provide written documentation refuting the specific reasons for rejection as stated in the department's rejection notice. The bidder may meet in person with the department if so

requested. Failure to appeal within 7 calendar days after receiving the department's written notice of rejection of a good faith waiver request under constitutes a forfeiture of the bidder's right of appeal. If the bidder does not appeal, the department may declare the bid ineligible for execution.

- b. The department will appoint a representative, who did not participate in the original determination, to assess the bidder's appeal. The department will issue a written decision within 7 calendar days after the bidder presents all written and oral testimony. In that written decision, the department will explain the basis for finding that the bidder did or did not meet the contract DBE goal or make an adequate good faith effort to meet the contract DBE goal. The department's decision is final. If the department finds that the bidder did not meet the contract DBE goal or did not make adequate efforts to meet the DBE goal, the department may declare the bid ineligible for execution.

7. Department's Criteria for DBE Participation

Department's DBE List

- a. The department maintains a DBE list on the department's website at <http://app.mylcm.com/wisdot/Reports/WisDotUCPDirectory.aspx>
- b. The DBE office is also available to assist at 414-438-4583 or 608-266-6961.

8. Counting DBE Participation

Assessing DBE Work

- a. The department will only count the DBE usage towards the contract DBE goal if the DBE firm is certified as a DBE by one of the unified certification program agencies. If a firm becomes DBE certified before entering into a subcontract, the department may consider that DBE usage towards the contract goal. The department only counts the value of the work a DBE actually performs towards the DBE goal. The department assesses the DBE work as follows:
- b. The department counts work performed by the DBE's own resources. The department includes the cost of materials and supplies the DBE obtains for the work. The department also includes the cost of equipment the DBE leases for the work. The department will not include the cost of materials, supplies, or equipment the DBE purchases or leases from the prime contractor or its affiliate, except the department will count non-project specific leases the DBE has in place before the work is advertised.
- c. The department counts fees and commissions the DBE charges for providing a bona fide professional, technical, consultant, or managerial services. The department also counts fees and commissions the DBE charges for providing bonds or insurance. The department will only count costs the engineer deems reasonable based on experience or prevailing market rates.
- d. If a DBE subcontracts work, the department counts the value of the subcontracted work only if the DBE's subcontractor is also a DBE.
- e. The contractor shall maintain records and may be required to furnish periodic reports documenting its performance under this item.
- f. It is the prime contractor's responsibility to determine the DBE's ability to perform the work with the use of the UCP directory.

9. Commercially Useful Function

- a. The department counts expenditures of a DBE toward the DBE goal only if the DBE is performing a commercially useful function on that contract.
- b. A DBE is performing a commercially useful function if the following conditions are met:
- c. For contract work, the DBE is responsible for executing a distinct portion of the contract work and it is carrying out its responsibilities by actually performing, managing, and supervising that work.
- d. For materials and supplies, the DBE is responsible for negotiating price, determining quality and quantity, ordering, and paying for those materials and supplies.

10. Trucking

All bidders are expected to adhere to the department's current trucking policy posted on the HCCI website at

<http://www.dot.wisconsin.gov/business/engrserv/docs/dbe-trucking-notice.pdf>

11. Manufacturers and Suppliers

The department counts material and supplies a DBE provides under the contract. The department will give full credit toward the DBE goal if the DBE is a manufacturer of those materials or supplies. The department will give 60 percent credit toward the DBE goal if the DBE is merely a supplier of those materials or supplies. It is the bidder's responsibility to find out if the DBE is considered a supplier or a manufacturer before listing them on Commitment to Subcontract to DBE form DT1506.

12. DBE Prime

If the prime contractor is a DBE, the department will only count the work the contractor performs with its own forces, the work DBE subcontractors perform, and the work DBE suppliers or manufacturers perform.

13. Joint Venture

If a DBE performs as a participant in a joint venture, the department will only count that portion of the total dollar value of the contract equal to that portion of the work that the DBE performs with its own forces.

14. Mentor Protégé

- a. If a DBE performs as a participant in a mentor protégé agreement, the department will credit the portion of the work performed by the DBE protégé firm
- b. On every other project that the mentor protégé team identifies itself on.
- c. For no more than one half of the total contracted DBE goal on any WisDOT project.

15. DBE Replacement

In the event a Prime Contractor needs to replace a DBE firm originally listed on the approved DBE Commitment Form DT1506, the Prime Contractor must comply with the department's DBE Replacement Policy located on the DBE page on the following web site:

<http://www.dot.wisconsin.gov/business/engrserv/docs/policyreplacingdbe.pdf>

16. Changes to the approved DBE Commitment Form DT1506

If there are any changes to the approved Commitment to Subcontract to DBE Form DT1506, the prime contractor must submit a revised DBE Commitment Form DT1506 and relevant attachment A(s) to the DBE Programs Office within 5 business days.

17. Contract Modifications

When additional opportunity is available by contract modifications, the Prime Contractor shall utilize DBE Subcontractors, that were committed to equal work items, in the original contract.

18. Payment

Costs for conforming to this Additional Special Provision (ASP) and any associated DBE requirements are incidental to the contract.

APPENDIX A
Sample Contractor Solicitation Letter Page 1
This sample is provided as a guide not a requirement

GFW SAMPLE MEMORANDUM

TO: DBE FIRMS
FROM: POTENTIAL PRIME CONTRACTOR OR MAJOR SUBCONTRACTOR
SUBJECT: REQUEST FOR DBE QUOTES
LET DATE & TIME
DATE: MONTH DAY YEAR
CC: DBE OFFICE ENGINEER

Our company is considering bidding on the projects indicated on the next page, as a prime and/or a subcontractor for the Wisconsin Department of Transportation Month- date -year Letting. Page 2 lists the projects and work items that we may subcontract for this letting. We are interested in obtaining subcontractor quotes for these projects and work categories. Also note that we are willing to accept quotes in areas we may be planning to perform ourselves as required by federal rules.

Please review page 2, respond whether you plan to quote, highlight the projects and work items you are interested in performing and return it via fax or email within 3 days. Plans, specifications and addenda are available through WisDOT at the DBE Support Services office or at the Highway Construction Contract Information (HCCI) site at <http://roadwaystandards.dot.wi.gov/hcci/>

Your quote should include all of the costs required to complete the items you propose to perform including labor, equipment, material, and related bonding or insurance. The quote should note items that you are DBE certified to perform, tied items, and any special terms. Page 2, with the indicated projects and items you plan to quote, should be used as a cover sheet for your quote.

Please make every effort to have your quotes into our office by time deadline the prior to the letting date. **Make sure the correct letting date, project ID and proposal number, unit price and extension are included in your quote.** We prefer quotes be sent via SBN but prime's alternative's are acceptable. Our office hours are include hours and days. Please call our office as soon as possible prior to the letting if you need information/clarification to prepare your quote at contact number.

If you wish to discuss or evaluate your quote in more detail, contact us after the contract is awarded. Status of the contract can be checked at WisDOT's HCCI site at <http://roadwaystandards.dot.wi.gov/hcci/>

All questions should be directed to:

Project Manager, John Doe,
Phone: (000) 123-4567
Email: Joe@joetheplumber.com
Fax: (000) 123- 4657

Sample Contractor Solicitation Letter Page 2

This sample is provided as a guide not a requirement

REQUEST FOR QUOTATION

Prime's Name: _____

Letting Date: _____

Project ID: _____

Please check all that apply

- ☐ Yes, we will be quoting on the projects and items listed below
- ☐ No, we are not interested in quoting on the letting or its items referenced below
- ☐ Please take our name off your monthly DBE contact list
- ☐ We have questions about quoting this letting. Please have some one contact me at this number

Prime Contractor's Contact Person

Phone: _____
Fax: _____
Email: _____

DBE Contractor Contact Person

Phone: _____
Fax: _____
Email: _____

Please circle the jobs and items you will be quoting below

Proposal No.	1	2	3	4	5	6	7
County							

WORK DESCRIPTION:

Clear and Grub	X		X	X		X	X
Dump Truck Hauling	X		X	X		X	X
Curb & Gutter/Sidewalk, Etc.	X		X	X		X	X
Erosion Control Items	X		X	X		X	X
Signs and Posts/Markers	X		X	X		X	X
Traffic Control		X	X	X		X	X
Electrical Work/Traffic Signals		X	X	X		X	
Pavement Marking		X	X	X	X	X	X
Sawing Pavement		X	X	X	X	X	X
QMP, Base	X	X		X	X	X	X
Pipe Underdrain	X			X			
Beam Guard				X	X	X	X
Concrete Staining							X
Trees/Shrubs	X						X

Again please make every effort to have your quotes into our office by time deadline prior to the letting date.

We prefer quotes be sent via SBN but prime's preferred alternative's are acceptable.

If there are further questions please direct them to the prime contractor's contact person at phone number.

APPENDIX B BEST PRACTICES FOR PRIME CONTRACTOR & DBE SUBCONTRACTOR GOOD FAITH EFFORT

This list is not a set of requirements; it is a list of potential strategies

Primes

- Prime contractor open houses inviting DBE firms to see the bid “war room” or providing technical assistance
- Participate in speed networking and mosaic exercises as arranged by DBE office
- Host information sessions not directly associated with a bid letting;
- Participate in a formal mentor protégé or joint venture with a DBE firm
- Participate in WisDOT advisory committees i.e. TRANSAC, or Mega Project committee meetings
- Facilitate a small group DBE ‘training session’ Clarifying how your firm prepares for bid letting, evaluates subcontractors, preferred qualifications and communication methods
- Encourage subcontractors to solicit and highlight DBE participation in their quotes to you
- Quality of communication, not quantity creates the best results. Contractors should do as thorough a job as possible in communicating with DBE firms before the bid and provide any assistance requested to assure best possible bid.

DBE

- DBE firms should contact primes as soon as possible with questions regarding their quotes or bid; seven days prior is optimal.
- Continually check for contract addendums on the HCCI website through the Thursday prior to letting to stay abreast of changes.
- Review the status of contracts on the HCCI website reviewing the ‘apparent low bidder’ list, and bid tabs at a minimum.
- Prepare a portfolio or list of related projects and prime and supplier references; be sure to note transportation-related projects of similar size and scope, firm expertise and staffing.
- Participate in DBE office assessment programs
- Participate on advisory and mega-project committees
- Sign up to receive the DBE Contracting Update
- Consider membership in relevant industry or contractor organizations
- Active participation is a must. Quote as many projects as you can reasonably work on; quoting the primes and bidding as a prime with the department are the only ways to get work.

APPENDIX C

Types of Efforts considered in determining GFE

This list represents concepts being assessed; analysis requires additional steps

1. Whether the contractor attended any pre-solicitation or pre-bid meetings that were scheduled by WisDOT to inform DBEs of contracting and subcontracting opportunities;
2. Whether the contractor provided written notice to a reasonable number of specific DBEs that their interest in the contract was being solicited, in sufficient time to allow the DBEs to participate effectively;
3. Whether the contractor followed up initial solicitations of interest by contacting DBEs to determine if the DBEs were interested; returned the phone calls of interested DBE firms.
4. Whether the contractor selected portions of the work to be performed by DBEs in order to increase the likelihood of meeting the DBE goal;
5. Whether the contractor provided interested DBEs with adequate information about the plans, specifications and requirements of the contract;
6. Whether the contractor negotiated in good faith with interested DBEs, not rejected DBEs as unqualified without sound reasons based on a thorough investigation of their capabilities;
7. Whether the contractor made efforts to assist interested DBEs in being more competitive.
8. Whether the contractor effectively used the services of available minority community organizations: minority contractors groups, local, state, and Federal minority business assistance offices, and other organizations that provide assistance to small businesses and DBE firms.
9. Whether Prime used CRCS to identify DBE who specialize in relevant work areas.
10. Whether the contractor used available resources including contacting the DBE office, using WisDOT's website
11. Whether the contractor returned calls of firms expressing interest in a timely manner.

APPENDIX D
Good Faith Effort Evaluation Guidance
Excerpt from Appendix A of 49 CFR Part 26

APPENDIX A TO PART 26 -- GUIDANCE CONCERNING GOOD FAITH EFFORTS

- I. When, as a recipient, you establish a contract goal on a DOT assisted contract, a bidder must, in order to be responsible and/or responsive, make good faith efforts to meet the goal. The bidder can meet this requirement in either of two ways. First, the bidder can meet the goal, documenting commitments for participation by DBE firms sufficient for this purpose. Second, even if it doesn't meet the goal, the bidder can document adequate good faith efforts. This means that the bidder must show that it took all necessary and reasonable steps to achieve a DBE goal or other requirement of this part which, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not fully successful.
- II. In any situation in which you have established a contract goal, part 26 requires you to use the good faith efforts mechanism of this part. As a recipient, it is up to you to make a fair and reasonable judgment whether a bidder that did not meet the goal made adequate good faith efforts. It is important for you to consider the quality, quantity, and intensity of the different kinds of efforts that the bidder has made. The efforts employed by the bidder should be those that one could reasonably expect a bidder to take if the bidder were actively and aggressively trying to obtain DBE participation sufficient to meet the DBE contract goal. Mere pro forma efforts are not good faith efforts to meet the DBE contract requirements. We emphasize, however, that your determination concerning the sufficiency of the firm's good faith efforts is a judgment call: meeting quantitative formulas is not required.
- III. The Department also strongly cautions you against requiring that a bidder meet a contract goal (i.e., obtain a specified amount of DBE participation) in order to be awarded a contract, even though the bidder makes an adequate good faith efforts showing. This rule specifically prohibits you from ignoring bona fide good faith efforts.
- IV. The following is a list of types of actions which you should consider as part of the bidder's good faith efforts to obtain DBE participation. It is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases.
 - A. Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBEs who have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the DBEs to respond to the solicitation. The bidder must determine with certainty if the DBEs are interested by taking appropriate steps to follow up initial solicitations.
 - B. Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces.
 - C. Providing interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.

- D.
 - (1) Negotiating in good faith with interested DBEs. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBEs to perform the work.
 - (2) A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Prime contractors are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable.
 - E. Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The contractor's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non solicitation of bids in the contractor's efforts to meet the project goal.
 - F. Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or contractor.
 - G. Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.
 - H. Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBEs.
- V. In determining whether a bidder has made good faith efforts, you may take into account the performance of other bidders in meeting the contract. For example, when the apparent successful bidder fails to meet the contract goal, but others meet it, you may reasonably raise the question of whether, with additional reasonable efforts, the apparent successful bidder could have met the goal. If the apparent successful bidder fails to meet the goal, but meets or exceeds the average DBE participation obtained by other bidders, you may view this, in conjunction with other factors, as evidence of the apparent successful bidder having made good faith efforts.

