HIGHWAY WORK PROPOSAL

Proposal Number: 1 3

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

COUNTY	STATE PROJECT ID	FEDERAL PROJECT ID	PROJECT DESCRIPTION	HIGHWAY
Milwaukee	2025-11-71		West Capitol Drive, City of Milwaukee North Mayfair Road to North 84th Street	STH 190
Milwaukee	2025-16-70		West Capitol Drive, City of Milwaukee Bridge over Menomonee River	STH 190

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

Proposal Guaranty Required, $ 100,000.00 Payable to: Wisconsin Department of Transportation	Attach Proposal Guaranty on back of this PAGE.
Bid Submittal Due Date: March 12, 2013 Time (Local Time): 9:00 AM	Firm Name, Address, City, State, Zip Code **SAMPLE** **NOT FOR BIDDING PURPOSES**
Contract Completion Time October 31, 2013	
Assigned Disadvantaged Business Enterprise Goal 0%	This contract is exempt from federal oversight.

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

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

Subscribed and sworn to before me this date _____

(Signature, Notary Public, State of Wisconsin)

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

(Date Commission Expires)

Notary Seal

(Bidder Signature)

(Print or Type Bidder Name)

(Bidder Title)

For Department Use Only

Type of Work Pavement removal, grading, concrete pavement, storm sewer, concrete curb and gutter, sidewalk, driveway approaches, pavement marking, traffic control, communication system conduit, removal and replacement of bridge, retaining walls, and landscaping.	
Notice of Award Dated	Date Guaranty Returned

PLEASE ATTACH
PROPOSAL GUARANTY HERE

Effective with November 2007 Letting

PROPOSAL REQUIREMENTS AND CONDITIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

Effective with August 2007 Letting

BID PREPARATION

Preparing the Proposal Schedule of Items

A General

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

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

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

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

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

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

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

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

B Submitting Electronic Bids

B.1 On the Internet

(1) Do the following before submitting the bid:

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

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

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

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

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

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

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

Bidder Name

BN00

Proposals: 1, 12, 14, & 22

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

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

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

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

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

C Waiver of Electronic Submittal

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

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

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

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

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

PROPOSAL BID BOND

Wisconsin Department of Transportation

DT1303 1/2006

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

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

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

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

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

PRINCIPAL

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

(Signature and Title)

(Company Name)

(Signature and Title)

(Company Name)

(Signature and Title)

(Company Name)

(Signature and Title)

NOTARY FOR PRINCIPAL

(Date)

State of Wisconsin)
) ss.
_____ County)

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

(Signature, Notary Public, State of Wisconsin)

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

(Date Commission Expires)

Notary Seal

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

(Signature of Attorney-in-Fact)

NOTARY FOR SURETY

(Date)

State of Wisconsin)
) ss.
_____ County)

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

(Signature, Notary Public, State of Wisconsin)

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

(Date Commission Expires)

Notary Seal

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

CERTIFICATE OF ANNUAL BID BOND

Wisconsin Department of Transportation

DT1305 8/2003

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

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

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

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

(Signature of Authorized Contractor Representative) (Date)

FEBRUARY 1999

LIST OF SUBCONTRACTORS

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

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

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

DECEMBER 2000

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

Instructions for Certification

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Special Provisions

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SPECIAL PROVISIONS

1. General.

Perform the work under this construction contract for Projects 2025-11-71 and 2025-16-70, West Capitol Drive (STH 190), from North Mayfair Road to North 84th Street and bridge over Menomonee River, located in the City of Milwaukee, Milwaukee County, Wisconsin as the plans show and execute the work as specified in the State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction, 2013 Edition, as published by the department, and these special provisions.

If all or a portion of the plans and special provisions are developed in the SI metric system and the schedule of prices is developed in the US standard measure system, the department will pay for the work as bid in the US standard system.
100-005 (20120615)

2. Scope of Work.

The work under this contract shall consist of pavement removal, grading, concrete pavement, concrete curb and gutter, sidewalk, driveway approaches, pavement marking, landscaping removal of B-40-059, construction of Structure B-40-759, construction of retaining wall Structure R-40-478, and Structure R-40-479, 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. Prosecution and Progress.

Begin work within 10 calendar days after the engineer issues a written notice to do so.

Provide the time frame for construction of the project within the 2013 construction season to the engineer in writing within a month after executing the contract but at least 14 calendar days before the preconstruction meeting. Assure that the time frame is consistent with the contract completion time. Include proposed methods of handling traffic including drawings indicating traffic signs and markings to be used. Submit revisions in traffic handling to the engineer for approval at least 48 hours in advance of making any changes in traffic operations. Upon approval, the engineer will issue the notice to proceed within 10 calendar days before the beginning of the approved time frame.

To revise the time frame, submit a written request to the engineer at least two weeks before the beginning of the intended time frame. 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.

Give a written notice to the engineer seven days prior to the start of work.

Amend standard spec 108.9.2 by adding the following paragraphs:

Coordinate work in accordance to standard spec 105.5.2.

Once work has started on the contract, work continually until the contract work is complete. The contract will not be considered complete until all items on the contract are completed, including sodding and roadway finishing. If the contractor desires to work on Saturday, Sunday, or nationally recognized legal holidays, he must obtain approval from the engineer at least 24 hours in advance. If scheduling changes after approval has been obtained, notify the engineer as soon as possible, but not later than 3:00 PM of the prior day.

No extra cost will be allowed for "cold weather protection" as addressed in standard spec 415.3.13.

Except where noted, keep all intersections accessible at all times, except during placing of concrete pavement and curing operations. Include any costs associated with staging operations at intersections that are to remain accessible at all times in the unit bid price for Concrete Pavement, 8.5-Inch. Staging concrete paving operations in intersections will not be considered a pavement gap.

Maintain or provide pedestrian access to adjacent properties, businesses, and at bus stops where necessary, as directed by the engineer. Provide adequate temporary sidewalk and bridging between the curb and right-of-way line over freshly paved concrete and other obstructions on the sidewalk area at the entrances to buildings or as directed by the engineer. The cost of bridging shall be included in the unit bid price for Concrete Sidewalk, 5-Inch.

During construction operations, ramp sawed joints at intersecting streets with asphaltic surface material between the existing pavement surface and the adjacent milled surface, as directed by the engineer, to permit the safe passing of vehicles. The cost of the materials, labor, and equipment necessary to install such ramps is to be paid under bid item 465.0105, Asphaltic Surface.

Inform the property owners at least 48 hours prior to removing a driveway approach that serves that property. Schedule sidewalk and driveway approach removal and replacement so that the time lapse between the removal and the replacement is minimal.

Driveways on side-streets that are being used as an alternate access while main driveways are not accessible must be poured in halves or with HES concrete in order to have minimal disruption to business operations during construction. The contractor may make other arrangements with individual businesses, agreed to in writing and signed by the contractor and the business, and approved by the engineer.

Lay out all doweled transverse joints in this project, including intersections. Ensure that the engineer approves joint layout before paving. Joint spacing must not exceed 15 feet, as shown on the standard detail drawing. Place joints at end-of-radii, center line and flange line extended, all zero face driveway openings for depressed driveways and, when feasible, at all manholes, catch basins or inlets, and water valve boxes. Include the cost of all jointing in the unit bid price for Concrete Pavement, 8½-Inch.

Supplement standard spec 108.7 with the following:

When performing the roadway cleaning operation, use equipment having vacuum or water-spray mechanisms to eliminate the dispersion of dust. If vacuum equipment is employed, it must have suitable, self-contained particulate collectors to prevent discharge from collection bin into the atmosphere.

Special attention should be given to protect State threatened Forked Aster furcatus (Plant), State special concern plant and sate threatened Butler's garter snake which has been observed in the project area.

Do not place equipment or material for storage in grassy or naturally vegetated areas outside the shoulders of the road without approval from DNR.

The wetlands existing near the construction area shall be avoided and protected against erosion and sedimentation during construction phase of the project.

Do not place any fills in waterways or wetlands for work pads.

Maintain an unobstructed passageway through the construction area at Grantosa Creek at all times to allow for continuous fish movement. This waterway is not considered navigable.

If erosion mat is used along stream banks, it shall be biodegradable and non-netted, or if netted, constructed more loosely so that small animals are able to work their way through. Use Class II Type B Erosion Control Material.

Fertilizer (liquid or granular) shall not be used to re-vegetated areas that are adjacent to wetlands or waterways.

Migratory Birds
Swallow and other migratory birds' nests have been observed on or under the existing bridge. Federal laws protect international migratory birds such as seagulls, swallows, and

terns. It is a violation of the Federal Migratory Bird Treaty Act to destroy nests that contain eggs of fledgling young during the nesting season (May 1 to August 30). If structural demolition has not started by March 15, the department recommends that the building roof and exterior be checked twice daily and empty nests be removed. Do not disturb nests if eggs or fledgling young are present. Please contact Brian Nelson, United States Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services at (920) 324-4514 if eggs or fledgling young are present and conflict with the demolition project. As a last resort, prevent birds from nesting by installing a suitable netting device on the remaining structure prior to nesting activity. Include the cost for preventing nesting in the cost of Removing Old Structure Over Waterway With Minimal Debris.

Driveway Construction/Access

Construction activities shall be staged in order to maintain through vehicular access on West Capitol Drive in accordance to the traffic control plans. The staging of work activities shall provide driveway access to local businesses at all times as specified below. In order to provide continuous access to the businesses, pavement gaps or adequate bridging to support businesses' vehicles shall be used. The access areas shall have ample width and length to accommodate turns from the businesses' vehicles. Any cost for bridging over median curb shall be included in the cost of the pavement gap. Temporary vehicle access to the businesses may be provided with base aggregate as directed by the engineer. Include the cost for the base aggregate in the unit bid price for Base Aggregate Dense 1¼-inch. The pavement, curb and driveways at the pavement gaps listed below shall be constructed as soon as cure time allows vehicular access of the paved portions adjacent to the gaps. Staging for driveway access shall include, but is not limited to the following three methods:

- HES – removing and replacing with high early strength concrete for the driveway, curb and/or pavement on Friday and open to vehicular traffic on Monday.

- Gap – constructing driveways, curb and pavement on one-half of the opening at a time.

- Alternating (1 gap) – keeping one driveway in place while the other is being constructed.

The Following Driveways
To Remain Open At All Times
Driveway/Construction Access

METHODS

A – HES
B – GAP ½
C – ALTERNATING GAP

Address	GAP Location (Station)	Method of Construction
10745 W. Capitol Dr.	3+00 to 3+25	ANY
10700 W. Capitol Dr.	5+55 to 5+75	C-westerly driveway is preferred for use
Alley E. of Grantosa Dr.	17+25 to 17+50	B
10000 W. Capitol Dr.	150’ to 170’ LT on N. 100th St.	B-driveway on N. 100th St.
9922 W. Capitol Dr.	29+05 to 29+40 through median	B-north driveway on N. 100th St. and east driveway on W. Capitol Dr.
9921 W. Capitol Dr.	31+17 to 31+37	A-east driveway on Capitol and west driveway on Lisbon
9900 W. Capitol Dr.	31+20 to 31+40	C
Alley east of N. 96th St.	44+04 to 44+24	B
9208	52+60 to 52+80	B-west driveway
9201-15	52+70 to 52+90	C-driveways on N. 92nd St. and W. Capitol
Alley to Service Rd.	69+50 to 69+61	A or B maintain access into service road and W. Capitol at all times.
10051 W. Lisbon Ave.	1+60L to 1+80L	ANY-extend GAP to W. Capitol Dr.
10001 W. Lisbon Ave.		No GAP
10031/10051 W. Lisbon Ave.	2+65L to 2+85L	C-maintain access to common driveway

If the contractor can make other access arrangements, agreed to in writing and signed by the contractor and the property owner, other sequencing will be allowed when approved by the construction engineer.

4. Traffic.

Undertake traffic control for Projects 2025-11-71 and 2025-16-70 in accordance to the traffic control plans.

In order to maintain access to the area during construction, stage construction for this project as follows:

City of Milwaukee DPW will repair potholes on entire south half of West Capitol Drive roadway and all intersections within the project limits prior to start of construction. Contractor to maintain during Stage 1. Pay as bid item Asphalt Surface Patching. This work will be completed prior to the setup of Stage 1 traffic control. Temporary traffic signals at all signalized intersections must be set up and ready for operation prior to setup of Stage 1 traffic control.

Stage 1
This stage consists of removals and work on the westbound lanes of West Capitol Drive (STH 190) from North Mayfair Road to North 84th Street. It also includes construction of the northerly half of Structure B-40-759 and all of Structure R-40-479. Traffic will continue to operate on the south side of the roadway. Provide two 12-foot minimum lanes of through traffic one in each direction.

Stage 2
Stage 2 may not begin until all work on Stage 1 and construction of the north half of the bridge is complete. This stage consists of removals and work on the eastbound lanes of West Capitol Drive (STH 190) from North Mayfair Road to North 84th Street and construction of the southerly half of Structure B-40-759 and all of Structure R-40-479. Traffic will operate on the newly constructed north side of the roadway with two 12-foot minimum lanes of through traffic, one in each direction.

Access to all properties which do not have alternative access via alley or side street will be restricted at times, except for emergency vehicles.

In order to provide vehicular access to businesses on West Capitol Drive, keep the following intersections open to vehicular traffic at all times in accord with the traffic control plans during construction operations of West Capitol Drive:

- North 102nd Street (Stage 2)
- North 96th Street (Stage 2)
- North 90th Street (Stage 1)
- North 88th Street (Stage 2)
- North 85th Street (Stage 2)

Construct W. Lisbon Court in two stages; north side, then south side.

Include any costs associated with staging operations at intersections that are to remain accessible, in accordance to the traffic control plan or these special provisions, in the unit bid price for Concrete Pavement, 8½-inch. Staging concrete paving operations in intersections will not be considered a pavement gap.

All posting of parking restrictions required to facilitate construction operations will be provided by the City of Milwaukee's Infrastructure Services Division, only as directed by the engineer. Contact Ms. Geraldine Schmidt at (414) 286-3632, three working days prior to the start of construction operations.

Maintain adequate turning provisions for vehicles, including buses and trucks, at the intersections that are to remain open to traffic as indicated in the traffic control plan during the construction operation, as indicated by the engineer.

5. Holiday Work Restrictions.

Do not perform work on, nor haul materials of any kind along or across any portion of the highway carrying West Capitol Drive (STH 190) 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 3:00 PM Wednesday, July 3, 2013 to 6:00 AM, Friday, July 5, 2013 for Independence Day;
- From noon Friday, August 30, 2013 to 6:00 AM Tuesday, September 3, 2013 for Labor Day.

107-005 (20050502)

6. Work Done by Others.

All electrical work for wiring and installing the fixtures on the east abutment will be done by City of Milwaukee crews. The contractor is responsible for supplying and installing all conduit and junction boxes as detailed in other special provisions.

7. Utilities.

This contract does not come under the provision of Administrative Rule Trans 220.
107-065 (20080501)

The City of Milwaukee has notified the department that the following operations necessary for the construction of new facilities and/or adjustment of existing facilities will be coordinated with the contractor's construction operations by each representative utility unless otherwise noted. Coordinate construction activities with a call to Digger's Hotline or a direct call to the utilities that have facilities in the area as required by

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

The project contains numerous utility manholes located within the construction area. The utility companies have been advised of the requirement to coordinate adjusting their manhole covers, in conjunction with the contractor's operations. Provide a minimum of 10 days advance notice to each manhole owner, before commencing construction operation over affected manholes. In addition, provide 10 days advance notice so utilities may set their covers to match final pavement elevations.

Note: Bidders are advised to contact each utility company listed in the plans prior to preparing their bid to obtain current information on the status of each utility company's work required in association with the project. Existing trees, street light poles, hydrants and utility poles are to remain in place during construction. Conduct an on-site visit prior to bidding to determine any special measures required for proper clearance between the trees, hydrants, poles, other utilities and any other physical structures and the paving equipment. All bidders shall be capable of providing zero clearance behind the curb to accommodate existing obstructions at no additional cost to the project. During paving operations keep all manholes accessible to utility companies for emergencies.

A City of Milwaukee

A.1 Water

Structure Work

A 12-inch water main is located under the proposed northeast retaining wall (R-40-478). The contractor will be responsible for the alteration of this water main prior to the installation of the retaining wall structure. See the water main alteration plan, special provisions, and standard specifications for project requirements.

Road Work

The City of Milwaukee has facilities located on the north side of West Capitol Drive from West Grantosa (east) to North 98th Street and from North 92nd Street to North 88th Street. They have facilities on both sides of West Capitol Drive from North 98th Street to North 92nd Street, and North 88th Street to North 84th Street. Water utility facilities will be modified as needed by Milwaukee Water Works forces in coordination with construction operations with exception of water service boxes, water gate valve boxes and water manholes which will be adjusted by the contractor, see bid items Adjusting Water Boxes and Adjusting Water Manholes.