Appendix E

Small Business Network [SBN] Overview

The Small Business Network is a part of the Bid Express® service that was created to ensure that prime bidders have a centralized online location to find subs - including small and disadvantaged business enterprises (DBEs). It is available for prime bidders to use as part of their Basic Service subscription. Within the Small Business Network, **Prime Contractors** can:

1. Easily select proposals, work types and items:
 - a. After adding applicable work types, select items that you wish to quote. Enter the sub-quote quantities and add comments, if desired. Adding or removing items and work types can be done quickly. If needed, you can save the sub-quote for completion at a later time.
2. Create sub-quotes for the subcontracting community:
 - a. Create sub-quotes with ease using the intuitive sub-quote creator. In seven short steps, you can rapidly create a custom sub-quote directed to all subcontractors that bid on the applicable work types. Steps include: provide contact information and sub-quote expiration date, select letting and proposal, add work types and items, specify terms and conditions, upload attachments, and select vendors.
 - b. Create a sub-quote to send to subcontractors or suppliers that lists the items in a proposal that you want quoted
 - c. Create an unlimited number of sub-quotes for items you want quoted, and optionally mark them as a DBE-preferred request
 - d. Add attachments to sub-quotes
3. View sub-quote requests & responses:
 - a. After logging into the Bid Express service, you can quickly review all of your sub-quote requests and all unsolicited sub-quote requests from subcontractors. To simplify the Small Business Network home screen, sub-quote requests can be hidden with one click if they are not applicable.
 - b. View or receive unsolicited sub-quotes that subcontractors have posted, complete with terms, conditions and pricing
4. View Record of Subcontractor Outreach Effort:
 - a. For each sub-quote produced, a *Record of Subcontractor Outreach Effort* is generated that shows the response statistics for a particular sub-quote. If accepted by the letting agency, this report may serve as proof of a “Good Faith” effort in reaching out to the DBE community.
 - b. Easily locate pre-qualified and certified small and disadvantaged businesses
 - c. Advertise to small and disadvantaged businesses more efficiently and cost effectively
 - d. Document your interactions with subs/DBEs by producing an Outreach Report (may be accepted as proof of DBE outreach at the discretion of each agency)

The Small Business Network is a part of the Bid Express® service that was created to ensure that small businesses have a centralized area to access information about upcoming projects. It can help small businesses learn more about opportunities, compete more effectively, network with other contractors and subcontractors, and win more jobs.

1. View and reply to sub-quote requests from primes:
 - a. After logging into the Bid Express service, you can quickly review all incoming sub-quote requests and all unsolicited sub-quotes created by your company. Receive notifications by selected work type. To simplify on the Small Business Network home screen, sub-quote requests can be filtered by work types relevant to your interests, or hidden with one click if they are not applicable.
2. Select items when responding to sub-quote requests from primes:
 - a. You have the freedom to choose and price any number of items when responding to a sub-quote request. Quantities can be modified, and per-item comments are also available.
 - b. View requests for sub-quotes for work that primes have posted for projects they are bidding, add your pricing, terms, and conditions, and submit completed sub-quotes to the requesting primes
 - c. Add attachments to a sub-quote
3. Create and send unsolicited sub-quotes to specific contractors:
 - a. Create unsolicited sub-quotes with ease using the intuitive sub-quote creator. In eight short steps, you can rapidly create a custom sub-quote directed at any number of specific vendors of your choosing. Steps include: provide contact information and sub-quote expiration date, select letting and proposal, add work types and items, specify terms and conditions, upload attachments, and select vendors.
4. Easily select and price items for unsolicited sub-quotes:
 - a. After adding applicable work types, select items that you wish to quote. The extended price calculates automatically, cutting out costly calculation errors. Comments can be provided on an per-item basis as well.
 - b. Create an unsolicited sub-quote that lists the items from a proposal that you want to quote, include pricing, terms and conditions, and send it to selected prime/plan holder
 - c. Add attachments to a sub-quote
 - d. Add unsolicited work items to sub-quotes that you are responding to
5. Easy Access to Valuable Information
 - a. Receive a confirmation that your sub-quote was opened by a prime
 - b. View Bid Tab Analysis data from past bids, including the high, average and low prices of items.
 - c. View important notices and publications from DOT targeted to small and disadvantaged businesses
6. Accessing Small Business Network for WisDOT contracting opportunities
 - a. If you are a contractor not yet subscribing to the Bid Express service, go to **www.bidx.com** and select “Order Bid Express.” The Small Business Network is a part of the Bid Express Basic Service.
 - b. DBE firms can request a Bid Express Small Business Network Account at no cost by calling 414-438-4588

ADDITIONAL SPECIAL PROVISION 4

Payment to all Subcontractors. Within 10 calendar days of receipt by a contractor of a progress payment for work performed, materials furnished, or materials stockpiled by a subcontractor, the contractor shall pay that subcontractor for all work satisfactorily performed and for all materials furnished or stockpiled.

The contractor agrees further to release retainage amounts to each subcontractor within 10 calendar days after the subcontractor's work is satisfactorily completed. In addition, whenever the Department reduces the contract retainage amount, within 10 calendar days of receipt by a contractor of a retainage payment, the contractor must reduce the total amount retained from subcontractors to no more than remains retained by the Department.

The contractor shall pay the subcontractor within the time frames described above unless the contractor complies with both of the following within 10 calendar days of receiving the Department's progress payment:

- 1) The contractor notifies the subcontractor in writing that the work is not satisfactorily completed.
- 2) The contractor requests approval from the Department to delay payment because the subcontractor has not satisfactorily completed the work.

The contractor's request for approval should include the written notification to the subcontractor and shall provide sufficient documentation of good cause to assist the engineer in making a timely decision. If the engineer does not grant approval, the contractor shall pay the subcontractor within 10 calendar days of the Department's decision.

All subcontracting agreements made by a contractor shall include the above provisions and shall be binding on all contractors and subcontractors.

The contractor certifies compliance with the requirements of this Additional Special Provision by signing the contract. This clause applies to both DBE and non-DBE subcontractors.

ADDITIONAL SPECIAL PROVISIONS 5**Fuel Cost Adjustment****A Description**

Fuel Cost Adjustments will be applied to partial and final payments for work items categorized in Section B as a payment to the contractor or a credit to the department. ASP-5 shall not apply to any force account work.

B Categories of Work Items

The following items and Fuel Usage Factors shall be used to determine Fuel Cost Adjustments:

(1) Earthwork.		Unit	Gal. Fuel Per Unit
205.0100	Excavation Common	CY	0.23
205.0200	Excavation Rock	CY	0.39
205.0400	Excavation Marsh	CY	0.29
208.0100	Borrow	CY	0.23
208.1100	Select Borrow	CY	0.23
209.0100	Backfill Granular	CY	0.23
350.0102	Subbase	CY	0.28
350.0104	Subbase	Ton	0.14
350.0115	Subbase 6-Inch	SY	0.05
350.0120	Subbase 7-Inch	SY	0.05
350.0125	Subbase 8-Inch	SY	0.06
350.0130	Subbase 9-Inch	SY	0.07
350.0135	Subbase 10-Inch	SY	0.08
350.0140	Subbase 11-Inch	SY	0.09
350.0145	Subbase 12-Inch	SY	0.09

C Fuel Index

A Current Fuel Index (CFI) in dollars per gallon will be established by the Department of Transportation for each month. The CFI will be the price of No. 2 fuel oil, as reported in U.S. Oil Week, using the first issue dated that month. The CFI will be the average of prices quoted for Green Bay, Madison, Milwaukee and Minneapolis.

The base Fuel Index (BFI) for this contract is \$2.90 per gallon.

D Computing the Fuel Cost Adjustment

The engineer will compute the ratio CFI/BFI each month. If the ratio falls between 0.85 and 1.15, inclusive, no fuel adjustment will be made for that month. If the ratio is less than 0.85 a credit to the department will be computed. If the ratio is greater than 1.15 additional payment to the contractor will be computed. Credit or additional payment will be computed as follows:

- (1) The engineer will estimate the quantity of work done in that month under each of the contract items categorized in Section B.
- (2) The engineer will compute the gallons of fuel used in that month for each of the contract items categorized in Section B by applying the unit fuel usage factors shown in Section B.
- (3) The engineer will summarize the total gallons (Q) of fuel used in that month for the items categorized in Section B.
- (4) The engineer will determine the Fuel Cost Adjustment credit or payment from the following formula:

$$FA = \left(\frac{CFI}{BFI} - 1 \right) \times Q \times BFI$$

(plus is payment to contractor; minus is credit to the department)

Where	FA	=	Fuel Cost Adjustment (plus or minus)
	CFI	=	Current Fuel Index
	BFI	=	Base Fuel Index
	Q	=	Monthly total gallons of fuel

E Payment

A Fuel Cost Adjustment credit to the department will be deducted as a dollar amount each month from any sums due to the contractor. A Fuel Cost Adjustment payment to the contractor will be made as a dollar amount each month.

Upon completion of the work under the contract, any difference between the estimated quantities and the final quantities will be determined. An average CFI, calculated by averaging the CFI for all months that fuel cost adjustment was applied, will be applied to the quantity differences. The average CFI shall be applied in accordance with the procedure set forth in Section D.

ADDITIONAL SPECIAL PROVISION 6
ASP 6 - Modifications to the standard specifications

Make the following revisions to the 2013 edition of the standard specifications:

106.3.4.3.1 General

Replace paragraph two with the following effective with the November 2012 letting:

- (2) Required sampling and testing methodologies and documentation are specified in CMM chapter 8.
 - (3) If disputed, approval of materials and components, as well as acceptance of the work incorporating those materials or components, is subject to review under the QMP dispute resolution process.
-

107.17.3 Railroad Insurance Requirements

Replace the entire text with the following effective with the August 2012 letting:

- (1) If required by the special provisions, provide or arrange for a subcontractor to provide railroad protective liability insurance in addition to the types and limits of insurance required in 107.26. Keep railroad protective liability insurance coverage in force until completing all work, under or incidental to the contract, on the railroad right of way or premises of the railroad and until the department has accepted the work as specified in 105.11.2.4.
- (2) Provide railroad protective liability insurance coverage written as specified in 23 CFR part 646 subpart A. Provide a separate policy for each railroad owning tracks on the project. Ensure that the railroad protective liability insurance policies provide the following minimum limits of coverage:
 - 1. Coverage A, bodily injury liability and property damage liability; \$2 million per occurrence.
 - 2. Coverage B, physical damage to property liability; \$2 million per occurrence.
 - 3. An annual aggregate amount of \$6 million that shall apply separately to each policy renewal or extension.
- (3) Obtain coverage from insurance companies licensed to do business in Wisconsin that have an A.M. Best rating of A- or better. The cost of providing the required insurance coverage and limits is incidental to the contract. The department will make no additional or special payment for providing insurance.
- (4) Submit the following to each railroad owning tracks on the project as evidence of that railroad's respective coverage:
 - 1. A certificate of insurance for the types and limits of insurance specified in 107.26.
 - 2. The railroad protective liability insurance policy or other acceptable documentation to the railroad company.
- (5) Submit the following to the region as evidence of the required coverage:
 - 1. A copy of the letter to the railroad company transmitting the submittal documents specified in 107.17.3(4).
 - 2. A certificate of insurance for the required railroad protective liability coverages.
- (6) Do not begin work on the right of way or premises of the railroad company until the region receives the submittals specified in 107.17.3(5) and notification from the railroad company that the contractor has provided sufficient insurance information to begin work.
- (7) Notify the railroad and the region immediately upon cancellation or initiating cancellation, whichever is earlier, or any material change in coverage. Cease operations within 50 feet of the railroad right of way immediately if insurance is cancelled or reduced. Do not resume operations until the required coverage is in force.

460.2.8.3.1.4 Department Verification Testing Requirements

Replace paragraph four with the following effective with the December 2012 letting:

- (4) The department will randomly test each design mixture at the following minimum frequency:
- FOR TONNAGES TOTALING:
- Less than 501 tons no tests required
- From 501 to 5,000 tons..... one test
- More than 5,000 tons..... add one test for each additional 5,000-ton increment

501.2.1 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 C50, 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 portland cement and sufficient air-entraining admixture to produce concrete with the air content specified in 501.3.2.4.

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 portland cement. The contractor may replace up to 30 percent of type I, IL, II, or III portland 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 portland 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 AWWA Standard P8 or P36.

614.3.2.1 Installing Posts

Replace paragraph four with the following effective with the July 2012 letting:

- (4) Cut post tops to the finished elevation the plans show.

628.2.13 Rock Bags

Replace paragraph one with the following effective with the November 2012 letting:

- (1) Furnish rock bags made of a porous, ultraviolet resistant, high-density polyethylene or geotextile fabric that will retain 70% of its original strength after 500 hours of exposure according to ASTM D4355 and a minimum in-place filled size of 18-inches long by 12-inches wide by 6-inches high. Ensure that the fabric conforms to the following:

TEST REQUIREMENT	METHOD	VALUE
Minimum Tensile	ASTM D4632	
Machine direction		70 lb minimum
Cross direction		40 lb minimum
Elongation	ASTM D4632	
Machine direction		20% minimum
Cross direction		10 % min
Puncture	ASTM 4833	65 lbs minimum
Minimum Apparent Opening		0.0234 inches (No. 30 sieve)
Maximum Apparent Opening		0.0787 inches (No. 10 sieve)

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 portland 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 the no-passing zones as specified in section 648 for permanent marking.

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 portland 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>

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 BoltsCorrect 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.

660.2.1 GeneralCorrect 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 FoundationsCorrect errata by changing section 511 to 550.

- (1) Drive piles as specified in for steel piling in section 550.

701.3 Contractor TestingCorrect 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 section 3.2 of the CRCS System Background Information manual available online on the Labor, Wages, and EEO Information page at:

<http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/docs/crc-basic-info.pdf>

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are

applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar

with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor

will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions

of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or

will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-

Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly

rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is

evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this

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

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

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

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

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

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

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

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

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

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

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

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

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

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

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

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

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS
PREFERENCE FOR APPALACHIAN DEVELOPMENT
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS
ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

SEPTEMBER 2002

**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE
EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)**

1. The Offeror's or Bidder's attention is called to the "Employment Practices" and "Equal Opportunity Clause" set forth in the Required Contract Provisions, FHWA 1273.
2. The goals and timetables for minority and female participation expressed in percentage terms for the contractor's aggregate work force in each trade, on all construction work in the covered area, are as follows:

Goals for Minority Participation for Each Trade:

<u>County</u>	<u>%</u>	<u>County</u>	<u>%</u>	<u>County</u>	<u>%</u>
Adams	1.7	Iowa	1.7	Polk	2.2
Ashland	1.2	Iron	1.2	Portage	0.6
Barron	0.6	Jackson	0.6	Price	0.6
Bayfield	1.2	Jefferson	7.0	Racine	8.4
Brown	1.3	Juneau	0.6	Richland	1.7
Buffalo	0.6	Kenosha	3.0	Rock	3.1
Burnett	2.2	Kewaunee	1.0	Rusk	0.6
Calumet	0.9	La Crosse	0.9	St. Croix	2.9
Chippewa	0.5	Lafayette	0.5	Sauk	1.7
Clark	0.6	Langlade	0.6	Sawyer	0.6
Columbia	1.7	Lincoln	0.6	Shawano	1.0
Crawford	0.5	Manitowoc	1.0	Sheboygan	7.0
Dane	2.2	Marathon	0.6	Taylor	0.6
Dodge	7.0	Marinette	1.0	Trempealeau	0.6
Door	1.0	Marquette	1.7	Vernon	0.6
Douglas	1.0	Menominee	1.0	Vilas	0.6
Dunn	0.6	Milwaukee	8.0	Walworth	7.0
Eau Claire	0.5	Monroe	0.6	Washburn	0.6
Florence	1.0	Oconto	1.0	Washington	8.0
Fond du Lac	1.0	Oneida	0.6	Waukesha	8.0
Forest	1.0	Outagamie	0.9	Waupaca	1.0
Grant	0.5	Ozaukee	8.0	Waushara	1.0
Green	1.7	Pepin	0.6	Winnebago	0.9
Green Lake	1.0	Pierce	2.2	Wood	0.6

Goals for female participation for each trade: 6.9%

These goals are applicable to all the contractor's construction work, (whether or not it is federal or federally assisted), performed in the covered area. If the contractor performs construction work in the geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

The contractor's compliance with the Executive Order and the Regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from contractor to contractor or from project to project for the sole purpose of meeting the contractor's goals shall be a violation of the contract, the Executive Order and the Regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten (10) working days of award of any construction subcontract in excess of \$10,000.00 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor, employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

As referred to in this section, the Director means:

Director
Office of Federal Contract Compliance Programs
Ruess Federal Plaza
310 W. Wisconsin Ave., Suite 1115
Milwaukee, WI 53202

The "Employer Identification Number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.