Any questions related to these items shall be directed to Mr. Musa Abu-Khader, (414) 286-2432 (office) or (414) 708-2529.

A.2 Sanitary Sewer

Structure Work

The City of Milwaukee has sanitary sewer facilities located on the north side of West Capitol Drive from West Grantosa (east) to east of North 100th Street, and on both sides of West Capitol Drive from east of North 100th Street to North 84th Street. There will be

no sanitary sewer relay work within the project limits. Adjustment of sanitary manhole covers shall be done by contractor as part of this project.

Any questions related to these items shall be directed to Mr. Musa Abu-Khader, (414) 286-2432 (office) or (414) 708-2529.

A.3 Storm Sewer

Structure Work

There are three proposed City of Milwaukee storm sewers which will run through the proposed abutments on Structure B-40-759. An existing 12-inch storm sewer is located at the north end of the west abutment, a 36-inch sewer is located near the center of the west abutment, and a 21-inch storm sewer is located at the north end of the east abutment. For the 36-inch storm sewer at the west abutment a new manhole will be placed and the pipe will be relayed from the manhole to the outfall. Adjustment/construction of the manhole shall be done by the contractor. The 21-inch and 36-inch storm sewer will be replaced and the 12-inch storm sewer will be relayed. The contractor is to complete all work associated with the installation and relay of storm sewer pipe and manholes as detailed in the plans, special provisions, and standard specifications. Work on these storm sewers shall be done by the contractor. Refer to the City of Milwaukee Storm Sewer Plan for details and further special provisions. A standard D-size copy of these plans can be obtained by contacting Mr. Zafar Yousuf at (414) 286-2467.

All work shall be done in accordance to the Standard Specifications for Sewer and Water Construction in Wisconsin, 2003 edition.

Any questions related to these items shall be directed to Mr. Musa Abu-Khader, (414) 286-2432 (office) or (414) 708-2529.

Road Work

The City of Milwaukee has storm water facilities located in the median of West Capitol Drive from North Mayfair Road to the west side of the Grantosa bridge structure, on the north side of West Capitol Drive from west of the bridge structure to North 100th Street, and on both sides of West Capitol Drive from North 100th Street to North 84th Street. Adjustment/construction of the manholes shall be done by the contractor.

The contractor must maintain the service of all City of Milwaukee storm sewers during construction.

A.4 Underground Conduit and Communications (TES)

Structure Work

An abandoned City of Milwaukee communications conduit package is installed on the north half of the existing bridge. The four 3-inch conduits are to be removed as part of the bid item Removing Old Structure Over Waterway with Minimal Debris Station 13+38.55. No hazardous material is present in this conduit package.

Road Work

The City of Milwaukee's Underground Conduit and Communications Section have buried facilities running in the median between North 84th Street and North 100th Street. This conduit shall be moved to a new location north of the existing location. As part of this project all work shall be done by the contractor. Contact Mr. David Henke at (414) 286- 3248 three days prior to the start of construction. If Mr. Henke is not available, please contact the dispatch office at (414) 286-5944 or (414) 286-3686.

A.5 Forestry

All underground sprinkler systems located in the medians in West Capitol Drive have been disconnected from the water taps. New taps have been installed in the median island throughout the project. Caution should be used as not to disturb tap heads as they are tapped into city water mains. Damage to city property will be repaired by city forces, and the cost of repair or value cost will be billed to the contractor or credited against the contract at the option of the city. The landscape and irrigation specialist of the City of Milwaukee's Forestry Division, Mr. Andy Witczak, must be notified at (414) 708-3795 three working days prior to any work being done in the median in order to communicate all irrigation specifications.

A.6 Street Lighting

Structure Work

There are existing street lighting facilities within the project area. Before construction starts, city street lighting personnel will install overhead facilities along the South curb of the roadway. Once the north side of the structure is finished, city street lighting personnel will remove the over head from the south side of the bridge and reinstall it along the north curb of the roadway. City street lighting personnel will need ten working days to install the overhead on the south side of the structure. Likewise, ten working days are needed by the city street lighting crews to transfer the overhead facilities to the north curb. The contractor is to keep the street lighting field supervisors informed of the status of the project. The contractor is responsible for coordination of this work with city street lighting crews. The contractor shall contact Dennis Miller at (414) 708-4251 (cell) / (414) 286-5942 (office), George Berdine at (414) 708-4245 (cell) / (414) 286-5943 (office) or Thomas Hughes at (414) 708-3175 (cell) / (414) 708-3457 (office). If Mr. Miller, Mr. Berdine or Mr. Hughes is not available, then the contractor shall contact the dispatcher at (414) 286-5944 or (414) 286-3015 (after hours).

The contractor shall contact the city street lighting field operations as noted above, after the conduit is installed but before concrete is poured for inspection of the installation. There must be an expansion coupling installed where ever the conduit(s) exists the structure. All conduits in the upper deck are to be 2.5 inch schedule 40 PVC. Each conduit is to be extended beyond any walks into the grass areas. The end of the pipe is to be identified on the curb with an arrow embossed into the top of the curb. These conduits are to have a 3/8 inch nylon pull rope installed and they are also to be capped with a temporary cap. There will be a total of four conduits cast into the bridge, one in the south walk, one in the median and two in the north walk. One conduit will run straight through and be located near the curb while the other conduit will run further north and pass

through a junction as noted in the special provision “East Abutment Electrical Work.” and illustrated on the drawings.

In a like manner the contractor shall contact the City Street Lighting Department after the conduit and junction boxes are installed in the east abutment, but before the concrete is poured, for inspection of the installation. All conduits are to have a 3/8 inch pull rope installed in them. The contractor is responsible for supplying and installing conduit and junction boxes as detailed in the special provision for “East Abutment Electrical Work.” All electrical work for wiring and installing the fixtures on the east abutment will be done by City of Milwaukee crews.

Road Work

The City of Milwaukee’s Traffic Section has street lighting facilities, both above and underground, running throughout the project city limits. Street lighting personnel will install temporary overhead facilities and relocate permanent facilities, as needed, before roadway construction starts. During and after roadway construction, City of Milwaukee street lighting forces will install permanent lighting facilities.

Street lighting has an underground substation located approximately between Station 69+20 to Station 69+65 under the service roadway and island along the south half of West Capitol Drive. This substation will remain in service during construction and must be protected. The roadway over the top of the high voltage substation structure must be removed carefully and with caution.

Before any excavation or removals happen around or near underground substation, contact Mr. George Berdine at (414) 286-5943 (office), or (414) 708-4245 (cell); Mr. Dennis Miller at (414) 286-5942 (office), or (414) 708-4251 (cell); or Mr. Thomas Hughes at (414) 286-3457 (office), or (414) 708-3175 (cell). If Mr. Miller, Mr. Berdine, or Mr. Hughes is not available, then contact the electric services dispatcher at (414) 286-5944. There will be no equipment stored on top of structure. Contractor will be held responsible for any damages to the structure, including piercing the waterproof membrane.

During construction, street lighting will have energized facilities that will be using an existing duct package that is connected on the west side of the substation that runs to a TES manhole at (Station 69+0 and 62’ RT), from there the street lighting facilities will be entering the existing duct package that runs due North from the manhole to a wood pole that will be located in the center traffic island in West Capitol Drive where street lighting facilities will then go up in overhead.

Underground Conduit will be installing a new duct package that will require integration with the existing TES manhole at (Station 69+0 and 62’ RT) that has energized street lighting facilities. Contact Mr. Dennis Miller at (414) 286-5942 (office), or (414) 708-4251 (cell) to arrange for inspection and coordination of street lighting facilities in manhole prior to connecting new duct package. See Conduit Into Existing Manhole for additional information.

The contractor must keep the area behind the curb free from over pour and other debris. If city crews have to remove any over pour, debris or sharp backfill from behind the curb and dispose of it, in order to install street lighting facilities without damaging them, the contractor will be held responsible for this work.

If the contractor requests the relocation of any street lighting facilities, permanent or temporary for his convenience, he will be responsible for all costs incurred by street lighting personnel fulfilling his request.

Any questions regarding the design of the lighting system are to be directed to street lighting engineering. Contact Mr. Denis Kozelek at (414) 286-3252.

The engineer and/or contractor shall keep the street lighting construction supervisors informed of the status of the roadway construction. Contact Mr. George Berdine at (414) 286-5943 (office), (414) 708-4245 (cell); Mr. Dennis Miller at (414) 286-5942 (office), or (414) 708-4251 (cell); or Mr. Thomas Hughes at (414) 286-3457 office or (414) 708-3175. If Mr. Miller, Mr. Berdine, or Mr. Hughes is not available, then contact the electric services dispatcher at (414) 286-5944 or (414) 286-3015 after hours.

A.7 City of Milwaukee's Traffic Signals and Signs Section

The City of Milwaukee has facilities located within the limits of the project. Specified PVC conduits, vaults, signal bases, control cabinet bases, and mast arm structures are to be installed by the contractor as part of this project. Prior to construction, pole and signal standard relocations, and temporary traffic signal work will be completed by City of Milwaukee forces. In addition, city traffic and lighting forces will need 5-working days prior to removals during State 2 of traffic control to remove traffic signal facilities. Cable, signal hardware, and signs will be modified, upgraded, and replaced by City of Milwaukee forces in coordination with construction operations as part of a Local Force Account (LFA) contract that is related to the project.

Provide a 10-working day advance notice to Mr. Alphonso Nichols of the City of Milwaukee's Traffic Signal Field Operations at (414) 286-3687 (office) or (414) 708-5148 (mobile) to coordinate the installation of temporary and permanent traffic signal materials, as well as to address any city traffic signal concerns.

B. City of Wauwatosa

B.1 Storm Sewer

The City of Wauwatosa has a 12"-24" storm sewer which runs on the south side of West Capitol Drive from the east abutment of the bridge over Grantosa Creek to West Lisbon Avenue, and continuing on the south side of West Lisbon Avenue to North 100th Street. As part of this contract, the contractor will relay the entire storm sewer with an 18"-30" main as detailed in the Utilities and Drainage plans. The contractor must verify the location and elevation of the new storm sewer with the City of Wauwatosa and maintain service to this sewer during construction.

All work shall be done in accordance to the Standard Specifications for Sewer and Water Construction in Wisconsin, 2003 edition.

Any questions related to these items shall be directed to Mr. Mike Maki, (414) 479-8991.

B.2 Water

The City of Wauwatosa has a 12" water main located under the proposed retaining wall (R-40-479). The contractor will be responsible for reconstructing this water main prior to the installation of the retaining wall structure. See the plans, special provisions, and standard specifications for project requirements. Water service boxes, water gate valve boxes and water manholes will be adjusted by the contractor. See bid items Adjusting Water Boxes and Adjusting Water Manholes.

Any questions related to these items shall be directed to Mr. Mike Maki, (414) 479-8991.

C We Energies – Electric

Structure Work

Abandoned electrical conduit is attached to the underside of the existing bridge structure. The four-duct, 3-inch conduit is to be removed as part of the bid item Removing Old Structure Over Waterway Station with Minimal Debris 13+38.55.

Road Work

We Energies-Electric has underground facilities that cross West Capitol Drive at North 86th Street, North 92nd Street, North 100th Street, and east of North 107th Street. In addition, We Energies has a duct package in the north lanes of West Capitol Drive from North 94th to North 95th Streets. We Energies – Electric will perform all work required to adjust and protect its manholes within the project limits in conjunction with construction operations.

To coordinate this work, contact Mr. Leonard Wilson at (414) 588-6674, leonard.wilson@we-energies.com.

D We Energies – Gas

Structure Work

Two existing gas mains are present under the east bound lanes of the structure. Both the existing 22-inch gas main and 6-inch gas main will be cut off and abandoned in place during Stage 2 bridge work when the east bound lanes are closed. During Stage 1 of the project a new 24-inch gas pipe will be hung between girders 8-9 but not connected to the existing gas pipe outside the limits of the bridge structure. During Stage 2 this will be connected and the existing 22-inch pipe will be purged of any gas and abandoned. At this time the existing 6-inch gas main will be cut off and abandoned. WE Energies will require approximately 2-weeks for this work. The contractor will be responsible for removing the abandoned utility pipes. The removal is to be included as part of the bid item Removing Old Structure Over Waterway with Minimal Debris Station 13+38.55.

After the completion of Stage 2 work WE Energies will require an additional 5 working days to install the new 6-inch pipe between girders 1 and 2.

The contractor shall inform and coordinate with the WE Energies (Gas) contact person Tom Minesal, (414) 944-5755), at least three weeks in advance of the required work.

Road Work

We Energies—Gas has underground facilities throughout the project corridor on both the north and south sides of West Capitol Drive (STH 190), including a 24-inch high-pressure main located 10 feet south of center line of West Capitol Drive, entire length. We Energies – Gas underground facilities cross the project corridor at several locations. In addition, We Energies – Gas will complete any necessary valve and stop box adjustments during construction.

The Utility has plans to replace a portion of the gas main between North 93rd Street and North 98th Street and between North 100th Street and North Mayfair Road, on the north side of West Capitol Drive. This work is to be completed prior to roadway construction. To coordinate this work, contact Mr. Thomas Minesal, (414) 944-5755, thomas.minesal@we-energies.com.

E AT&T

Structure Work

Prior to the start of this project let date, AT&T will install 6-4" Ducts by boring under the Branch of the Menomonee River. The proposed location is 23' south of the north right-of-way line. The contractor must contact AT&T to verify location and depth of the facility prior to construction to avoid interference with abutment piling.

AT&T has existing Transite Duct lines which run between approximately Station 12+96 and Station 14+50. AT&T will remove the Duct under the existing bridge prior to the let date of this project. The contractor must coordinate the removal of the portion of the Duct which is buried outside the limits of the existing bridge with AT&T. AT&T Corporate EH&S will contract a separate approved hazardous abatement contractor and coordinate the handling, transporting and disposal of the transite, hazardous materials including those buried adjacent to the existing bridge. It is mandatory that the AT&T Corporate EH&S Manager, Debi Sirovina, (262) 970-8496, be contracted before starting any work on this project to review and coordinate the exposure/removal activities. Corporate EH&S must be contacted a minimum of 15 working days prior to the beginning of the work operations due to regulatory requirements, State permitting and coordination of contractor(s) work activities.

Road Work

The facility has a six-duct conduit package in West Capitol Drive (STH 190) 37.5 feet north of center along the entire project corridor. No alterations/modifications to these facilities are anticipated. In addition, AT&T owns 21 manholes within the project area. AT&T will perform all work required to adjust and protect its manholes and to relocate its poles. This work will be done in conjunction with construction.

Contact Mr. Kevin Anderson, (414) 536-2971, ka8421@att.com 14 days prior to construction to coordinate this work.

F MMSD has one manhole at Station 14 + 25 that will be reconstructed by the contractor in coordination with paving operations. Please contact Mr. Larry Anderson, (414) 225-2241 office or (414) 617-1429 cell at least three days prior to commencing manhole reconstruction. See the MIS Riser construction detail for more information.

G TW Telecom has underground fiber optic and coax cable crossing West Capitol Drive at North 96th Street. No work is scheduled within the project limits.

Contact Mr. John Cottrell, (414) 908-1011, with any questions regarding this facility.

H Wisconsin Department of Transportation – Signals
WisDOT owns and operates traffic signals at the intersection of North Mayfair Road (STH 100) and West Capitol Drive (STH 190). Temporary signals are included as part of this project. Permanent pull boxes, conduit, and loop detectors are included as part of this project. Permanent signals will remain in place; signal heads will be covered when temporary traffic signals are in operation.

Contact the WisDOT Signal Shop at (414) 750-2605 at least 10 days prior to placement of Stage 1 traffic control.

8. Municipality Acceptance of Water Main Construction.

Both the department and City of Milwaukee personnel will inspect construction of water main under this contract. However, testing and final acceptance of the water main construction will be by the City of Milwaukee.

9. Temporary Roadway Maintenance.

Contractor is responsible for any temporary roadway maintenance required in the open lanes of the existing roadway. Respond within 12 hours of any call for maintenance. Cost of work, such as repairing potholes during construction will be paid for under bid item 465.0105, Asphalt Surface.

10. Erosion Control.

Structure Work
Within seven calendar days after the commencement of work on the bridge superstructure, place all permanent erosion control devices, including riprap, erosion mat, ditch checks, seed, fertilizer, mulch, soil stabilizer, or any other item required by the contract or deemed necessary by the engineer. These devices shall be placed in the area under the bridge and on both sides of the roadway, from the waterway to a point 100 feet behind the back wall of the abutment. Within said limits, place these devices to a height equivalent to the calculated water elevation resulting from the storm that occurs on the

average of once every two years (Q2) as shown on the plans, and remove them after the permanent erosion control devices are in place unless directed otherwise by the engineer.