4. As used in this notice, and in the contract resulting from solicitation, the "covered area" is the county(ies) in Wisconsin to which this proposal applies.

APRIL 2012

ADDITIONAL FEDERAL-AID PROVISIONS

BUY AMERICA

All steel and iron materials permanently incorporated in this project shall be domestic products and all manufacturing and coating processes for these materials must have occurred within the United States. Coating includes epoxy coating, galvanizing, painting and any other coating that protects or enhances the value of a material subject to the requirements of Buy America. The exemption of this requirement is the minimal use of foreign materials if the total cost of such material permanently incorporated in the product does not exceed one-tenth of one percent (1/10 of 1%) of the total contract cost or \$2,500.00, whichever is greater. For purposes of this paragraph, the cost is that shown to be the value of the subject products as they are delivered to the project.

Upon completion of the project certify to the engineer, in writing using department form WS4567, that all steel, iron, and coating processes for steel or iron incorporated into the contract work conform to these Buy America provisions. Attach a list of exemptions and their associated costs to the certification form. Department form WS4567 is available at:

<http://roadwaystandards.dot.wi.gov/standards/forms/hidden/ws4567.doc>

NOTICE TO ALL BIDDERS

To report bid rigging activities call:

1-800-424-9071

The U.S. Department of Transportation (DOT) operates the above toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m., Eastern Time. Anyone with knowledge of possible bid rigging, bidding collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

**WISCONSIN DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS AND TRANSPORTATION FACILITIES**

SUPPLEMENTAL REQUIRED CONTRACT PROVISIONS

- I. Wage Rates, Hours of labor and payment of Wages
- II. Payroll Requirements
- III. Postings at the Site of the Work
- IV. Affidavits
- V. Wage Rate Redistribution
- VI. Additional Classifications

I. WAGE RATES, HOURS OF LABOR AND PAYMENT OF WAGES

The schedule of "Minimum Wage Rates" attached hereto and made a part hereof furnishes the prevailing wage rates that have been determined pursuant to Section 103.50 of the Wisconsin Statutes. These wage rates are the minimum required to be paid to the various laborers, workers, mechanics and truck drivers employed by contractors and subcontractors on the construction work embraced by the contract and subject to prevailing hours and wages under Section 103.50, Stats. If necessary to employ laborers, workers, mechanics or truck drivers whose classification is not listed on the schedule, they shall be paid at rates conformable to those listed for similar classifications. Apprentices shall be paid at rates not less than those prescribed in their state indenture contracts.

While the wage rates shown are the minimum rates required by the contract to be paid during its life, this is not a representation that labor can be obtained at these rates. It is the responsibility of bidders to inform themselves as to the local labor conditions and prospective changes or adjustments of wage rates. No increase in the contract price shall be allowed or authorized on account of the payment of wage rates in excess of those listed herein.

Pursuant to Section 103.50 of the Wisconsin Statutes, the prevailing hours of labor have been determined to be up to 10 hours per day and 40 hours per calendar week Monday through Friday. If any laborer, worker, mechanic or truck driver is permitted or required to work more than the prevailing number of hours per day or per calendar week on this contract, they shall be paid for all hours in excess of the prevailing hours at a rate of at least one and one-half (1 1/2) times their hourly rate of pay. All work on Saturday, Sunday and the following holidays is to be paid at time and a half: (1) January 1, (2) the last Monday in May, (3) July 4, (4) the first Monday in September, (5) the fourth Thursday in November, (6) December 25, (7) the day before if January 1, July 4 or December 25 falls on a Saturday and (8) the day following if January 1, July 4 or December 25 falls on a Sunday.

All laborers, workers, mechanics and truck drivers shall be paid unconditionally not less often than once a week. Persons who own and operate their own trucks must receive the prevailing truck driver rate for the applicable type of truck (i.e. 2 axle, 3 or more axle, articulated, eculid or dumptor) he or she operates, plus an agreed upon amount for the use of his or her truck. Every owner-operator MUST be paid separately for their driving and for the use of their truck.

For those projects subject to the requirements of the Davis-Bacon Act, the Secretary of Labor will also have determined "Minimum Wage Rates" for work to be performed under the contract. These rates are, for all or most of the labor, worker, mechanic or truck driver classifications, identical to those established under Section 103.50 of the Wisconsin Statutes. In the event the rates are not identical, the higher of the two rates will govern.

II. PAYROLL REQUIREMENTS

All contractors and subcontractors must submit weekly Certified Payrolls and Compliance Statement verifying that all laborers, workers, mechanics and truck drivers working on the project have been paid the prevailing wage rates for all work performed under the contract required by Section 103.50 of the Wisconsin Statutes.

III. POSTINGS AT THE SITE OF THE WORK

In addition to the required postings furnished by the Department, the contractor shall post the following in at least one conspicuous place at the site of work:

- a. "NOTICE TO EMPLOYEES," which provides information required to be posted by the provisions of Section 103.50 of the Wisconsin Statutes.
- b. A copy of the State of Wisconsin Minimum Wages Rates. (Four pages.)
- c. A copy of the contractor's Equal Employment Opportunity Policy.
- d. On any project involving federal aid, in addition to the furnished postings, the contractor shall post a copy of the "Davis-Bacon Act, Minimum Wage Rates". (Three pages.)

IV. WAGE RATE REDISTRIBUTION

The amount specified as the hourly basic rate of pay and the amount(s) specified as the fringe benefit contribution(s), for all classes of laborers, workers, mechanics or truck drivers may be redistributed, when necessary, to conform to those specified in any applicable collective bargaining agreement, provided that both parties to such agreement

request and receive the approval for any such redistribution from both the Department of Transportation and the Department of Workforce Development prior to the implementation of such redistribution.

V. ADDITIONAL CLASSIFICATIONS

Any unlisted laborer or mechanic classification that is needed to perform work on this project, and is not included within the scope of any of the classifications listed in the application prevailing wage rate determination, may be added after award only if all of the following criteria have been met:

1. The affected employer(s) must make a written request to WisDOT Central Office to utilize the unlisted classification on this project.
2. The request must indicate the scope of the work to be performed by the unlisted classification and must indicate the proposed wage/fringe benefit package that the unlisted classification is to receive.
3. The work to be performed by the unlisted classification must not be performed by a classification that is included in the applicable prevailing wage rate determination.
4. The unlisted classification must be commonly employed in the area where the project is located.
5. The proposed wage/fringe benefit package must bear a reasonable relationship to those set forth in the applicable prevailing wage rate determination.
6. The request should be made prior to the actual performance of the work by the unlisted classification.
7. DWD must approve the use of the unlisted classification and the proposed wage/fringe benefit package. USDOL also must approve the use of the unlisted classification and the proposed wage/fringe benefit package on federal aid projects.
8. WisDOT and DWD may amend the proposed wage/fringe benefit package, as deemed necessary, and may set forth specific employment ratios and scope of work requirements in the approval document.

The approved wage/fringe benefit package shall be paid to all laborers, workers, mechanics or truck drivers performing work within the scope of that performed by the unlisted classification, from the first day on which such work is performed. In the event that work is performed by the unlisted classification prior to approval, the wage/fringe benefit package to be paid for such work must be in conformance with the wage/fringe

benefit package approved for such work. Under this arrangement a retroactive adjustment in wages and/or fringe benefits may be required to be made to the affected laborers, workers, mechanics or truck drivers by the affected employer(s).

**ANNUAL PREVAILING WAGE RATE DETERMINATION
FOR ALL STATE HIGHWAY PROJECTS
DANE COUNTY**

Compiled by the State of Wisconsin - Department of Workforce Development
for the Department of Transportation
Pursuant to s. 103.50, Stats.
Issued on April 1, 2012

CLASSIFICATION: Contractors are required to call the Department of Workforce Development if there are any questions regarding the proper trade or classification to be used for any worker on a public works project.

OVERTIME: Time and one-half must be paid for all hours worked over 10 hours per day and 40 hours per calendar week and for all hours worked on Saturday, Sunday and the following six (6) holidays: January 1; the last Monday in May; July 4; the 1st Monday in September; the 4th Thursday in November; December 25; the day before if January 1, July 4 or December 25 falls on a Saturday; the day following if January 1, July 4 or December 25 falls on a Sunday.

FUTURE INCREASE: If indicated for a specific trade or occupation, the full amount of such increase MUST be added to the "TOTAL" indicated for such trade or occupation on the date(s) such increase(s) becomes effective.

PREMIUM PAY: If indicated for a specific trade or occupation, the full amount of such pay MUST be added to the "HOURLY BASIC RATE OF PAY" indicated for such trade or occupation, whenever such pay is applicable.

SUBJOURNEY: Wage rates may be available for some of the classifications indicated below. Any employer that desires to use any subjourney classification on a project MUST request the applicable wage rate from the Department of Workforce Development PRIOR to the date such classification is used on such project. Form ERD-10880 is available for this purpose and can be obtained by writing to the Department of Workforce Development, Equal Rights Division, P.O. Box 8928, Madison, WI 53708.

<u>TRADE OR OCCUPATION</u>	<u>HOURLY BASIC RATE OF PAY</u>	<u>HOURLY FRINGE BENEFITS</u>	<u>TOTAL</u>
	\$	\$	\$
Bricklayer, Blocklayer or Stonemason	32.66	15.92	48.58
Carpenter	30.23	15.16	45.39
Cement Finisher	30.68	15.68	46.36
Future Increase(s): Add \$1.86 on 6/1/12; Add \$1.87 on 6/1/13; Add \$1.87 on 6/1/14; Add \$1.87 on 6/1/15; Add \$1.75 on 6/ 1/ 16.			
Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.40/hr when the Wisconsin Department of Transportation or responsible governing agency requires that work be performed at night under artificial illumination with traffic control and the work is completed after sunset and before sunrise.			
Electrician	37.25	14.68	51.93
Fence Erector	35.62	0.00	35.62
Ironworker	30.90	19.11	50.01
Line Constructor (Electrical)	35.97	18.08	54.05
Painter	28.00	11.15	39.15
Pavement Marking Operator	26.65	14.92	41.57
Piledriver	29.56	15.16	44.72
Roofer or Waterproofer	28.06	0.00	28.06
Teledata Technician or Installer	21.26	6.99	28.25
Tuckpointer, Caulker or Cleaner	32.66	16.20	48.86
Underwater Diver (Except on Great Lakes)	36.20	18.81	55.01
Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	35.42	12.90	48.32
Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY	35.50	14.27	49.77
Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	25.18	14.07	39.25
Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	23.38	12.48	35.86

<u>TRADE OR OCCUPATION</u>	<u>HOURLY BASIC RATE OF PAY</u>	<u>HOURLY FRINGE BENEFITS</u>	<u>TOTAL</u>
	\$	\$	\$
Groundman - ELECTRICAL LINE CONSTRUCTION ONLY	21.30	10.97	32.27

TRUCK DRIVERS

Single Axle or Two Axle	22.35	16.19	38.54
Future Increase(s): Add \$1.75/hr on 6/1/2012; Add \$1.85/hr on 6/1/2013.			
Premium Pay: DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Three or More Axle	22.50	16.19	38.69
Future Increase(s): Add \$1.75/hr on 6/1/2012; Add \$1.85/hr on 6/1/2013.			
Premium Pay: DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Articulated, Euclid, Dumptor, Off Road Material Hauler	24.91	15.63	40.54
Pavement Marking Vehicle	23.84	14.76	38.60
Shadow or Pilot Vehicle	24.76	15.35	40.11
Truck Mechanic	24.91	15.35	40.26

LABORERS

General Laborer	27.20	13.45	40.65
Future Increase(s): Add \$1.60/hr on 6/1/2012; Add \$1.70/hr on 6/1/2013; Add \$1.60/hr on 6/1/2014.			
Premium Pay: Add \$.10/hr for topman, 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	23.96	12.88	36.84
Landscaper	27.20	13.45	40.65
Future Increase(s): Add \$1.60/hr on 6/1/12; 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	23.55	13.45	37.00
Future Increase(s): Add \$1.60/hr on 6/1/2012; Add \$1.70/hr on 6/1/2013; Add \$1.60/hr on 6/1/2014.			
Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr when the Wisconsin Department of Transportation or responsible governing agency requires that work be performed at night under artificial illumination with traffic control and the work is completed after sunset and before sunrise.			
Fiber Optic Laborer (Outside, Other Than Concrete Encased)	16.51	0.00	16.51
Railroad Track Laborer	14.00	4.77	18.77

<u>TRADE OR OCCUPATION</u>	<u>HOURLY BASIC RATE OF PAY</u>	<u>HOURLY FRINGE BENEFITS</u>	<u>TOTAL</u>
	\$	\$	\$
HEAVY EQUIPMENT OPERATORS			
Crane, Tower Crane, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 176 Ft or Over; Crane, Tower Crane, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of Over 100 Tons, Self-Erecting Tower Crane With a Lifting Capacity Of Over 4,000 Lbs., Crane With Boom Dollies; Traveling Crane (Bridge Type). Future Increase(s): Add \$2/hr on 6/1/12; Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).	34.22	18.90	53.12
Backhoe (Track Type) Having a Mfrgr.'s Rated Capacity of 130,000 Lbs. or Over; Caisson Rig; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 175 Ft or Under; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of 100 Tons or Under, Self-Erecting Tower Crane With A Lifting Capacity Of 4,000 Lbs., & Under; Dredge (NOT Performing Work on the Great Lakes); Licensed Boat Pilot (NOT Performing Work on the Great Lakes); Pile Driver. Future Increase(s): Add \$2/hr on 6/1/12; Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).	33.72	18.90	52.62
Air Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Asphalt Heater, Planer & Scarifier; Asphalt Milling Machine; Asphalt Screed; Automatic Subgrader (Concrete); Backhoe (Track Type) Having a Mfrgr.'s Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. & Under); Bituminous (Asphalt) Plant & Paver, Screed; Boatmen (NOT Performing Work on the Great Lakes); Boring Machine (Directional, Horizontal or Vertical); Bridge (Bidwell) Paver; Bulldozer or Endloader; Concrete Batch Plant, Batch Hopper; Concrete Breaker (Large, Auto, Vibratory/Sonic, Manual or Remote); Concrete Bump Cutter, Grinder, Planing or Grooving Machine; Concrete Conveyor System; Concrete Laser/Screed; Concrete Paver (Slipform); Concrete Pump, Concrete Conveyor (Rotec or Bidwell Type); Concrete Slipform Placer Curb & Gutter Machine; Concrete Spreader & Distributor; Crane (Carry Deck, Mini) or Truck Mounted Hydraulic Crane (10 Tons or Under); Crane With a Lifting Capacity of 25 Tons or Under; Forestry Equipment, Timbco, Tree Shear, Tub Grinder, Processor; Gradall (Cruz-Aire Type); Grader or Motor Patrol; Grout Pump; Hydro-Blaster (10,000 PSI or Over); Loading Machine (Conveyor); Material or Stack Hoist; Mechanic or Welder; Milling Machine; Post Hole Digger or Driver; Roller (Over 5 Ton); Scraper (Self Propelled or Tractor Drawn) 5 cu yds or More Capacity; Shoulder Widener; Sideboom; Skid Rig; Stabilizing or Concrete Mixer (Self-Propelled or 14S or Over); Straddle Carrier or Travel Lift; Tractor (Scraper, Dozer, Pusher, Loader); Tractor or Truck Mounted Hydraulic Backhoe; Trencher (Wheel Type or Chain Type); Tube Finisher; Tugger (NOT Performing Work on the Great Lakes); Winches	33.22	18.90	52.12