Road Work
Perform this work in accordance to the requirements of standard spec 107.20 and as hereinafter supplemented.

Take adequate precautions to install and maintain necessary erosion and sediment control during grading and construction operations at curbs and gutters, and at other locations determined by the engineer. Protect storm drain inlets and manholes, as determined by the engineer, with a filter fabric meeting accepted design criteria, standards, and specifications. Maintain all erosion control measures until such time that the engineer determines the measures are no longer necessary.

Submit the Erosion Control Implementation Plan (ECIP) a minimum of 14 days prior to the preconstruction meeting for approval by the department and concurrence by the Wisconsin Department of Natural Resources (DNR). Contractor will not be allowed to start until written approval has been received from the department.

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

The department has obtained a U.S. Army Corps of Engineers Section 404 Permit. Comply with the requirements of the permit in addition to the requirements of the special provisions. A copy of the permit is available from the City of Milwaukee by contacting Alak Roy, (414) 286-0451.

12. Notice to Contractor, Notification of demolition and/or Renovation No Asbestos Found.

James Gondek, License Number All-108099, inspected Structure B-40-0059 for asbestos on June 13, 2011. No regulated Asbestos Containing Material (RACM) was found on this structure. A copy of the inspection report is available from Mike Cape, (262) 548-5930.

In accordance with NR447 and DHS159, ensure that DNR or DHS received a completed Notification of Demolition and/or Renovation (DNR Form 4500-113 (R 4/11), or subsequent revision) via U.S. mail, hand-delivery, or using the online notification system at least 10 working days prior to beginning any construction or demolition. Pay all associated fees. Provide a copy of the completed 4500-113 form to Mike Cape, (262) 548-5930 and DOT BTS-ESS Attn: Hazardous Materials Specialist, PO Box 7965, Madison, WI. 53707-7965. In addition, comply with all local or municipal asbestos requirements.

Use the following information to complete WisDNR form 4500-113:

- Site Name: Structure B-40-0059, STH190 over Menomonee River
- Site Address: 0507N21E (section, town, range), C-Milwaukee, WI
- Ownership Information: City of Milwaukee, DPW, 841 North Broadway, Room 701, Milwaukee, WI. 53202
- Contact: Mohammad Hossain
- Phone: (262) 548-8783
- Age: 55 years old. This structure was constructed in 1958.
- Area: 5456 SF of deck

Insert the following paragraph in Section 6.g:

- If asbestos not previously identified is found or previously non-friable asbestos becomes crumbled, pulverized, or reduced to a powder, stop work immediately, notify the engineer, and the engineer will notify the department's Bureau of Technical Services at (608) 266-1476 for an emergency response in accordance to standard spec 107.24. Keep material wet until it is abated or until it is determined to be non-asbestos containing material.

107-125 (20120615)

13. Notice to Contractor - Survey.

The contractor will adhere to the provisions contained herein as it relates to the survey work necessary to stake out and construct all portions of this contract.

Perform all survey work required to stake out and construct the work under this contract, subject to the engineer's approval.

Digital design file information/existing surface data, including design surface DTMs and/or coordinate system GPS information will not be available for this project.

All survey work necessary to stake out and construct all portions of this project will be measured and paid for under the staking bid items designated in this contract.

14. 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 9:00 PM until the following 7:00 AM, unless prior written approval is obtained from the engineer.
107-001 (20060512)

15. Clearing and Grubbing.

Perform this work in accordance to the requirements of standard spec 201, except as hereinafter modified.

Modify standard spec 201.4.3 to read that the department will measure Clearing and Grubbing by the square yard acceptably completed within the designated limits. The horizontal area calculated will be based on the limitations as shown on the plans and follow the guidelines outlined in standard spec 201.3. The department will measure outside the right-of-way limits, inside the acquired easements. The department will include areas not only containing brush, shrubs, and vegetation, but shall also include areas containing trees and stumps of 3-inch diameter or greater.

16. Notice to Contractor – Emerald Ash Borer.

Clearing and Grubbing
This applies to projects in the emerald ash borer (EAB) quarantined zones to include the following counties:

Brown	Crawford	Fond du Lac	Kenosha
La Crosse	Milwaukee	Ozaukee	Racine
Sheboygan	Vernon	Washington	Waukesha

Supplement standard spec 151-1.3 with the following:

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

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

- Green ash (F. pennsylvanica) is found throughout the state, but is most common in southern Wisconsin. It may form pure stands or grow in association with black ash, red maple, swamp white oak, and elm. It grows as an associate in upland hardwood stands, but is most common in and around stream banks, floodplains, and swamps.
- Black ash (F. nigra) is distributed over the entire state but is most frequently found in northern Wisconsin. It is most common in swamps, but is also found in other wet forest types.
- Blue ash (F. quadrangulata) is a threatened species that is currently found only at a few sites in Waukesha County. The species is at the edge of its range in Wisconsin, but is common in states farther south. The species is not of commercial importance. Blue ash twigs are 4-sided.
- White ash (F. americana) tends to occur primarily in upland forests, often with sugar maple (Acer saccharum).

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

Note that blue ash twigs are 4-sided. All other Wisconsin ash trees have round stems.

Also, Mountain ash (Sorbus americana and S. decora) is not a true ash and is not susceptible to EAB infestation.

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

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

ATCP 21.17 Emerald ash borer; import controls and quarantine.

Importing or Moving Regulated Items from Infested Areas; Prohibition.

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

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

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

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

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

- The emerald ash borer, Agrilus planipennis Fairmaire in any living stage.
- Ash trees.
- Ash limbs, branches, and roots.
- Ash logs, slabs or untreated lumber with bark attached.
- Cut firewood of all non-coniferous species.
- Ash chips and ash bark fragments (both composted and uncomposted) larger than one inch in diameter.
- Any other item or substance that may be designated as a regulated item if a DATCP pest control official determines that it presents a risk of spreading emerald ash borer and notifies the person in possession of the item or substance that it is subject to the restrictions of the regulations.

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

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

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

With the written permission of the engineer, chipped material may be buried on site within the airport property as directed by the engineer in accordance to standard spec 201.3(14).

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

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

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

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

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

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

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

Burning is optional if in compliance with standard spec 201.3.

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

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

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

Anyone moving firewood or ash products from the state or these counties is subject to state and federal fines up to $1,000.00. All fines are the responsibility of the contractor.

Obtain updated quarantine information at the DNR Firewood Information Line at (800) 303-WOOD.

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

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

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

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

17. Tree and Planting Area Protection.

General
All cutting for the removal of sod and soil in order to establish a finished grade within 4 feet of existing trees must be done manually if necessary. No construction equipment, cars, trucks, and/or materials shall be parked or stored on any median or tree border on this project or adjacent roadways. Root foundations must remain adequate to withstand heavy windstorms. Root systems of street trees may not be cut for the installation of any type of cable by the contractor or city department. Contact the forestry division at (414) 286-2428 for directional boring specifications.

The contractor shall be responsible for excessive damage to the roots, trunks, and branches of all street trees. This responsibility may include the cost of any special treatment deemed necessary by the engineer to ensure survival of trees, or may include removal of trees at the contractor's cost.

Refrain from placing or storing any construction materials, sand, soil, or any other materials on the surface of the soil within the root zone of existing city street trees. Additionally, assure that no construction chemicals, tank rinsates, or petroleum products are deposited with the root zones of the trees. Root zone is defined as that area within the dripline of trees.

The contractor, prior to removal and/or replacement of sidewalk and/or curb and gutter, and driveways adjacent to all trees, shall review work operations with the engineer and/or Mr. Jim Kringer, forestry supervisor, (414) 708-2428.

The following 53 trees are to be removed by the contractor:

24" Ash tree at Station 11+40 N/S	27" Elm tree at Station 9+20 Median
22" Ash tree at Station 19+95 N/S	16" Locust at 15+74 Median
21" Locust at Station 4+25 S/S	14" Ash at Station 18+26 Median
27" Elm at Station 23+63 S/S	14" Ash at Station 18+46 Median
5" Maple at Station 26+25 S/S	22" Ash at Station 25+76 Median
5" Maple at Station 31+52 S/S	Pine tree at Station 26+00 Median
15" Maple at Station 37+38 S/S	Pine tree at Station 26+39 Median
19" Maple tree at Station 39+90 S/S	Pine tree at Station 26+73 Median
16" Locust at Station 6+87 Median	36" Ash tree at Station 29+86 Median
15" Ash tree at Station 30+50 Median	4" Ash tree at Station 31+09 Median
18" Elm tree at Station 31+94 Median	16" Elm tree at Station 34+89 Median
18" Ash tree at Station 37+35 Median	6" Ash tree at Station 39+92 Median
12" Ash tree at Station 41+59 Median	24" Ash tree at Station 43+28 Median
5" Oak tree at Station 46+80 Median	14" Locust tree at Station 48+98 Median
14" Locust tree at Station 51+72 Median	10" Pear tree at Station 56+58 Median
9" Flowering Crab tree at Station 57+05 Median	35" Elm tree at Station 57+47 Median
14" Locust tree at Station 58+77 Median	12" Locust tree at Station 60+32 Median
25" Elm tree at Station 60+76 Median	22" Ash tree at Station 63+75 Median

10” Locust tree at Station 70+47 Median	12” tree at Station 72+88 Median
15” Locust tree at Station 78+96 Median	3” Plum tree at Station 3L+80 Median
4” Plum tree at Station 4L+08 Median	5” Plum tree at Station 4L+28 Median
4” Flowering Crab tree at Station 6L+56 Median	4” Pear tree at Station 6L+69 Median
5” Linden tree at Station 6L+85 Median	5” Linden tree at Station 6L+85 Median
4” tree at Station 197+50 Median	24” Maple at Station 202+60E/S
3” Purple Leaf Plum at Station 202+62 Median	

Trees In County Parkway – Bike Pathway.

7” Oak tree at Station 12+87S/S	10” Black Walnut at Station 13+00S/S
4” Maple at Station 14+20N/S	4” Maple at Station 14+34N/S

Ash trees that are removed must be disposed of following current Department of Natural Resources regulations for disposal of Ash trees.

Cover exposed tree roots with mulch and water from a period immediately following curb and gutter removal, until the area is backfilled following construction.

The contractor shall place 23 new trees as directed by the City of Milwaukee Forestry Division in accordance to the landscaping plans.

A Sidewalk Construction

The root system on the walk side of the tree shall be cut not deeper than 9 inches below the finished grade of the new walks, and not more than 5 inches from the edge of the new walk. Roots in the walk area shall be removed only to a depth of 9 inches below finished grade of the new walk.

When replacing walks adjacent to the following trees, a slip or thin form must be used. Additionally, soil disturbance in the tree border should be limited to not more than ¼ inches beyond the edge of the new walk.

Station 37+93 S/S	Station 41+30 S/S	Station 42+92 S/S	Station 43+41 S/S
Station 48+30 S/S	Station 61+91 S/S	Station 65+64 S/S	Station 66+07 S/S
Station 68+39 S/S	Station 75+61 S/S	Station 18+35 N/S	Station 19+46 N/S
Station 20+41 N/S	Station 21+44 N/S	Station 22+92 N/S	Station 23+89 N/S
Station 26+40 N/S	Station 31+63 N/S	Station 33+39 N/S	Station 34+64 N/S
Station 37+14 N/S	Station 46+18 N/S	Station 68+70 N/S	Station 15+04 S/S
Station 34+89 S/S	Station 35+37 S/S	Station 42+92 S/S	Station 43+41 S/S
Station 34+91 S/S	Station 48+86 S/S	Station 62+81 S/S	Station 65+64 S/S
Station 66+07 S/S	Station 203+00 E/S		

Adjacent to the following trees, the new walk should be arced:

Station 34+40 S/S	Station 35+69 S/S	Station 36+73 S/S	Station 38+89 S/S
Station 42+36 S/S	Station 43+91 S/S	Station 46+58 S/S	Station 49+39 S/S
Station 50+10 S/S	Station 62+81 S/S	Station 69+31 S/S	Station 202+20 E/S
Station 203+00 E/S	Station 18+92 N/S	Station 35+12 N/S	Station 36+10 N/S
Station 36+65 N/S	Station 39+64 N/S	Station 43+38 N/S	Station 34+40 S/S
Station 72+04 N/S	Station 73+68 N/S	Station 45+53 S/S	Station 50+10 S/S
Station 38+89 S/S	Station 49+39 S/S	Station 46+58 S/S	Station 69+31 S/S

Sidewalks are to be removed, and roots cut, by use of hand implements only.

Carriage Walk Construction
When constructing or replacing carriage walks, roots shall not be cut by means of mechanical root cutting machines. If root removal is essential to carriage walk replacement, roots shall be manually cut with hand implements. Roots shall be removed not deeper than 9 inches below the finished grade of the new carriage walk.

Curb, Gutter, and Road Construction
The root system on the curb side shall be cut not more than 2 inches behind the back edge of the new curb, and not more than 18 inches in depth when constructing the new curb and gutter.

The root system on the curb side shall be cut not more than ¼ inches from the back edge of the new curb, and a ¼-inch slip or thin form, or slip form paver, shall be used for the following trees:

Station 19+46 N/S	Station 20+41 N/S	Station 24+92 N/S
Station 31+63 N/S	Station 33+59 N/S	Station 44+38 N/S
Station 59+84 N/S	Station 60+70 N/S	Station 68+70 N/S
Station 69+49 N/S	Station 69+84 N/S	Station 70+32 N/S
Station 72+54 N/S	Station 74+14 N/S	Station 14+34 S/S
Station 34+89 S/S	Station 35+37 S/S	Station 36+39 S/S

The root system on the curb side shall not be cut; 1) a 0-inch clearance slip or integral form paver can be used or 2) gap and hand form using ¼-inch steel plate for the following trees:

Station 18+35 N/S	Station 18+92 N/S	Station 21+44 N/S
Station 22+92 N/S	Station 32+16 N/S	Station 34+64 N/S
Station 35+12 N/S	Station 36+65 N/S	Station 38+66 N/S
Station 39+64 N/S	Station 43+58 N/S	Station 45+24 N/S
Station 46+18 N/S	Station 47+12 N/S	Station 48+43 N/S
Station 62+15 N/S	Station 65+97 N/S	Station 66+45 N/S
Station 72+04 N/S	Station 73+08 N/S	Station 73+68 N/S
Station 15+04 S/S	Station 32+07 S/S	Station 34+40 S/S

When constructing or replacing driveways or driveway approaches, roots shall not be cut by means of mechanical root cutting machines. If root removal is essential to driveway replacement, roots shall be manually cut with hand implements.

Exposed tree roots shall be covered with mulch and watered from a period immediately following curb and gutter removal, until the area is backfilled following construction.

General
Caution shall be used during the construction process to avoid damage to the roots, trunks, and branches of all street trees. Damage caused to any street tree or irrigation system will be repaired by the City of Milwaukee's Forestry Division and the costs of repair, rejuvenation, and/or value lost will be billed to the contractor or credited against the contract at the option of the city.

At locations where the contractor has not complied with the forestry special requirements stated in the special provisions above, and the maximum clearance was exceeded or a thin form was not used, a minimum credit to the city of $50.00 per location will be taken. The credit will increase in proportion to the excess distance beyond clearance allowed. The credit will be $50.00 for each 2-inch increment or part thereof in excess of the initial clearance allowed. Any damage to the tree's structure totaling 15 percent of the trees value will be billed on a prorata basis. If, in the opinion of the City of Milwaukee's Forestry Division, the tree has been damaged to the point that it warrants removal, the credit that will be taken will be equal to $100.00 per inch diameter of the tree. A field measurement will be taken to determine the tree size.

18. Construction Trenches.

Upon completion of the normal workday and when work is not in progress, plate all trenches within the roadway resulting from construction activities, which are not fully backfilled, with steel plates suitable for carrying a vehicle as directed by the engineer. Plating is in addition to the barricades and traffic control devices required for lane closure or traffic control. Cost of steel plates shall be included in the bid prices for the related bid items that are under construction.

19. Removing Concrete Sidewalk.

The removal of concrete driveways is included in and measured and paid for under the item Removing Concrete Sidewalk.

20. Removing Old Structure Over Waterway With Minimal Debris Station 13+38.55, Item 203.0600.S.01.

The work under this item consists of removing and disposing of the existing West Capitol Drive Bridge over the Menomonee River (Structure B-40-059) including the bridge's wing walls.

A copy of the plans of the existing bridge is on file in the Infrastructure Services Division's Structures Section, Room 907, Frank P. Zeidler Municipal Building, 841 North Broadway, Milwaukee, WI 53202, (414) 286-3294.