<u>TRADE OR OCCUPATION</u>	<u>HOURLY BASIC RATE OF PAY</u>	<u>HOURLY FRINGE BENEFITS</u>	<u>TOTAL</u>
	\$	\$	\$

& A- Frames.			
Future Increase(s): Add \$2/hr on 6/1/12; Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14.			
Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			

Belting, Burlap, Texturing Machine; Broom or Sweeper; Compactor (Self-Propelled or Tractor Mounted, Towed & Light Equipment); Concrete Finishing Machine (Road Type); Environmental Burner; Farm or Industrial Type Tractor; Fireman (Asphalt Plant, Pile Driver & Derrick NOT Performing Work on the Great Lakes); Forklift; Greaser; Hoist (Tugger, Automatic); Jeep Digger; Joint Sawyer (Multiple Blade); Launch (NOT Performing Work on the Great Lakes); Lift Slab Machine; Mechanical Float; Mulcher; Power Subgrader; Robotic Tool Carrier (With or Without Attachments); Roller (Rubber Tire, 5 Ton or Under); Self Propelled Chip Spreader; Shouldering Machine; Skid Steer Loader (With or Without Attachments); Telehandler; Tining or Curing Machine.	32.96	18.90	51.86
Future Increase(s): Add \$2/hr on 6/1/12; Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14.			
Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			

Air Compressor (&/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; Augers (Vertical & Horizontal); Automatic Belt Conveyor & Surge Bin; Boiler (Temporary Heat); Concrete Proportioning Plant; Crusher, Screening or Wash Plant; Generator (&/or 150 KW or Over); Heaters (Mechanical); High Pressure Utility Locating Machine (Daylighting Machine); Mudjack; Oiler; Prestress Machine; Pug Mill; Pump (3 Inch or Over) or Well Points; Rock, Stone Breaker; Screed (Milling Machine); Stump Chipper; Tank Car Heaters; Vibratory Hammer or Extractor, Power Pack.	32.67	18.90	51.57
Future Increase(s): Add \$2/hr on 6/1/12; Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14.			
Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			

Fiber Optic Cable Equipment.	22.00	7.27	29.27

SUPERSEDES DECISION WI20070010
U. S. DEPARTMENT OF LABOR
(DAVIS-BACON ACT, MINIMUM WAGE RATES)

STATE: Wisconsin

DECISION NUMBER: W1080010

DESCRIPTION OF WORK: Highways and Airport Runway and Taxiway Construction

DATE: February 1, 2013

LABORERS CLASSIFICATION:		Basic Hourly Rates	Fringe Benefits		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	\$27.20	13.45	Truck Drivers:		
				1 & 2 Axles	23.16	17.13
				Three or More Axles; Euclids, Dumptor & Articulated, Truck Mechanic.....	23.31	17.13
Group 2:	Air Tool Operator; Joint Sawyer and Filler (Pavement); Vibrator or Tamper Operator (Mechanical Hand Operated); Chain Saw Operator; Demolition Burning Torch Laborer	27.30	13.45			
Group 3:	Bituminous Worker (Raker and Luteman); Formsetter (Curb, Sidewalk, and Pavement); Strike Off man.....	27.35	13.45			
Group 4:	Line and Grade Specialist	27.55	13.45			
Group 5:	Blaster and Powderman	27.40	13.45			
Group 6:	Flagperson and Traffic Control Person.....	23.55	13.45			

CLASSES OF LABORER AND MECHANICS

Bricklayer	28.41	12.81
Carpenter	30.48	15.80
Millwright	32.11	15.80
Piledriverman	30.98	15.80
Ironworker	31.25	19.48
Cement Mason/Concrete Finisher	32.09	16.13
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
Painter, Brush	24.50	16.27
Painter, Spray, Structural Steel,Bridges.....	25.50	16.27
Well Drilling:		
Well Driller.....	16.52	3.70

Notes: Welders receive rate prescribed for craft performing operation to which welding is incidental. Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR, 5.5(a)(1)(ii)). Includes Modification #0, dated January 4, 2013; Modification #1 dated February 1, 2013.

SUPERSEDES DECISION WI20070010
U. S. DEPARTMENT OF LABOR
(DAVIS-BACON ACT, MINIMUM WAGE RATES)

STATE: Wisconsin

DECISION NUMBER: W1080010

DESCRIPTION OF WORK: Highways and Airport Runway and Taxiway Construction

DATE: February 1, 2013

<u>POWER EQUIPMENT OPERATORS CLASSIFICATION:</u>	<u>Basic Hourly Rates</u>	<u>Fringe Benefits</u>	<u>POWER EQUIPMENT OPERATORS CLASSIFICATION: (Continued)</u>	<u>Basic Hourly Rates</u>	<u>Fringe Benefits</u>
Group 1: Cranes, tower cranes and derricks, with or without attachments, with a lifting capacity of over 100 tons or cranes, tower cranes and derricks with boom, leads and/or jib lengths measuring 176 feet or longer	\$35.22	\$19.65	(scraper, dozer, pusher, loader); scraper - rubber tired (single or twin engine); 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.	\$34.22	\$19.65
Group 2: Cranes, tower cranes and derricks, with or without attachments, with a lifting capacity of 100 tons or less or cranes, tower cranes and derricks with boom, leads and/or jib lengths measuring 175 feet or less, and backhoes (excavators) having a manufacturer's rated capacity of 3 cu. yds. and over, caisson rigs, pile driver, dredge operator, dredge engineer.	\$34.72	\$19.65	Group 4: Greaser, roller steel (5 tons or less); roller (pneumatic tired) - self-propelled; tractor (mounted or towed compactors and light equipment); shouldering machine; self-propelled chip spreader; concrete spreader; finishing machine; mechanical float; curing machine; power subgrader; joint saw (multiple blade) belting machine; burlap machine; texturing machine; tractor, endloader (rubber tired) - light; jeep digger; fork lift; mulcher; launch operator; fireman; environmental burner.	\$33.96	\$19.65
Group 3: Mechanic or welder - heavy duty equipment, cranes with a lifting capacity of 25 tons or less, concrete breaker (manual or remote); vibrator/sonic concrete breaker; concrete laser screed; concrete slipform paver; concrete batch plant operator; concrete pavement spreader - heavy duty (rubber tired); concrete spreader and distributor, automatic subgrader (concrete); concrete grinder and planing machine; concrete slipform curb and gutter machine; slipform concrete placer; tube finisher; hydro blaster (10,000 psi and over); bridge paver; concrete conveyor system; concrete pump; stabilizing mixer (self propelled); shoulder widener; asphalt plant engineer; bituminous paver; bump cutter and grooving machine; milling machine; screed (bituminous paver); asphalt heater, planer and scarifier; backhoes (excavators) having a manufacturers rated capacity of under 3 cu. yds.; grader or motor patrol; tractor			Group 5: Air compressor; power pack; vibratory hammer and extractor; heavy equipment, leadman; tank car heaters; stump chipper; curb machine operator; concrete proportioning plants generators; mudjack operator; rock breaker; crusher or screening plant; screed (milling machine); automatic belt conveyor and surge bin; pug mill operator; oiler; pump (over 3 inches); drilling machine helper.	\$33.67	\$19.65
			Group 6: Off - road material hauler with or without ejector	\$27.77	\$19.65
			Premium Pay: EPA Level "A" protection - \$3.00 per hour EPA Level "B" protection - \$2.00 per hour EPA Level "C" protection - \$1.00 per hours		

SUPERSEDES DECISION WI20070010
U. S. DEPARTMENT OF LABOR
(DAVIS-BACON ACT, MINIMUM WAGE RATES)

STATE: Wisconsin

DECISION NUMBER: W1080010

DESCRIPTION OF WORK: Highways and Airport Runway and Taxiway Construction

DATE: February 1, 2013

LABORERS CLASSIFICATION: Rates Benefits

			Area 4 -	BROWN, DOOR, KEWAUNEE, MANITOWOC (except Schleswig), MARINETTE (Wausauke and area south thereof), OCONTO, MENOMINEE (East of a line 6 miles West of the West boundary of Oconto County), SHAWANO (except area North of Townships of Aniwa and Hutchins) COUNTIES.
Electricians				
Area 1	\$27.80	16.52		
Area 2:				
Electricians.....	29.13	17.92	Area 5 -	ADAMS, CLARK (Colby, Freemont, Lynn, Mayville, Sherman, Sherwood, Unity), FOREST, JUNEAU, LANGLADE, LINCOLN, MARATHON, MARINETTE (Area North of the town of Wausauke), MENOMINEE (Area West of a line 6 miles West of the West boundary of Oconto County), ONEIDA, PORTAGE, SHAWANO (Area North of the townships of Aniwa and Hutchins), VILAS AND WOOD COUNTIES
Area 3:				
Electrical contracts under \$130,000	26.24	16.85		
Electrical contracts over \$130,000	29.41	16.97		
Area 4:	28.10	17.24		
Area 5	28.61	16.60		
Area 6	35.25	19.30	Area 6 -	KENOSHA COUNTY
Area 8				
Electricians.....	30.00	17.76	Area 8 -	DODGE, (Emmet Township only), GREEN, JEFFERSON, LAFAYETTE, RACINE (Burlington township), ROCK and WALWORTH COUNTIES
Area 9:				
Electricians.....	32.94	18.71	Area 9 -	COLUMBIA, DANE, DODGE, (area west of Hwy. 26, except Chester & Emmet Townships), GREEN LAKE (except townships of Berlin, Seneca and St. Marie), IOWA, MARQUETTE (except townships of Neshkoka, Crystal Lake, Newton and Springfield), and SAUK COUNTIES
Area 10	28.97	19.55		
Area 11	31.27	23.12		
Area 12	32.87	19.23		
Area 13	32.20	21.64	Area 10 -	CALUMET (Township of New Holstein), DODGE (East of Hwy. 26 including Chester Township), FOND DU LAC, MANITOWOC (Schleswig), and SHEBOYGAN COUNTIES
Teledata System Installer				
Area 14			Area 11 -	DOUGLAS COUNTY
Installer/Technician	21.89	11.83		
Sound & Communications			Area 12 -	RACINE (except Burlington township) COUNTY
Area 15				
Installer	16.47	14.84	Area 13 -	MILWAUKEE, OZAUKEE, WASHINGTON and WAUKESHA COUNTIES
Technician.....	24.75	16.04	Area 14 -	Statewide.
Area 1 -			Area 15 -	DODGE (East of Hwy 26 including Chester Twp, excluding Emmet Twp), FOND DU LAC (Except Waupun), MILWAUKEE, OZAUKEE, MANITOWOC (Schleswig), WASHINGTON, AND WAUKESHA COUNTIES.
CALUMET (except township of New Holstein), GREEN LAKE (N. part, including Townships of Berlin, St. Marie and Seneca), MARQUETTE (N. part, including Townships of Crystal Lake, Neshkoro, Newton & Springfield), OUTAGAMIE, WAUPACA, WAUSHARA and WINNEBAGO COUNTIES.				
Area 2 -				
ASHLAND, BARRON, BAYFIELD, BUFFALO, BURNETT, CHIPPEWA, CLARK (except Mayville, Colby, Unity, Sherman, Fremont, Lynn and Sherwood), CRAWFORD, DUNN, EAU CLAIRE, GRANT, IRON, JACKSON, LA CROSSE, MONROE, PEPIN, PIERCE, POLK, PRICE, RICHLAND, RUSK, ST. CROIX, SAWYER, TAYLOR, TREMPLEAU, VERNON and WASHBURN COUNTIES				
Area 3 -				
FLORENCE (townships of Aurora, Commonwealth, Fern, Florence and Homestead), MARINETTE (Niagara township)				

FEBRUARY 1999

**NOTICE TO BIDDERS
WAGE RATE DECISION**

The wage rate decision of the Secretary of Labor which has been incorporated in these advertised specifications is incomplete in that the classifications may be omitted from the Secretary of Labor's decision.

Since the bidder is responsible, independently, for ascertaining area practice with respect to the necessity, or lack of necessity, for the use of these classifications in the prosecution of the work contemplated by this project, no inference may be drawn from the omission of these classifications concerning prevailing area practices relative to their use. Further, this omission will not, per se, be construed as establishing any governmental liability for increased labor cost if it is subsequently determined that such classifications are required.

There may be omissions and/or errors in the federal wage rates. The bidder is responsible for evaluating and determining the correct applicable rate. The higher of state or federal rate will apply.

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REVISED:

CONTRACT:
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5992-08-78
5992-08-88
5992-08-89FEDERAL ID(S):
WISC 2013213
N/A
N/A

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS

SECTION 0001 CONTRACT ITEMS

0010	108.4300 RBC PROGRESS SCHEDULE	EACH	1.000	.	.
0020	201.0105 CLEARING	STA	39.000	.	.
0030	201.0205 GRUBBING	STA	39.000	.	.
0040	203.0100 REMOVING SMALL PIPE CULVERTS	EACH	15.000	.	.
0050	204.0100 REMOVING PAVEMENT	SY	199.000	.	.
0060	204.0110 REMOVING ASPHALTIC SURFACE	SY	735.000	.	.
0070	204.0120 REMOVING ASPHALTIC SURFACE MILLING	SY	2,470.000	.	.
0080	204.0150 REMOVING CURB & GUTTER	LF	12,893.000	.	.
0090	204.0155 REMOVING CONCRETE SIDEWALK	SY	1,619.000	.	.

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			DOLLARS	CTS	DOLLARS	CTS
0100	204.0170 REMOVING FENCE	1,967.000				
		LF	.		.	
0110	204.0185 REMOVING MASONRY	15.000				
		CY	.		.	
0120	204.0195 REMOVING CONCRETE BASES	31.000				
		EACH	.		.	
0130	204.0205 REMOVING UTILITY POLES	2.000				
		EACH	.		.	
0140	204.0210 REMOVING MANHOLES	4.000				
		EACH	.		.	
0150	204.0220 REMOVING INLETS	32.000				
		EACH	.		.	
0160	204.0235 REMOVING BUILDINGS (PARCEL) 01. PARCEL 4	LUMP	LUMP			.
0170	204.0240 SITE CLEARANCE (PARCEL) 01. PARCEL 4	LUMP	LUMP			.
0180	204.0245 REMOVING STORM SEWER (SIZE) 01. 8-INCH	21.000				
		LF	.		.	
0190	204.0245 REMOVING STORM SEWER (SIZE) 02. 12-INCH	1,017.000				
		LF	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
0200	204.0245 REMOVING STORM SEWER (SIZE) 03. 15-INCH	809.000 LF	.		.	
0210	204.0245 REMOVING STORM SEWER (SIZE) 04. 18-INCH	211.000 LF	.		.	
0220	204.0245 REMOVING STORM SEWER (SIZE) 05. 24-INCH	531.000 LF	.		.	
0230	204.0245 REMOVING STORM SEWER (SIZE) 06. 30-INCH	60.000 LF	.		.	
0240	204.0245 REMOVING STORM SEWER (SIZE) 07. 48-INCH	358.000 LF	.		.	
0250	204.0245 REMOVING STORM SEWER (SIZE) 08. 60-INCH	180.000 LF	.		.	
0260	204.9105.S REMOVING (ITEM DESCRIPTION) 01. STONE RETAINING WALL	LUMP	LUMP		.	
0270	205.0100 EXCAVATION COMMON	124,679.000 CY	.		.	
0280	205.0200 EXCAVATION ROCK	10,864.000 CY	.		.	
0290	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 01. B-13-655	LUMP	LUMP		.	