Conduct removal work in a prudent manner and exercise care to preclude debris from falling into the Menomonee River. Do not blast the abutments of the bridge over the Menomonee River for removal purposes. Materials recovered from the existing structure are to become property of the contractor and are to be disposed of in accordance to standard spec 203.3.2.

This item includes removal of the existing bridge, deck, all railings, abutments, wing walls, and abandoned utility pipes under the bridge as indicated on the plans and as necessary to complete this work.

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

Add the following to standard spec 203:

203.3.6 Removals Over Waterways and Wetlands

203.3.6.2 Removing Old Structure Over Waterway with Minimal Debris

(1) Remove the existing Structure B-40-059 over the Menomonee River in large sections and conforming to the contractor's approved structure removal and clean-up plan. During superstructure removal, prevent all large pieces and minimize the number of small pieces from entering the waterway or wetland. Remove all reinforcing steel, all concrete, and all other debris that falls into the waterway or wetland. The contractor may leave limited amounts of small concrete pieces scattered over the waterway floor or wetland only if the engineer allows.

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

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

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

(4) The contractor shall remove and dispose of the abandoned utility pipes hung under the existing structure.

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

ITEM NUMBER	DESCRIPTION	UNIT
203.0600.S.01	Removing Old Structure Over Waterway With Minimal Debris Station 13+38.55	LS

21. Aquatic Invasion – DNR.

Boat and Gear Disinfection Protocol
Boat and trailer cleaning guidelines to prevent the spread of aquatic invasive species have been widely distributed to the public through a variety of publications, pamphlets, signs, etc. The guidelines consist of a nationally-accepted set of prevention steps. While disinfection is not a required prevention step for the general public, some boaters may be interested in the disinfection procedures followed by the WI DNR. Please note: the first three steps (Inspect and Remove, Drain, and Dispose) listed below are required.

The following steps shall be taken every time a boat, equipment or gear is moved between waters to avoid transporting invasive species and/or pathogens:

- Inspect and remove aquatic plants, animals, and mud from your boat, trailer, equipment and gear.
- Drain all water from your boat, motor, live well, bilge, transom wells, as well as from your equipment and gear, including but not limited to tracked vehicles, barges, silt or turbidity curtain, hoses, sheet pile and pumps.
- Dispose of unwanted aquatic plants and animals in an appropriate way.
- Disinfect your boat, equipment and gear by either:
    - Washing with ~212º F water (steam clean), OR
    - Drying thoroughly for 5 days after cleaning with soap and water and/or high pressure water, OR
    - Disinfecting with either 200 ppm (0.5 oz per gallon or 1 Tablespoon per gallon) Chlorine for 10-minute contact time or 1:100 solution (38 grams per gallon) of Virkon Aquatic for 20- to 30-minute contact time. Note: Virkon is not registered to kill zebra mussel veligers nor invertebrates like spiny water flea. Therefore this disinfect should be used in conjunction with a hot water (>104º F) application.

Safety Precautions for Disinfectant Use:
Virkon-A:

1. Receive and be required to read a copy of the Virkon-A Materials Safety Data Sheet (MSDS) for the product.

2. Wear chemical splash goggles.

3. Wear a face shield where the possibility exists for face contact due to splashing or spraying of the material.

4. Wear impervious clothing to prevent contact with skin. (gloves, pants, jacket, hood, and boots) or a Tyvek style full body suit.

In addition, all employees who handle or mix Virkon-A in powder form and prefer to wear a dust mask respirator when handling powder, may do so in compliance with the DNR Respiratory Protection Program Handbook MC 9180.5 Voluntary Use requirements.

Bleach:
Follow precautions 2, 3, and 4 (above).

- Chlorine Wear eye protection, rain gear, gloves if spraying. Stay upwind of the spray. Will break down in sunlight and when in contact with organic material. Is corrosive to metal and rubber. Is toxic to fish at these concentrations so rinse well after disinfection or neutralize with sodium thiosulfate. For neutralizing chlorine, spray sodium thiosulfate in an 800 ppm solution (3 grams per gallon of water) on all surfaces after the disinfection period is over. Rinse with water from the next lake to remove any remaining sodium thiosulfate.

- Virkon Aquatic This is a disinfectant in the peroxygen (hydrogen peroxide) family. It is a powder. It is 99.9% biodegradable and breaks down to water and oxygen and is not corrosive at the working dilution. Wear dust mask if mixing powder and eye protection, rain gear and gloves if spraying. Stay upwind of spray.

Sources of disinfectants
Chlorine - Household bleach (5.25% chlorine) can be purchased from a grocery or convenience store. HTH is granular chlorine (70% calcium hypochlorite) and can be purchased from a pool supply company.

Sodium Thiosulfate - Commonly used to neutralize chlorine and iodine. It should be available at a pool supply company or from a chemical supply company.

Virkon Aquatic is available from Western Chemical, (800) 283-5292. It is the same formulation, but without the perfume and dye, and the label addresses specific fish pathogens.

Disinfection measures must be taken prior to moving boats, equipment and other gear from one water body to another. They are not needed daily when sampling the same water body or for law enforcement equipment in emergency situations. In cases where boats and gear return to state hatcheries, disinfection should be done in a location away from ponds and water supplies to prevent disinfectant or untreated water from entering

those areas. Every effort should be made to keep the disinfection solution and rinse water out of surface waters.

To the extent practicable, equipment and gear used on waters known to be infested with invasive species and viruses should not be used on other non-infested waters. The following are some helpful hints to consider when planning your work in water:

1. Organize your sampling so the work in infested waters is always done last.
2. If a high percentage of your work is done in waters with invasive species, consider dedicating certain gear to be used only in those waters.
3. Depending on the type of work you are doing, it may be possible to work with lake volunteers and use their boats to collect samples. That way only your gear needs to be disinfected.

The following methods are provided to assist staff when disinfecting equipment and gear commonly used by department staff.

Nets
Organic debris should be removed prior to disinfection. Power washing is not required, but nets could be sprayed with a garden hose to remove debris. Nets may be steam cleaned, washed and dried thoroughly for five days or treated with a disinfection solution. Nets should be placed in the disinfection solution for the appropriate contact time for the solution being used. After rinsing, the nets can be used immediately, or hung to dry.

Personal protective gear, including rain gear, gloves, boots/waders
Scrub personal protective gear with the disinfection solution. After scrubbing, the gear should be kept wet with the disinfection solution for the appropriate contact time. Rinse with clean water or water from the next waterbody. Alternatively, personal gear may be steam cleaned or dried thoroughly for five days after cleaning with soap and water.

Dip nets, measuring boards and other sampling gear
Remove any organic material from sampling gear. There are several options for disinfecting smaller gear. *Dissolved oxygen probes and other sensitive electronic sampling gear may be damaged by disinfection solution and should only be rinsed with clean water*. For other gear used in water choose one of the following options:

- Option one: The gear can be sprayed with the disinfection solution and a wet surface maintained for the appropriate contact time. The gear should be rinsed with clean water or water from the next water body before it is used again.
- Option two: Fill a tub with disinfection solution and place all equipment in the tub for the appropriate contact time. The gear should be rinsed with clean water or water from the next water body before it is used again.
- Option three: Use a completely new set of gear for each water body during the work day and disinfect all gear at the end of the day using option one or two.

Boats, trailers, and live wells
Remove organic material from boats, trailers, and live wells. Drain water from live wells, bilges and pumps. The outside and inside of the boat, trailer, live wells, bilges, and pumps should be sprayed with the disinfection solution and left wet for the appropriate contact time. The inside of the live wells, bilges and pumps should be made to contact the solution for the appropriate contact time as well. Run pumps so they take in the disinfection solution and make sure that the solution comes in contact with all parts of the pump and hose. The boat, trailer, bilges, live well, and pumps should be rinsed with clean water or water from the next water body after the appropriate contact time. Every effort should be make to keep the disinfection solution and rinse water out of surface waters. Pull the boat and trailer off the ramp and onto a fairly level area and away from street drains to minimize potential runoff into surface waters.