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			DOLLARS	CTS	DOLLARS	CTS
0300	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 02. B-13-656	LUMP	LUMP			.
0310	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 03. B-13-657	LUMP	LUMP			.
0320	206.2000 EXCAVATION FOR STRUCTURES CULVERTS (STRUCTURE) 01. C-13-2054	LUMP	LUMP			.
0330	206.2000 EXCAVATION FOR STRUCTURES CULVERTS (STRUCTURE) 02. C-13-3060	LUMP	LUMP			.
0340	206.3000 EXCAVATION FOR STRUCTURES RETAINING WALLS (STRUCTURE) 01. R-13-208	LUMP	LUMP			.
0350	206.3000 EXCAVATION FOR STRUCTURES RETAINING WALLS (STRUCTURE) 02. R-13-209	LUMP	LUMP			.
0360	206.3000 EXCAVATION FOR STRUCTURES RETAINING WALLS (STRUCTURE) 03. R-13-210	LUMP	LUMP			.
0370	206.3000 EXCAVATION FOR STRUCTURES RETAINING WALLS (STRUCTURE) 04. R-13-211	LUMP	LUMP			.

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			DOLLARS	CTS	DOLLARS	CTS
0380	206.3000 EXCAVATION FOR STRUCTURES RETAINING WALLS (STRUCTURE) 05. R-13-212	LUMP	LUMP			.
0390	206.3000 EXCAVATION FOR STRUCTURES RETAINING WALLS (STRUCTURE) 06. R-13-213	LUMP	LUMP			.
0400	206.3000 EXCAVATION FOR STRUCTURES RETAINING WALLS (STRUCTURE) 07. R-13-214	LUMP	LUMP			.
0410	206.3000 EXCAVATION FOR STRUCTURES RETAINING WALLS (STRUCTURE) 08. R-13-215	LUMP	LUMP			.
0420	206.3000 EXCAVATION FOR STRUCTURES RETAINING WALLS (STRUCTURE) 09. R-13-216	LUMP	LUMP			.
0430	206.3000 EXCAVATION FOR STRUCTURES RETAINING WALLS (STRUCTURE) 10. R-13-217	LUMP	LUMP			.
0440	206.3000 EXCAVATION FOR STRUCTURES RETAINING WALLS (STRUCTURE) 11. R-13-218	LUMP	LUMP			.
0450	206.3000 EXCAVATION FOR STRUCTURES RETAINING WALLS (STRUCTURE) 12. R-13-219	LUMP	LUMP			.

Wisconsin Department of Transportation

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			DOLLARS	CTS	DOLLARS	CTS
0460	206.6000.S TEMPORARY SHORING	500.000 SF	.		.	
0470	210.0100 BACKFILL STRUCTURE	12,530.000 CY	.		.	
0480	213.0100 FINISHING ROADWAY (PROJECT) 01. 5992-08-78	1.000 EACH	.		.	
0490	305.0110 BASE AGGREGATE DENSE 3/4-INCH	3,209.000 TON	.		.	
0500	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH	82,528.000 TON	.		.	
0510	311.0115 BREAKER RUN	233.000 CY	.		.	
0520	312.0115 SELECT CRUSHED MATERIAL	1,000.000 CY	.		.	
0530	415.0410 CONCRETE PAVEMENT APPROACH SLAB	446.000 SY	.		.	
0540	416.0170 CONCRETE DRIVEWAY 7-INCH	50.000 SY	.		.	
0550	416.0270 CONCRETE DRIVEWAY HES 7-INCH	380.000 SY	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
0560	440.4410.S INCENTIVE IRI RIDE	17,800.000 DOL	1.00000		17800.00	
0570	455.0115 ASPHALTIC MATERIAL PG64-22	1,107.000 TON	.		.	
0580	455.0120 ASPHALTIC MATERIAL PG64-28	473.000 TON	.		.	
0590	455.0605 TACK COAT	4,295.000 GAL	.		.	
0600	460.1101 HMA PAVEMENT TYPE E-1	370.000 TON	.		.	
0610	460.1110 HMA PAVEMENT TYPE E-10	28,043.000 TON	.		.	
0620	460.2000 INCENTIVE DENSITY HMA PAVEMENT	18,630.000 DOL	1.00000		18630.00	
0630	465.0105 ASPHALTIC SURFACE	371.000 TON	.		.	
0640	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	280.000 TON	.		.	
0650	465.0125 ASPHALTIC SURFACE TEMPORARY	1,510.000 TON	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
0660	502.0100 CONCRETE MASONRY BRIDGES	1,677.000 CY	.		.	
0670	502.3100 EXPANSION DEVICE (STRUCTURE) 01. B-13-656	LUMP	LUMP		.	
0680	502.3100 EXPANSION DEVICE (STRUCTURE) 02. B-13-657	LUMP	LUMP		.	
0690	502.3200 PROTECTIVE SURFACE TREATMENT	3,170.000 SY	.		.	
0700	503.0146 PRESTRESSED GIRDER TYPE I 45W-INCH	1,933.000 LF	.		.	
0710	504.0100 CONCRETE MASONRY CULVERTS	224.000 CY	.		.	
0720	504.0500 CONCRETE MASONRY RETAINING WALLS	4,239.000 CY	.		.	
0730	504.2000.S PRECAST CONCRETE BOX CULVERT (FT X FT) 01. 6 FT X 3 FT	342.000 LF	.		.	
0740	504.2000.S PRECAST CONCRETE BOX CULVERT (FT X FT) 02. 12 FT X 4 FT	174.000 LF	.		.	
0750	505.0405 BAR STEEL REINFORCEMENT HS BRIDGES	43,290.000 LB	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
0760	505.0410 BAR STEEL REINFORCEMENT HS CULVERTS	17,110.000 LB	.		.	
0770	505.0415 BAR STEEL REINFORCEMENT HS RETAINING WALLS	139,080.000 LB	.		.	
0780	505.0605 BAR STEEL REINFORCEMENT HS COATED BRIDGES	283,915.000 LB	.		.	
0790	505.0610 BAR STEEL REINFORCEMENT HS COATED CULVERTS	15,170.000 LB	.		.	
0800	505.0615 BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	264,860.000 LB	.		.	
0810	506.2605 BEARING PADS ELASTOMERIC NON-LAMINATED	36.000 EACH	.		.	
0820	506.4000 STEEL DIAPHRAGMS (STRUCTURE) 01. B-13-655	32.000 EACH	.		.	
0830	516.0500 RUBBERIZED MEMBRANE WATERPROOFING	582.500 SY	.		.	
0840	517.1015.S CONCRETE STAINING MULTI-COLOR (STRUCTURE) 01. R-13-208	350.000 SF	.		.	
0850	517.1015.S CONCRETE STAINING MULTI-COLOR (STRUCTURE) 02. R-13-209	6,500.000 SF	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
0860	517.1015.S CONCRETE STAINING MULTI-COLOR (STRUCTURE) 03. R-13-210	SF 1,723.000	.		.	
0870	517.1015.S CONCRETE STAINING MULTI-COLOR (STRUCTURE) 04. R-13-211	SF 1,860.000	.		.	
0880	517.1015.S CONCRETE STAINING MULTI-COLOR (STRUCTURE) 05. R-13-212	SF 1,169.000	.		.	
0890	517.1015.S CONCRETE STAINING MULTI-COLOR (STRUCTURE) 06. R-13-213	SF 1,370.000	.		.	
0900	517.1015.S CONCRETE STAINING MULTI-COLOR (STRUCTURE) 07. R-13-214	SF 1,895.000	.		.	
0910	517.1015.S CONCRETE STAINING MULTI-COLOR (STRUCTURE) 08. R-13-215	SF 600.000	.		.	
0920	517.1015.S CONCRETE STAINING MULTI-COLOR (STRUCTURE) 09. R-13-216	SF 1,900.000	.		.	
0930	517.1015.S CONCRETE STAINING MULTI-COLOR (STRUCTURE) 10. R-13-217	SF 1,995.000	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
0940	517.1015.S CONCRETE STAINING MULTI-COLOR (STRUCTURE) 11. R-13-218	SF 1,039.000	.		.	
0950	517.1015.S CONCRETE STAINING MULTI-COLOR (STRUCTURE) 12. R-13-219	SF 1,050.000	.		.	
0960	517.1015.S CONCRETE STAINING MULTI-COLOR (STRUCTURE) 13. B-13-656	SF 1,574.000	.		.	
0970	517.1015.S CONCRETE STAINING MULTI-COLOR (STRUCTURE) 14. B-13-657	SF 503.000	.		.	
0980	517.1050.S ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 01. B-13-655	SF 2,330.000	.		.	
0990	517.1050.S ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 02. B-13-656	SF 2,881.000	.		.	
1000	517.1050.S ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 03. B-13-657	SF 1,043.000	.		.	
1010	517.1050.S ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 04. C-13-2054	SF 225.000	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
1020	517.1050.S ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 05. R-13-208	SF 350.000	.		.	
1030	517.1050.S ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 06. R-13-209	SF 7,500.000	.		.	
1040	517.1050.S ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 07. R-13-210	SF 2,340.000	.		.	
1050	517.1050.S ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 08. R-13-211	SF 2,155.000	.		.	
1060	517.1050.S ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 09. R-13-212	SF 1,169.000	.		.	
1070	517.1050.S ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 10. R-13-213	SF 1,370.000	.		.	
1080	517.1050.S ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 11. R-13-214	SF 2,700.000	.		.	
1090	517.1050.S ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 12. R-13-215	SF 750.000	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
1100	517.1050.S ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 13. R-13-216	2,106.000 SF	.		.	
1110	517.1050.S ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 14. R-13-217	1,458.000 SF	.		.	
1120	517.1050.S ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 15. R-13-218	1,409.000 SF	.		.	
1130	517.1050.S ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 16. R-13-219	1,110.000 SF	.		.	
1140	520.1018 APRON ENDWALLS FOR CULVERT PIPE 18-INCH	2.000 EACH	.		.	
1150	520.1024 APRON ENDWALLS FOR CULVERT PIPE 24-INCH	4.000 EACH	.		.	
1160	520.8000 CONCRETE COLLARS FOR PIPE	1.000 EACH	.		.	
1170	521.0118 CULVERT PIPE CORRUGATED STEEL 18-INCH	100.000 LF	.		.	
1180	521.0124 CULVERT PIPE CORRUGATED STEEL 24-INCH	102.000 LF	.		.	

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1190	522.1015 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 15-INCH	1.000 EACH	.		.	
1200	522.1018 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH	1.000 EACH	.		.	
1210	522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH	2.000 EACH	.		.	
1220	522.1030 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH	1.000 EACH	.		.	
1230	532.0200.S WALL MODULAR BLOCK GRAVITY	1,474.000 SF	.		.	
1240	550.2104 PILING CIP CONCRETE 10 3/4 X 0. 25-INCH	3,961.000 LF	.		.	
1250	550.2126 PILING CIP CONCRETE 12 3/4 X 0. 375-INCH	2,775.000 LF	.		.	
1260	601.0407 CONCRETE CURB & GUTTER 18-INCH TYPE D	245.000 LF	.		.	
1270	601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A	113.000 LF	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
1280	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D	16,737.000 LF	.		.	
1290	601.0600 CONCRETE CURB PEDESTRIAN	177.000 LF	.		.	
1300	602.0410 CONCRETE SIDEWALK 5-INCH	103,720.000 SF	.		.	
1310	602.0420 CONCRETE SIDEWALK 7-INCH	7,000.000 SF	.		.	
1320	602.0515 CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA	750.000 SF	.		.	
1330	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	490.000 LF	.		.	
1340	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	2,254.000 LF	.		.	
1350	604.0400 SLOPE PAVING CONCRETE	92.000 SY	.		.	
1360	606.0200 RIPRAP MEDIUM	32.000 CY	.		.	
1370	606.0300 RIPRAP HEAVY	47.000 CY	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
1380	608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	1,880.000 LF	.		.	
1390	608.0315 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH	1,332.000 LF	.		.	
1400	608.0318 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH	1,141.000 LF	.		.	
1410	608.0324 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH	944.000 LF	.		.	
1420	608.0330 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 30-INCH	58.000 LF	.		.	
1430	608.0354 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 54-INCH	63.000 LF	.		.	
1440	608.0412 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 12-INCH	1,143.000 LF	.		.	
1450	608.0415 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 15-INCH	159.000 LF	.		.	
1460	608.0418 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 18-INCH	120.000 LF	.		.	
1470	609.0115 RELAID STORM SEWER 15-INCH	62.000 LF	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
1480	609.0121 RELAID STORM SEWER 21-INCH	100.000 LF	.		.	
1490	609.0124 RELAID STORM SEWER 24-INCH	416.000 LF	.		.	
1500	610.0138 STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 38X60-INCH	1,471.000 LF	.		.	
1510	610.0424 STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 24X38-INCH	63.000 LF	.		.	
1520	611.0430 RECONSTRUCTING INLETS	10.000 EACH	.		.	
1530	611.0612 INLET COVERS TYPE C	1.000 EACH	.		.	
1540	611.0624 INLET COVERS TYPE H	159.000 EACH	.		.	
1550	611.0639 INLET COVERS TYPE H-S	11.000 EACH	.		.	
1560	611.0642 INLET COVERS TYPE MS	15.000 EACH	.		.	
1570	611.2004 MANHOLES 4-FT DIAMETER	32.000 EACH	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
1580	611.2006 MANHOLES 6-FT DIAMETER	4.000 EACH	.		.	
1590	611.2007 MANHOLES 7-FT DIAMETER	3.000 EACH	.		.	
1600	611.2066 MANHOLES 6X6-FT	10.000 EACH	.		.	
1610	611.3230 INLETS 2X3-FT	121.000 EACH	.		.	
1620	611.3901 INLETS MEDIAN 1 GRATE	15.000 EACH	.		.	
1630	611.8110 ADJUSTING MANHOLE COVERS	47.000 EACH	.		.	
1640	611.8115 ADJUSTING INLET COVERS	1.000 EACH	.		.	
1650	611.8120.S COVER PLATES TEMPORARY	10.000 EACH	.		.	
1660	611.9800.S PIPE GRATES	13.000 EACH	.		.	
1670	612.0106 PIPE UNDERDRAIN 6-INCH	204.000 LF	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
1680	612.0206 PIPE UNDERDRAIN UNPERFORATED 6-INCH	963.000 LF	.		.	
1690	612.0406 PIPE UNDERDRAIN WRAPPED 6-INCH	2,998.000 LF	.		.	
1700	619.1000 MOBILIZATION	1.000 EACH	.		.	
1710	620.0100 CONCRETE CORRUGATED MEDIAN	3,070.000 SF	.		.	
1720	620.0300 CONCRETE MEDIAN SLOPED NOSE	1,125.000 SF	.		.	
1730	623.0200 DUST CONTROL SURFACE TREATMENT	20,000.000 SY	.		.	
1740	624.0100 WATER	1,205.000 MGAL	.		.	
1750	625.0100 TOPSOIL	83,515.000 SY	.		.	
1760	628.1504 SILT FENCE	3,190.000 LF	.		.	
1770	628.1520 SILT FENCE MAINTENANCE	3,190.000 LF	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
1780	628.1905 MOBILIZATIONS EROSION CONTROL	19.000 EACH	.		.	
1790	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL	19.000 EACH	.		.	
1800	628.2006 EROSION MAT URBAN CLASS I TYPE A	38,741.000 SY	.		.	
1810	628.2008 EROSION MAT URBAN CLASS I TYPE B	578.000 SY	.		.	
1820	628.2023 EROSION MAT CLASS II TYPE B	6,400.000 SY	.		.	
1830	628.6510 SOIL STABILIZER TYPE B	1.000 ACRE	.		.	
1840	628.7005 INLET PROTECTION TYPE A	25.000 EACH	.		.	
1850	628.7010 INLET PROTECTION TYPE B	4.000 EACH	.		.	
1860	628.7015 INLET PROTECTION TYPE C	292.000 EACH	.		.	
1870	628.7504 TEMPORARY DITCH CHECKS	1,785.000 LF	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
1880	628.7555 CULVERT PIPE CHECKS	32.000 EACH	.		.	
1890	628.7560 TRACKING PADS	12.000 EACH	.		.	
1900	628.7570 ROCK BAGS	20.000 EACH	.		.	
1910	629.0210 FERTILIZER TYPE B	53.000 CWT	.		.	
1920	630.0140 SEEDING MIXTURE NO. 40	692.000 LB	.		.	
1930	630.0170 SEEDING MIXTURE NO. 70	4.000 LB	.		.	
1940	631.0300 SOD WATER	1,182.000 MGAL	.		.	
1950	631.1000 SOD LAWN	35,047.000 SY	.		.	
1960	632.0101 TREES (SPECIES, ROOT, SIZE) 01. MARMO FREEMAN MAPLE, B&B, 2-1/2" CAL	9.000 EACH	.		.	
1970	632.0101 TREES (SPECIES, ROOT, SIZE) 02. MIYABE MAPLE 'STATE STREET', B&B, 2-1/2" CAL.	16.000 EACH	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
1980	632.0101 TREES (SPECIES, ROOT, SIZE) 03. FT. MCNAIR HORSE CHESTNUT, B&B, 2-1/2" CAL.	29.000 EACH	.		.	
1990	632.0101 TREES (SPECIES, ROOT, SIZE) 04. CHICAGOLAND HACKBERRY, B&B, 2-1/2" CAL.	14.000 EACH	.		.	
2000	632.0101 TREES (SPECIES, ROOT, SIZE) 05. AUTUMN GOLD MAIDENHAIR TREE, B&B, 2-1/2" CAL.	8.000 EACH	.		.	
2010	632.0101 TREES (SPECIES, ROOT, SIZE) 06. SHANGRI-LA GINKO, B&B, 2-1/2" CAL.	18.000 EACH	.		.	
2020	632.0101 TREES (SPECIES, ROOT, SIZE) 07. SKYLINE HONEYLOCUST, B&B, 2-1/2" CAL.	16.000 EACH	.		.	
2030	632.0101 TREES (SPECIES, ROOT, SIZE) 08. ESPRESSO KENTUCKY COFFEE TREE, B&B, 2-1/2" CAL.	13.000 EACH	.		.	
2040	632.0101 TREES (SPECIES, ROOT, SIZE) 09. LONDON PLAINTREE EXCLAMATION, B&B, 2-1/2" CAL.	24.000 EACH	.		.	
2050	632.0101 TREES (SPECIES, ROOT, SIZE) 10. QUAKING ASPEN, B&B, 2-1/2" CAL.	13.000 EACH	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
2060	632.0101 TREES (SPECIES, ROOT, SIZE) 11. SWAMP WHITE OAK, B&B, 2-1/2" CAL.	7.000 EACH	.		.	
2070	632.0101 TREES (SPECIES, ROOT, SIZE) 12. BURR OAK, B&B, 2-1/2" CAL.	32.000 EACH	.		.	
2080	632.0101 TREES (SPECIES, ROOT, SIZE) 13. HYBRID OAK, B&B, 2-1/2" CAL.	23.000 EACH	.		.	
2090	632.0101 TREES (SPECIES, ROOT, SIZE) 14. AMERICAN SENTRY LINDEN, B&B, 2-1/2" CAL.	15.000 EACH	.		.	
2100	632.0101 TREES (SPECIES, ROOT, SIZE) 15. DANADA CHARM ELM, B&B, 2-1/2" CAL.	11.000 EACH	.		.	
2110	632.0101 TREES (SPECIES, ROOT, SIZE) 16. BLUE BEECH/MUSCLEWOOD, B&B, 2" CAL.	10.000 EACH	.		.	
2120	632.0101 TREES (SPECIES, ROOT, SIZE) 17. SARATOGA GINKO, B&B, 2" CAL.	3.000 EACH	.		.	
2130	632.0101 TREES (SPECIES, ROOT, SIZE) 18. ADIRONDACK CRABAPPLE, B&B, 2" CAL.	13.000 EACH	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
2140	632.0101 TREES (SPECIES, ROOT, SIZE) 19. ROYAL RAINDROPS CRABAPPLE, B&B, 2" CAL.	6.000 EACH	.		.	
2150	632.0101 TREES (SPECIES, ROOT, SIZE) 20. AUTUMN BLAZE PEAR, B&B, 2" CAL.	15.000 EACH	.		.	
2160	632.0101 TREES (SPECIES, ROOT, SIZE) 21. CHANTICLEER CALLERY PEAR, B&B, 2" CAL.	7.000 EACH	.		.	
2170	632.0101 TREES (SPECIES, ROOT, SIZE) 22. IVORY SILK JAPANESE TREE LILAC, B&B, 2" CAL.	5.000 EACH	.		.	
2180	632.0201 SHRUBS (SPECIES, ROOT, SIZE) 01. BUTTONBUSH, #5, CONT.	11.000 EACH	.		.	
2190	632.0201 SHRUBS (SPECIES, ROOT, SIZE) 02. GRO-LOW FRAGRANT SUMAC, #5, CONT.	13.000 EACH	.		.	
2200	632.0201 SHRUBS (SPECIES, ROOT, SIZE) 03. RASPBERRY TART VIBURNUM, #5, CONT.	10.000 EACH	.		.	
2210	632.0201 SHRUBS (SPECIES, ROOT, SIZE) 04. GREY OWL JUNIPER, #5, CONT.	6.000 EACH	.		.	
2220	632.0301 VINES (SPECIES, ROOT, SIZE) 01. VIRGINIA CREEPER, #5, CONT.	17.000 EACH	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
2230	632.9101 LANDSCAPE PLANTING SURVEILLANCE AND CARE CYCLES	31.000 EACH	.		.	
2240	633.5200 MARKERS CULVERT END	13.000 EACH	.		.	
2250	634.0614 POSTS WOOD 4X6-INCH X 14-FT	20.000 EACH	.		.	
2260	636.0100 SIGN SUPPORTS CONCRETE MASONRY	83.800 CY	.		.	
2270	636.1000 SIGN SUPPORTS STEEL REINFORCEMENT HS	5,296.000 LB	.		.	
2280	637.0101 SIGNS TYPE I	1,667.500 SF	.		.	
2290	637.0202 SIGNS REFLECTIVE TYPE II	1,343.690 SF	.		.	
2300	638.2102 MOVING SIGNS TYPE II	8.000 EACH	.		.	
2310	638.2602 REMOVING SIGNS TYPE II	80.000 EACH	.		.	
2320	638.3000 REMOVING SMALL SIGN SUPPORTS	80.000 EACH	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
2330	638.4000 MOVING SMALL SIGN SUPPORTS	4.000 EACH	.		.	
2340	641.8100 OVERHEAD SIGN SUPPORT (STRUCTURE) 01. S-13-409	LUMP	LUMP		.	
2350	641.8100 OVERHEAD SIGN SUPPORT (STRUCTURE) 02. S-13-410	LUMP	LUMP		.	
2360	641.8100 OVERHEAD SIGN SUPPORT (STRUCTURE) 03. S-13-411	LUMP	LUMP		.	
2370	641.8100 OVERHEAD SIGN SUPPORT (STRUCTURE) 04. S-13-412	LUMP	LUMP		.	
2380	641.8100 OVERHEAD SIGN SUPPORT (STRUCTURE) 05. S-13-413	LUMP	LUMP		.	
2390	641.8100 OVERHEAD SIGN SUPPORT (STRUCTURE) 06. S-13-414	LUMP	LUMP		.	
2400	641.8100 OVERHEAD SIGN SUPPORT (STRUCTURE) 07. S-13-415	LUMP	LUMP		.	
2410	641.8100 OVERHEAD SIGN SUPPORT (STRUCTURE) 09. S-13-417	LUMP	LUMP		.	
2420	641.8100 OVERHEAD SIGN SUPPORT (STRUCTURE) 10. S-13-418	LUMP	LUMP		.	

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			DOLLARS	CTS	DOLLARS	CTS
2430	641.8100 OVERHEAD SIGN SUPPORT (STRUCTURE) 11. S-13-419	LUMP	LUMP			.
2440	641.8100 OVERHEAD SIGN SUPPORT (STRUCTURE) 12. S-13-420	LUMP	LUMP			.
2450	641.8100 OVERHEAD SIGN SUPPORT (STRUCTURE) 13. S-13-421	LUMP	LUMP			.
2460	641.8100 OVERHEAD SIGN SUPPORT (STRUCTURE) 14. S-13-422	LUMP	LUMP			.
2470	642.5401 FIELD OFFICE TYPE D	1.000 EACH	.		.	.
2480	643.0200 TRAFFIC CONTROL SURVEILLANCE AND MAINTENANCE (PROJECT) 01. 5992-08-78	438.000 DAY	.		.	.
2490	643.0300 TRAFFIC CONTROL DRUMS	179,713.000 DAY	.		.	.
2500	643.0420 TRAFFIC CONTROL BARRICADES TYPE III	19,136.000 DAY	.		.	.
2510	643.0500 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS	832.000 EACH	.		.	.
2520	643.0600 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES	832.000 EACH	.		.	.

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			DOLLARS	CTS	DOLLARS	CTS
2530	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A	38,212.000 DAY	.		.	
2540	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C	21,377.000 DAY	.		.	
2550	643.0800 TRAFFIC CONTROL ARROW BOARDS	689.000 DAY	.		.	
2560	643.0900 TRAFFIC CONTROL SIGNS	28,014.000 DAY	.		.	
2570	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II	23.000 EACH	.		.	
2580	643.1050 TRAFFIC CONTROL SIGNS PCMS	3,871.000 DAY	.		.	
2590	643.2000 TRAFFIC CONTROL DETOUR (PROJECT) 01. 5992-08-78	1.000 EACH	.		.	
2600	643.3000 TRAFFIC CONTROL DETOUR SIGNS	10,122.000 DAY	.		.	
2610	645.0105 GEOTEXTILE FABRIC TYPE C	1,164.000 SY	.		.	
2620	645.0111 GEOTEXTILE FABRIC TYPE DF SCHEDULE A	157.000 SY	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
2630	645.0120 GEOTEXTILE FABRIC TYPE HR	52.000 SY	.		.	
2640	645.0130 GEOTEXTILE FABRIC TYPE R	110.000 SY	.		.	
2650	645.0140 GEOTEXTILE FABRIC TYPE SAS	2,000.000 SY	.		.	
2660	646.0106 PAVEMENT MARKING EPOXY 4-INCH	9,273.000 LF	.		.	
2670	646.0116 PAVEMENT MARKING EPOXY 6-INCH	16,081.000 LF	.		.	
2680	646.0126 PAVEMENT MARKING EPOXY 8-INCH	6,303.000 LF	.		.	
2690	646.0600 REMOVING PAVEMENT MARKINGS	99,247.000 LF	.		.	
2700	647.0160 PAVEMENT MARKING ARROWS EPOXY TYPE 2R	34.000 EACH	.		.	
2710	647.0166 PAVEMENT MARKING ARROWS EPOXY TYPE 2	76.000 EACH	.		.	
2720	647.0206 PAVEMENT MARKING ARROWS BIKE LANE EPOXY	41.000 EACH	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
2730	647.0306 PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY	41.000 EACH	.		.	
2740	647.0356 PAVEMENT MARKING WORDS EPOXY	42.000 EACH	.		.	
2750	647.0456 PAVEMENT MARKING CURB EPOXY	1,092.000 LF	.		.	
2760	647.0566 PAVEMENT MARKING STOP LINE EPOXY 18-INCH	645.000 LF	.		.	
2770	647.0606 PAVEMENT MARKING ISLAND NOSE EPOXY	30.000 EACH	.		.	
2780	647.0726 PAVEMENT MARKING DIAGONAL EPOXY 12-INCH	605.000 LF	.		.	
2790	647.0766 PAVEMENT MARKING CROSSWALK EPOXY 6-INCH	2,721.000 LF	.		.	
2800	647.0856 PAVEMENT MARKING CONCRETE CORRUGATED MEDIAN EPOXY	2,560.000 SF	.		.	
2810	647.0955 REMOVING PAVEMENT MARKINGS ARROWS	27.000 EACH	.		.	
2820	647.0965 REMOVING PAVEMENT MARKINGS WORDS	7.000 EACH	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
2830	649.0100 TEMPORARY PAVEMENT MARKING 4-INCH	114,826.000 LF	.		.	
2840	649.1700 TEMPORARY PAVEMENT MARKING ARROWS	47.000 EACH	.		.	
2850	649.1900 TEMPORARY PAVEMENT MARKING WORDS	1.000 EACH	.		.	
2860	650.4000 CONSTRUCTION STAKING STORM SEWER	205.000 EACH	.		.	
2870	650.4500 CONSTRUCTION STAKING SUBGRADE	20,219.000 LF	.		.	
2880	650.5000 CONSTRUCTION STAKING BASE	20,219.000 LF	.		.	
2890	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	33,044.000 LF	.		.	
2900	650.6000 CONSTRUCTION STAKING PIPE CULVERTS	3.000 EACH	.		.	
2910	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 01. B-13-655	LUMP	LUMP		.	
2920	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 02. B-13-656	LUMP	LUMP		.	

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			DOLLARS	CTS	DOLLARS	CTS
2930	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 03. B-13-657	LUMP	LUMP			.
2940	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 04. C-13-2054	LUMP	LUMP			.
2950	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 05. C-13-3060	LUMP	LUMP			.
2960	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 06. R-13-208	LUMP	LUMP			.
2970	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 07. R-13-209	LUMP	LUMP			.
2980	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 08. R-13-210	LUMP	LUMP			.
2990	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 09. R-13-211	LUMP	LUMP			.
3000	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 10. R-13-212	LUMP	LUMP			.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
3010	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 11. R-13-213	LUMP	LUMP			.
3020	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 12. R-13-214	LUMP	LUMP			.
3030	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 13. R-13-215	LUMP	LUMP			.
3040	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 14. R-13-216	LUMP	LUMP			.
3050	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 15. R-13-217	LUMP	LUMP			.
3060	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 16. R-13-218	LUMP	LUMP			.
3070	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 17. R-13-219	LUMP	LUMP			.
3080	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 18. S-13-409	LUMP	LUMP			.

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			DOLLARS	CTS	DOLLARS	CTS
3090	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 19. S-13-410	LUMP	LUMP			.
3100	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 20. S-13-411	LUMP	LUMP			.
3110	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 21. S-13-412	LUMP	LUMP			.
3120	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 22. S-13-413	LUMP	LUMP			.
3130	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 23. S-13-414	LUMP	LUMP			.
3140	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 24. S-13-415	LUMP	LUMP			.
3150	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 26. S-13-417	LUMP	LUMP			.
3160	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 27. S-13-418	LUMP	LUMP			.

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			DOLLARS	CTS	DOLLARS	CTS
3170	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 28. S-13-419	LUMP	LUMP			.
3180	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 29. S-13-420	LUMP	LUMP			.
3190	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 30. S-13-421	LUMP	LUMP			.
3200	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 31. S-13-422	LUMP	LUMP			.
3210	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 5992-08-78	LUMP	LUMP			.
3220	650.9920 CONSTRUCTION STAKING SLOPE STAKES	20,219.000 LF	.			.
3230	652.0125 CONDUIT RIGID METALLIC 2-INCH	15.000 LF	.			.
3240	652.0210 CONDUIT RIGID NONMETALLIC SCHEDULE 40 1-INCH	94.000 LF	.			.
3250	652.0215 CONDUIT RIGID NONMETALLIC SCHEDULE 40 1 1/4-INCH	1,195.000 LF	.			.

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			DOLLARS	CTS	DOLLARS	CTS
3260	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	18,914.000 LF	.		.	
3270	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	17,082.000 LF	.		.	
3280	652.0325 CONDUIT RIGID NONMETALLIC SCHEDULE 80 2-INCH	4,001.000 LF	.		.	
3290	652.0335 CONDUIT RIGID NONMETALLIC SCHEDULE 80 3-INCH	7,512.000 LF	.		.	
3300	652.0800 CONDUIT LOOP DETECTOR	4,346.000 LF	.		.	
3310	653.0900 ADJUSTING PULL BOXES	1.000 EACH	.		.	
3320	654.0110 CONCRETE BASES TYPE 10	14.000 EACH	.		.	
3330	654.0205 CONCRETE CONTROL CABINET BASES TYPE 7	2.000 EACH	.		.	
3340	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG	6,113.000 LF	.		.	
3350	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG	2,200.000 LF	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
3360	655.0250 CABLE TRAFFIC SIGNAL 9-14 AWG	3,270.000 LF	.		.	
3370	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG	1,708.000 LF	.		.	
3380	655.0280 CABLE TRAFFIC SIGNAL 19-14 AWG	314.000 LF	.		.	
3390	655.0410 COMMUNICATION CABLE INSTALLED IN CONDUIT	4,021.000 LF	.		.	
3400	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG	675.000 LF	.		.	
3410	655.0615 ELECTRICAL WIRE LIGHTING 10 AWG	32,760.000 LF	.		.	
3420	655.0620 ELECTRICAL WIRE LIGHTING 8 AWG	19,354.000 LF	.		.	
3430	655.0630 ELECTRICAL WIRE LIGHTING 4 AWG	58,062.000 LF	.		.	
3440	655.0800 LOOP DETECTOR WIRE	11,309.000 LF	.		.	
3450	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 01. COMMERCE DRIVE	LUMP	LUMP		.	

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			DOLLARS	CTS	DOLLARS	CTS
3460	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 02. JUNCTION-MINERAL POINT	LUMP	LUMP			.
3470	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 03. JUNCTION=MINERAL POINT	LUMP	LUMP			.
3480	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 04. JUNCTION-SOUTH JUG	LUMP	LUMP			.
3490	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 05. JUNCTION-WATTS	LUMP	LUMP			.
3500	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 06. JUNCTION- WATTS	LUMP	LUMP			.
3510	657.0100 PEDESTAL BASES	26.000				
	EACH		.			.
3520	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE	95.000				
	EACH		.			.
3530	657.0410 TRAFFIC SIGNAL STANDARDS ALUMINUM 9-FT	5.000				
	EACH		.			.
3540	657.0420 TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT	20.000				
	EACH		.			.

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			DOLLARS	CTS	DOLLARS	CTS
3550	657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT	1.000 EACH	.		.	
3560	658.0500 PEDESTRIAN PUSH BUTTONS	29.000 EACH	.		.	
3570	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 01. COMMERCE-MINERAL POINT	LUMP	LUMP		.	
3580	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 02. JUNCTION-MINERAL POINT	LUMP	LUMP		.	
3590	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 03. NORTH JUG-MINERAL POINT	LUMP	LUMP		.	
3600	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 04. SOUTH JUG-JUNCTION	LUMP	LUMP		.	
3610	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 05. JUNCTION-WATTS	LUMP	LUMP		.	
3620	690.0150 SAWING ASPHALT	5,574.000 LF	.		.	
3630	690.0250 SAWING CONCRETE	96.000 LF	.		.	
3640	715.0415 INCENTIVE STRENGTH CONCRETE PAVEMENT	500.000 DOL	1.00000		500.00	

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			DOLLARS	CTS	DOLLARS	CTS
3650	715.0502 INCENTIVE STRENGTH CONCRETE STRUCTURES	36,846.000 DOL	1.00000		36846.00	
3660	ASP.1T0A ON-THE-JOB TRAINING APPRENTICE AT \$5.00/HR	2,400.000 HRS	5.00000		12000.00	
3670	ASP.1T0G ON-THE-JOB TRAINING GRADUATE AT \$5. 00/HR	3,400.000 HRS	5.00000		17000.00	
3680	SPV.0035 SPECIAL 01. ROCK EXCAVATION UTILITY	150.000 CY	.		.	
3690	SPV.0035 SPECIAL 02. POND LINER CLAY	1,200.000 CY	.		.	
3700	SPV.0035 SPECIAL 03. ABANDON SANITARY SEWER WITH SLURRY	21.000 CY	.		.	
3710	SPV.0060 SPECIAL 001. UTILITY LINE OPENING (ULO)	13.000 EACH	.		.	
3720	SPV.0060 SPECIAL 002. SANITARY SEWER INTERNAL CHIMNEY SEAL	14.000 EACH	.		.	
3730	SPV.0060 SPECIAL 003. SANITARY SEWER ACCESS STRUCTURE (4' DIAMETER)	4.000 EACH	.		.	
3740	SPV.0060 SPECIAL 004. ADJUST SAS SPECIAL	14.000 EACH	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
3750	SPV.0060 SPECIAL 005. MANHOLE COVERS TYPE MAD	18.000 EACH	.		.	
3760	SPV.0060 SPECIAL 006. SANITARY SEWER TAP	1.000 EACH	.		.	
3770	SPV.0060 SPECIAL 007. RECONSTRUCT BENCH & FLOWLINES	1.000 EACH	.		.	
3780	SPV.0060 SPECIAL 008. SANITARY LATERAL ELECTRONIC MARKERS	3.000 EACH	.		.	
3790	SPV.0060 SPECIAL 009. REMOVE SANITARY SEWER ACCESS STRUCTURE	3.000 EACH	.		.	
3800	SPV.0060 SPECIAL 010. PERENNIAL, NORTHWIND SWITCHGRASS	34.000 EACH	.		.	
3810	SPV.0060 SPECIAL 011. PERENNIAL, LITTLE BLUESTEM	38.000 EACH	.		.	
3820	SPV.0060 SPECIAL 012. PERENNIAL, AUTUMN JOY SEDUM	17.000 EACH	.		.	
3830	SPV.0060 SPECIAL 013. CUT-IN CONNECTION	6.000 EACH	.		.	
3840	SPV.0060 SPECIAL 014. FURNISH AND INSTALL HYDRANT	12.000 EACH	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
3850	SPV.0060 SPECIAL 015. CUT OFF EXISTING WATER MAIN	3.000 EACH	.		.	
3860	SPV.0060 SPECIAL 016. ABANDON WATER VALVE BOX	9.000 EACH	.		.	
3870	SPV.0060 SPECIAL 017. SALVAGE HYDRANT	4.000 EACH	.		.	
3880	SPV.0060 SPECIAL 018. ADJUST WATER VALVE BOX	20.000 EACH	.		.	
3890	SPV.0060 SPECIAL 019. FURNISH AND INSTALL 6-INCH VALVE	12.000 EACH	.		.	
3900	SPV.0060 SPECIAL 020. FURNISH AND INSTALL 8-INCH VALVE	2.000 EACH	.		.	
3910	SPV.0060 SPECIAL 021. FURNISH AND INSTALL 10-INCH VALVE	1.000 EACH	.		.	
3920	SPV.0060 SPECIAL 022. FURNISH AND INSTALL 12-INCH VALVE	13.000 EACH	.		.	
3930	SPV.0060 SPECIAL 023. FURNISH AND INSTALL 16-INCH VALVE	4.000 EACH	.		.	
3940	SPV.0060 SPECIAL 024. FURNISH EXCAVATION AND DITCH FOR LIVE TAP	3.000 EACH	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
3950	SPV.0060 SPECIAL 025. PRECAST CONCRETE BOX CULVERT ENDWALL 12 FT X 4 FT	1.000 EACH	.		.	
3960	SPV.0060 SPECIAL 026. INLET COVERS TERRACE TYPE 2 SPECIAL	4.000 EACH	.		.	
3970	SPV.0060 SPECIAL 027. TERRACE INLET TYPE 2 SPECIAL	2.000 EACH	.		.	
3980	SPV.0060 SPECIAL 028. PRECAST SIGN POST BASE	134.000 EACH	.		.	
3990	SPV.0060 SPECIAL 029. SIGN POST BASE FOR CONCRETE INSTALLATION	2.000 EACH	.		.	
4000	SPV.0060 SPECIAL 030. JUNCTION VAULT 4-FT X 8-FT	2.000 EACH	.		.	
4010	SPV.0060 SPECIAL 031. JUNCTION VAULT 10-FT X 16-FT	2.000 EACH	.		.	
4020	SPV.0060 SPECIAL 032. REMOVE STREET LIGHT	18.000 EACH	.		.	
4030	SPV.0060 SPECIAL 034. LIGHTING CONTROL CABINET	2.000 EACH	.		.	
4040	SPV.0060 SPECIAL 035. LED LUMINAIRE AND MOUNTING BRACKET TYPE 1	6.000 EACH	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
4050	SPV.0060 SPECIAL 036. LED LUMINAIRE AND MOUNTING BRACKET TYPE 2	43.000 EACH	.		.	
4060	SPV.0060 SPECIAL 037. LED LUMINAIRE AND MOUNTING BRACKET TYPE 3	82.000 EACH	.		.	
4070	SPV.0060 SPECIAL 038. WALL PACK LUMINAIRE LED	5.000 EACH	.		.	
4080	SPV.0060 SPECIAL 039. OUTLET BOX 4X4X4-INCH	11.000 EACH	.		.	
4090	SPV.0060 SPECIAL 040. POLE 30-FOOT, 11 GAUGE	100.000 EACH	.		.	
4100	SPV.0060 SPECIAL 041. POLE 20-FOOT, 7 GAUGE	13.000 EACH	.		.	
4110	SPV.0060 SPECIAL 042. POLES ALUMINUM 20-FOOT STREET LIGHT	6.000 EACH	.		.	
4120	SPV.0060 SPECIAL 044. DECORATIVE LIGHT COVER	5.000 EACH	.		.	
4130	SPV.0060 SPECIAL 045. ELECTRICAL PULLBOX TYPE 1	55.000 EACH	.		.	
4140	SPV.0060 SPECIAL 046. ELECTRICAL PULLBOX TYPE 3	15.000 EACH	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
4150	SPV.0060 SPECIAL 047. ELECTRICAL PULLBOX TYPE 5	17.000 EACH	.		.	
4160	SPV.0060 SPECIAL 048. ELECTRICAL UTILITY ACCESS STRUCTURE	16.000 EACH	.		.	
4170	SPV.0060 SPECIAL 049. CONCRETE BASE TYPE G	26.000 EACH	.		.	
4180	SPV.0060 SPECIAL 050. CONCRETE BASE TYPE LB-2	6.000 EACH	.		.	
4190	SPV.0060 SPECIAL 051. CONCRETE BASE TYPE LB-3	97.000 EACH	.		.	
4200	SPV.0060 SPECIAL 052. CONCRETE BASE TYPE LB-8	12.000 EACH	.		.	
4210	SPV.0060 SPECIAL 053. CONCRETE BASE TYPE P	5.000 EACH	.		.	
4220	SPV.0060 SPECIAL 054. CONCRETE BASE TYPE M	2.000 EACH	.		.	
4230	SPV.0060 SPECIAL 055. CONCRETE BASE OFFSET	6.000 EACH	.		.	
4240	SPV.0060 SPECIAL 056. TRANSFORMER BASE 16-INCH STEEL	10.000 EACH	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
4250	SPV.0060 SPECIAL 057. MONOTUBE POLE, TYPE 9	14.000 EACH	.		.	
4260	SPV.0060 SPECIAL 058. MONOTUBE ARM, 20-FOOT	3.000 EACH	.		.	
4270	SPV.0060 SPECIAL 059. MONOTUBE ARM, 25-FOOT	2.000 EACH	.		.	
4280	SPV.0060 SPECIAL 060. MONOTUBE ARM, 30-FOOT	7.000 EACH	.		.	
4290	SPV.0060 SPECIAL 061. MONOTUBE ARM, 35-FOOT	2.000 EACH	.		.	
4300	SPV.0060 SPECIAL 062. TRAFFIC SIGNAL CONTROL CABINET	5.000 EACH	.		.	
4310	SPV.0060 SPECIAL 063. TRAFFIC SIGNAL CONTROLLER	5.000 EACH	.		.	
4320	SPV.0060 SPECIAL 064. NEMA-PLUS CONFLICT MONITOR	5.000 EACH	.		.	
4330	SPV.0060 SPECIAL 065. TRAFFIC SIGNAL TROMBONE ARMS ALUMINUM 15-FOOT	10.000 EACH	.		.	
4340	SPV.0060 SPECIAL 066. TRAFFIC SIGNAL HEADS 12-INCH, 1-SECTION VERTICAL	1.000 EACH	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
4350	SPV.0060 SPECIAL 067. TRAFFIC SIGNAL HEADS 12-INCH, 3-SECTION VERTICAL	73.000 EACH	.		.	
4360	SPV.0060 SPECIAL 068. TRAFFIC SIGNAL HEADS 12-INCH, 5-SECTION VERTICAL	4.000 EACH	.		.	
4370	SPV.0060 SPECIAL 069. TRAFFIC SIGNAL HEADS 12-INCH, PEDESTRIAN	33.000 EACH	.		.	
4380	SPV.0060 SPECIAL 070. TRAFFIC SIGNAL HEADS 12-INCH, PEDESTRIAN COUNTDOWN	33.000 EACH	.		.	
4390	SPV.0060 SPECIAL 071. BACKPLATES SIGNAL FACE 1-SECTION 12-INCH	1.000 EACH	.		.	
4400	SPV.0060 SPECIAL 072. BACKPLATES SIGNAL FACE 3-SECTION 12-INCH	68.000 EACH	.		.	
4410	SPV.0060 SPECIAL 073. BACKPLATES SIGNAL FACE 5-SECTION 12-INCH	4.000 EACH	.		.	
4420	SPV.0060 SPECIAL 074. PERMANENT GRASS, CRESTED OVAL SEDGE	60.000 EACH	.		.	
4430	SPV.0060 SPECIAL 075. PERMANENT GRASS, BOTTLEBRUSH SEDGE	120.000 EACH	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
4440	SPV.0060 SPECIAL 076. PERMANENT GRASS, FOX SEDGE	360.000 EACH	.		.	
4450	SPV.0060 SPECIAL 077. PERMANENT GRASS, VIRGINIA WILD RYE	720.000 EACH	.		.	
4460	SPV.0060 SPECIAL 078. PERMANENT GRASS, FOWL MANNA GRASS	74.000 EACH	.		.	
4470	SPV.0060 SPECIAL 079. PERMANENT GRASS, COMMON RUSH	60.000 EACH	.		.	
4480	SPV.0060 SPECIAL 080. PERMANENT GRASS, TORREY'S RUSH	16.000 EACH	.		.	
4490	SPV.0060 SPECIAL 081. PERMANENT GRASS, RICE CUT GRASS	60.000 EACH	.		.	
4500	SPV.0060 SPECIAL 082. PERMANENT GRASS, SWITCH GRASS	475.000 EACH	.		.	
4510	SPV.0060 SPECIAL 083. PERMANENT GRASS, DARK GREEN RUSH	60.000 EACH	.		.	
4520	SPV.0060 SPECIAL 084. PERMANENT GRASS, WOOL GRASS	30.000 EACH	.		.	
4530	SPV.0060 SPECIAL 085. PERMANENT GRASS, RIVER RUSH	16.000 EACH	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
4540	SPV.0060 SPECIAL 086. PERMANENT GRASS, GREAT BULRUSH	360.000 EACH	.		.	
4550	SPV.0060 SPECIAL 087. FORB, COMMON WATER PLANTAIN	100.000 EACH	.		.	
4560	SPV.0060 SPECIAL 088. FORB, SWAMP MILKWEED	86.000 EACH	.		.	
4570	SPV.0060 SPECIAL 089. FORB, WHITE FALSE INDIGO	86.000 EACH	.		.	
4580	SPV.0060 SPECIAL 090. FORB, NORTHERN BLUE FIG IRIS	114.000 EACH	.		.	
4590	SPV.0060 SPECIAL 091. FORB, SNEEZEWEED	114.000 EACH	.		.	
4600	SPV.0060 SPECIAL 092. FORB, COMMON WATER HOREHOUND	14.000 EACH	.		.	
4610	SPV.0060 SPECIAL 093. FORB, MONKEY FLOWER	56.000 EACH	.		.	
4620	SPV.0060 SPECIAL 094. FORB, DITCH STONECROP	28.000 EACH	.		.	
4630	SPV.0060 SPECIAL 095. FORB, PINKWEED	230.000 EACH	.		.	

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CONTRACT:
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WISC 2013213
N/A
N/A

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
4640	SPV.0060 SPECIAL 096. FORB, SWEET BLACK EYED SUSAN	120.000 EACH	.		.	
4650	SPV.0060 SPECIAL 097. FORB, COMMON ARROWHEAD	60.000 EACH	.		.	
4660	SPV.0060 SPECIAL 098. FORB, WILD SENNA	60.000 EACH	.		.	
4670	SPV.0060 SPECIAL 099. FORB, PURPLE MEADOW RUE	114.000 EACH	.		.	
4680	SPV.0060 SPECIAL 100. PIPE SUPPORTS	2.000 EACH	.		.	
4690	SPV.0060 SPECIAL 101. PIPE PLUG	4.000 EACH	.		.	
4700	SPV.0060 SPECIAL 102. POLE 30-FOOT 7 GAUGE	2.000 EACH	.		.	
4710	SPV.0060 SPECIAL 103. SOIL NAIL VERIFICATION TESTS R-13-213	2.000 EACH	.		.	
4720	SPV.0060 SPECIAL 104. SOIL NAIL PROOF TESTS R-13-213	10.000 EACH	.		.	
4730	SPV.0060 SPECIAL 105. RESET EXISTING PROPERTY CORNER	26.000 EACH	.		.	

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
4740	SPV.0060 SPECIAL 106. LANDMARK REFERENCE MONUMENTS SPECIAL	2.000 EACH	.		.	
4750	SPV.0060 SPECIAL 107. INLETS 2X3-FT SPECIAL	4.000 EACH	.		.	
4760	SPV.0060 SPECIAL 108. TRAFFIC SIGNAL TROMBONE ARMS ALUMINUM 18-FOOT	2.000 EACH	.		.	
4770	SPV.0060 SPECIAL 109. POLE 35-FOOT 11 GAUGE	2.000 EACH	.		.	
4780	SPV.0060 SPECIAL 110. CONCRETE BASES TYPE LB-8 MODIFIED	2.000 EACH	.		.	
4790	SPV.0085 SPECIAL 01. WET-MESIC SEED MIX	5.000 LB	.		.	
4800	SPV.0090 SPECIAL 01. SELECT FILL FOR SANITARY SEWER	1,109.000 LF	.		.	
4810	SPV.0090 SPECIAL 02. SANITARY SEWER PIPE PVC 8-INCH SDR 26	721.000 LF	.		.	
4820	SPV.0090 SPECIAL 05. SANITARY SEWER PRESSURE PIPE PVC 15-INCH C900	388.000 LF	.		.	
4830	SPV.0090 SPECIAL 06. UTILITY TRENCH PATCH TYPE III	562.000 LF	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
4840	SPV.0090 SPECIAL 07. FURNISH AND INSTALL 6-INCH PIPE & FITTINGS	187.000 LF	.		.	
4850	SPV.0090 SPECIAL 08. FURNISH AND INSTALL 8-INCH PIPE & FITTINGS	281.000 LF	.		.	
4860	SPV.0090 SPECIAL 09. FURNISH AND INSTALL 10-INCH PIPE & FITTINGS	78.000 LF	.		.	
4870	SPV.0090 SPECIAL 10. FURNISH AND INSTALL 12-INCH PIPE & FITTINGS	5,982.000 LF	.		.	
4880	SPV.0090 SPECIAL 11. FURNISH AND INSTALL 16-INCH PIPE & FITTINGS	276.000 LF	.		.	
4890	SPV.0090 SPECIAL 12. SELECT FILL - SAND FOR WATER MAIN AND LATERALS	6,804.000 LF	.		.	
4900	SPV.0090 SPECIAL 13. FURNISH AND INSTALL FOAM BOARD INSULATION	320.000 LF	.		.	
4910	SPV.0090 SPECIAL 14. REPLACE COPPER SERVICE LATERAL 1-INCH	50.000 LF	.		.	
4920	SPV.0090 SPECIAL 15. CONCRETE CURB AND GUTTER 24-INCH TYPE A SPECIAL	113.000 LF	.		.	
4930	SPV.0090 SPECIAL 16. CONCRETE CURB AND GUTTER 24-INCH TYPE D SPECIAL	16,081.000 LF	.		.	

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
4940	SPV.0090 SPECIAL 17. SIGN POST	154.000 LF	.		.	
4950	SPV.0090 SPECIAL 18. REFLECTIVE SIGN POST	1,232.000 LF	.		.	
4960	SPV.0090 SPECIAL 19. ELECTRICAL WIRE LIGHTING, 14-3 GROUNDED	4,650.000 LF	.		.	
4970	SPV.0090 SPECIAL 20. 60" STORM SEWER PIPELINE INSTALLATION	394.000 LF	.		.	
4980	SPV.0090 SPECIAL 21. LOOP DETECTOR LEAD-IN CABLE SPECIAL	12,300.000 LF	.		.	
4990	SPV.0105 SPECIAL 01. CONSTRUCTION STAKING WATER MAIN PROJECT 5992-08-88	LUMP	LUMP		.	
5000	SPV.0105 SPECIAL 02. CONSTRUCTION STAKING SANITARY SEWER PROJECT 5992-08-89	LUMP	LUMP		.	
5010	SPV.0105 SPECIAL 03. HEAVY WASTEWATER CONTROL	LUMP	LUMP		.	
5020	SPV.0105 SPECIAL 04.01. PARAPET CONCRETE TYPE TX B-13-655	LUMP	LUMP		.	
5030	SPV.0105 SPECIAL 04.02. PARAPET CONCRETE TYPE TX C-13-2054	LUMP	LUMP		.	

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CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
5040	SPV.0105 SPECIAL 04.03. PARAPET CONCRETE TYPE TX R-13-209	LUMP	LUMP			.
5050	SPV.0105 SPECIAL 04.04. PARAPET CONCRETE TYPE TX R-13-210	LUMP	LUMP			.
5060	SPV.0105 SPECIAL 04.05. PARAPET CONCRETE TYPE TX R-13-211	LUMP	LUMP			.
5070	SPV.0105 SPECIAL 04.06. PARAPET CONCRETE TYPE TX R-13-214	LUMP	LUMP			.
5080	SPV.0105 SPECIAL 04.07. PARAPET CONCRETE TYPE TX R-13-215	LUMP	LUMP			.
5090	SPV.0105 SPECIAL 04.08. PARAPET CONCRETE TYPE TX R-13-216	LUMP	LUMP			.
5100	SPV.0105 SPECIAL 04.09. PARAPET CONCRETE TYPE TX R-13-217	LUMP	LUMP			.
5110	SPV.0105 SPECIAL 04.10. PARAPET CONCRETE TYPE TX R-13-218	LUMP	LUMP			.
5120	SPV.0105 SPECIAL 06. ABANDONING WATER MAIN	LUMP	LUMP			.
5130	SPV.0105 SPECIAL 07. TEMPORARY TRAFFIC SIGNALS (MINERAL POINT ROAD-CTH S & JUNCTION ROAD)	LUMP	LUMP			.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
5140	SPV.0105 SPECIAL 08. TEMPORARY TRAFFIC SIGNALS (SOUTH JUNCTION ROAD - CTH M & WATTS ROAD)	LUMP	LUMP			.
5150	SPV.0105 SPECIAL 09. TEMPORARY TRAFFIC SIGNALS (MINERAL POINT ROAD-CTH S & JUG HANDLE)	LUMP	LUMP			.
5160	SPV.0105 SPECIAL 11. TEMPORARY CROSSWALK ACCESS (MINERAL POINT ROAD-CTH S & JUNCTION ROAD)	LUMP	LUMP			.
5170	SPV.0105 SPECIAL 12. TEMPORARY CROSSWALK ACCESS (SOUTH JUNCTION ROAD-CTH M & WATTS ROAD)	LUMP	LUMP			.
5180	SPV.0105 SPECIAL 13. TEMPORARY CROSSWALK ACCESS (MINERAL POINT ROAD-CTH S & JUG HANDLE)	LUMP	LUMP			.
5190	SPV.0105 SPECIAL 14. TEMPORARY VEHICLE DETECTION (MINERAL POINT ROAD-CTH S & JUNCTION ROAD)	LUMP	LUMP			.
5200	SPV.0105 SPECIAL 15. TEMPORARY VEHICLE DETECTION (SOUTH JUNCTION ROAD-CTH M & WATTS ROAD)	LUMP	LUMP			.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
5210	SPV.0105 SPECIAL 16. TEMPORARY VEHICLE DETECTION (MINERAL POINT ROAD-CTH S & JUG HANDLE)	LUMP	LUMP			.
5220	SPV.0105 SPECIAL 18. BIO-SWALE	LUMP	LUMP			.
5230	SPV.0105 SPECIAL 19. RAILING STEEL TYPE 1 GALVANIZED B-13-655	LUMP	LUMP			.
5240	SPV.0105 SPECIAL 20. RAILING STEEL TYPE 1 GALVANIZED R-13-210	LUMP	LUMP			.
5250	SPV.0105 SPECIAL 21. RAILING STEEL TYPE 1 GALVANIZED R-13-211	LUMP	LUMP			.
5260	SPV.0105 SPECIAL 22. RAILING STEEL TYPE 1 GALVANIZED R-13-217	LUMP	LUMP			.
5270	SPV.0105 SPECIAL 23. RAILING STEEL TYPE 1 GALVANIZED R-13-218	LUMP	LUMP			.
5280	SPV.0105 SPECIAL 24. RAILING STEEL TYPE 2 GALVANIZED B-13-656	LUMP	LUMP			.
5290	SPV.0105 SPECIAL 25. RAILING STEEL TYPE 2 GALVANIZED B-13-657	LUMP	LUMP			.
5300	SPV.0105 SPECIAL 26. RAILING STEEL TYPE 2 GALVANIZED R-13-208	LUMP	LUMP			.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
5310	SPV.0105 SPECIAL 27. RAILING STEEL TYPE 2 GALVANIZED R-13-212	LUMP	LUMP			.
5320	SPV.0105 SPECIAL 28. RAILING STEEL TYPE 2 GALVANIZED R-13-219	LUMP	LUMP			.
5330	SPV.0105 SPECIAL 29. RAILING STEEL TYPE 2 GALVANIZED WALL #1	LUMP	LUMP			.
5340	SPV.0105 SPECIAL 30. CONSTRUCTION SITE MAINTENANCE-MOWING	LUMP	LUMP			.
5350	SPV.0105 SPECIAL 31. OPTICAL SIGNAL PREEMPT	LUMP	LUMP			.
5360	SPV.0105 SPECIAL 32. CONSTRUCTION STAKING DETENTION POND	LUMP	LUMP			.
5370	SPV.0105 SPECIAL 33. CONSTRUCTION STAKING BIO-SWALE	LUMP	LUMP			.
5380	SPV.0105 SPECIAL 34. CONSTRUCTION STAKING SIDEWALK	LUMP	LUMP			.
5390	SPV.0165 SPECIAL 01. ARCHITECTURAL CONCRETE PAVEMENT 5-INCH	731.000 SF		.		.
5400	SPV.0165 SPECIAL 02. CONCRETE STAINING B-13-655	5,140.000 SF		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
5410	SPV.0165 SPECIAL 03. CONCRETE STAINING B-13-656	1,756.000 SF	.		.	
5420	SPV.0165 SPECIAL 04. CONCRETE STAINING B-13-657	572.000 SF	.		.	
5430	SPV.0165 SPECIAL 05. CONCRETE STAINING C-13-2054	796.000 SF	.		.	
5440	SPV.0165 SPECIAL 07. CONCRETE STAINING R-13-209	6,200.000 SF	.		.	
5450	SPV.0165 SPECIAL 08. CONCRETE STAINING R-13-210	1,571.000 SF	.		.	
5460	SPV.0165 SPECIAL 09. CONCRETE STAINING R-13-211	2,670.000 SF	.		.	
5470	SPV.0165 SPECIAL 10. CONCRETE STAINING R-13-214	3,110.000 SF	.		.	
5480	SPV.0165 SPECIAL 11. CONCRETE STAINING R-13-215	1,700.000 SF	.		.	
5490	SPV.0165 SPECIAL 12. CONCRETE STAINING R-13-216	2,250.000 SF	.		.	
5500	SPV.0165 SPECIAL 13. CONCRETE STAINING R-13-217	1,553.000 SF	.		.	

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
5510	SPV.0165 SPECIAL 14. CONCRETE STAINING R-13-218	1,700.000 SF	.		.	
5520	SPV.0165 SPECIAL 15. CONCRETE STAINING R-13-208	300.000 SF	.		.	
5530	SPV.0165 SPECIAL 16. CONCRETE STAINING R-13-212	1,431.000 SF	.		.	
5540	SPV.0165 SPECIAL 17. CONCRETE STAINING R-13-213	955.000 SF	.		.	
5550	SPV.0165 SPECIAL 18. CONCRETE STAINING R-13-219	395.000 SF	.		.	
5560	SPV.0165 SPECIAL 19. SOIL NAIL RETAINING WALL R-13-213	1,560.000 SF	.		.	
5570	SPV.0170 SPECIAL 01. TEST ROLLING	207.000 STA	.		.	
5580	SPV.0195 SPECIAL 01. BACKFILL GRANULAR SPECIAL	182,064.000 TON	.		.	
	SECTION 0001 TOTAL				.	
	TOTAL BID				.	

PLEASE ATTACH SCHEDULE OF ITEMS HERE