Motors
After removing from the water, tip the motor to the down position and start the motor for several seconds or turn motor over several times to dispel water from the cooling system. Alternatively and especially for motors moored in water for several days or more, emerge the lower unit in a bucket of disinfectant and run the motor to ensure contact with all internal parts and allow for the appropriate contact time. Or, rig up a short (6-foot) piece of garden hose to lower unit muffs. A pail of the disinfectant can be set in the back of the boat and gravity fed to the lower unit to run the disinfectant through the motor. Allow solution to remain in motor for the appropriate contact time. The hose will need to be primed to start the gravity flow because the lower unit does not create enough suction to prime the hose. A non-corrosive (Virkon Aquatic) is recommended for use to protect the impeller. Rinse with clean water or water from the next water body.

Heavy Equipment
For heavy equipment steam-cleaning is an effective method of disinfection.

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

A Description

A.1 General

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

Waste Management Orchard Ridge Landfill
N96W13503 County Line Road
Menomonee Falls, WI 53051
(262) 532-6200

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

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

A.1 Notice to the Contractor – Contaminated Soil Location(s)

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

- West Capitol Drive Station 1+00 to 1+65, from 45 feet right of reference line to project limits right (southeast quadrant of Capitol Drive and Mayfair Road) from six to at least 14 feet bgs. Groundwater is contaminated here also but is expected to be beyond the construction limits.

- West Capitol Drive Station 22+50 to 23+50, from reference line to 50’ right of reference line (Capitol Drive at Lisbon Avenue) from two to four feet bgs.

- West Capitol Drive Station 28+00 to 29+00, from approximately 20’ to 60’ right of the reference line (southeast quadrant of Capitol Drive and 100th Street) from two to four feet bgs.

- West Capitol Drive Station 29+00 to 30+00, from project limits right to left (east of Capitol Drive and 100th Street intersection) from grade to four feet bgs.

- West Capitol Drive Station 52+75 to 55+00, from reference line to project limits right (northwest quadrant of Capitol Drive and 92nd Street) from two to at least eight fee bgs.

- West Capitol Drive Station 53+70 to 55+00, from reference line to project limits left (northwest quadrant of Capitol Drive and 92nd Street) from four to at least eight feet bgs. Groundwater is contaminated here also but is expected to be beyond the construction limits.

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

A.2 Notice to the Contractor – Contaminated Soil Beyond the Construction Limits

A review of available information for the construction corridor indicates that contaminated soil is or may be present beyond the construction limits at the locations listed below:

- West Capitol Drive Station 21+00 to 22+50, beyond project limits right;
- West Capitol Drive Station 26+00 to 27+50, beyond project limits left;
- West Capitol Drive Station 27+50 to 29+00, beyond project limits left;
- West Capitol Drive Station 52+50 to 53+70, beyond project limits left; and
- West Capitol Drive Station 55+00 to 57+00, beyond project limits left.

Contaminated soil at the above locations is expected to be beyond the excavation limits necessary to complete the work under this project. Control construction operations at these locations to ensure that they do not extend beyond the excavation limits indicated in the plans.

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

No active groundwater monitoring wells were observed within the construction limits. If active groundwater monitoring wells are encountered during construction, notify engineer and protect them to maintain their integrity.

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

Name:	Michael Cape, P.G.
Address:	141 NW Barstow Street, Waukesha, WI 53187-0798

A.3 Coordination

Coordinate work under this contract with the environmental consultant:

Name:	TRC Environmental Corporation
Address:	150 N. Patrick Blvd., Ste. 180, Brookfield, WI 53045
Contact:	Mr. Ken Yass or Mr. Tyler Stapel
Phone:	(262) 901-2145 or (262) 825-2045
Fax:	(262) 879.1220
E-mail:	kyass@trcsolutions.com or wstapel@trcsolutions.com

The role of the environmental consultant will be limited to:

1. Determining the location and limits of contaminated soil to be excavated based on soil analytical results from previous investigations, visual observations, and field screening of soil that is excavated;
2. Identifying contaminated soils to be hauled to the landfill facility;
3. Documenting that activities associated with management of contaminated soil are in conformance with the contaminated soil management methods for this project as specified herein; and,
4. Obtaining the necessary approvals for disposal of contaminated soil from the landfill facility.

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

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

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

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

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

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

B (Vacant)

C Construction
Supplement standard spec 205.3

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

The environmental consultant will periodically monitor soil excavated from the contaminated areas. The environmental consultant will evaluate excavated soil based on field screening results, visual observations, and soil analytical results from previous environmental investigations. Assist the environmental consultant in collecting soil samples for evaluation using excavation equipment. The sampling frequency shall be a maximum of one sample for every 20 cubic yards excavated.

On the basis of the results of such field-screening, the material will be designated for disposal as follows:

- Excavation Common – clean soil, construction and demolition fill (such as clean soil, boulders, concrete, reinforced concrete, bituminous pavement, bricks, building stone, unpainted or untreated wood), which under NR 500.08 are exempt materials.

- Low-level contaminated material for reuse as fill within the construction limits, or

- Contaminated soil for disposal at the WDNR-licensed disposal facility, or

- Potentially contaminated for temporary stockpiling and additional characterization prior to disposal.

If during excavations outside the areas of known contamination, materials are encountered that exhibit characteristics of municipal wastes or contain significant quantities of industrial-type wastes, such as fly ash, foundry sand, and cinders, or when conditions such as unknown underground storage tanks or soil/fill material with noticeable impacts from petroleum or chemical products, or other obvious potentially contaminated materials are encountered, suspend excavation in that area and notify the engineer and the environmental consultant.

Some material may require additional characterization prior to disposal. Provide for the temporary stockpiling of up to 200 cubic yards of contaminated soil on-site that require additional characterization. Construct and maintain a temporary stockpile of the material

in accordance to NR 718.05(3), including, but not limited to, placement of the contaminated soil/fill material on an impervious surface and covering the stockpile with material to prevent infiltration of precipitation. The department's environmental consultant will collect representative samples of the stockpiled material, laboratory-analyze the samples, and advise the contractor, within 10 business days of the construction of the stockpile, of disposal requirements. The stockpiled material shall be disposed either at the WDNR-licensed disposal facility by contractor or if characterized as a hazardous wastes, by the department. As an alternative to temporarily stockpiling contaminated soil/fill material that requires additional characterization, the contractor has the option of suspending excavation in those areas where such soil is encountered until such time as characterization is completed.

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

Verify that the vehicles used to transport material are licensed for such activity in accordance to applicable state and federal regulations. Obtain the necessary disposal facility approvals and DNR approvals for disposal. Do not transport regulated solid waste off-site without obtaining the approval of the environmental consultant and engineer and notifying the disposal facility.

If dewatering is required in areas of known contamination, water generated from dewatering activities will likely contain petroleum VOCs. Such water may, with approval of the Milwaukee Metropolitan Sewerage District (MMSD), be discharged to the sanitary sewer as follows:

1. Meet all applicable requirements of the MMSD including the control of suspended solids. Perform all necessary monitoring to document compliance with MMSD's requirements. Furnish, install, operate, maintain, disassemble, and remove treatment equipment necessary to comply with MMSD's requirements.

2. Ensure continuous dewatering and excavation safety at all times. Provide, operate, and maintain adequate pumping equipment and drainage and disposal facilities. Notify the engineer of any dewatering activities, and obtain any permits necessary to discharge water. Provide copies of such permits to the engineer. Meet any requirements and pay any costs for obtaining and complying with such permit use. Follow all applicable legislative statutes, judiciary decisions, and regulations of the State of Wisconsin.

Costs associated with excavation dewatering in the contaminated area are considered incidental to this pay item. The Wisconsin Department of Transportation will be the generator of regulated solid waste from this construction project.

D Measurement

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

E Payment

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

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

Payment is full compensation for excavating, hauling, and disposal of contaminated soil segregating; obtaining solid waste collection and transportation service operating licenses; assisting in the collection soil samples for field evaluation; and dewatering of soils prior to transport, if necessary. No additional payment will be made for tipping fees associated with the disposal of contaminated soil.

205-003 (20080902)

23. Backfilling and Sloping.

Amend standard spec 209 to include the following:

Backfill material must meet the requirements where sodding, seeding, or topsoil is to be performed. Furnish material in the top 6-inch layer that ranges from a sandy loam to a clay soil and passes a 2-inch sieve with a minimum of 95 percent passing a 3/8-inch sieve. Thoroughly compact topsoil material placed in areas to be sodded or seeded including the area behind new concrete curb and gutter. Flood or compact with jumping jack or vibrating plate devices in that area to prevent settlement. Compact the filled area under the abutments and alongside the wing walls to at least 95 percent compaction.

Re-topsoil graded area, as designated by the engineer, immediately after grading is completed within those areas. Sod all topsoil areas within 5 working days after placement of topsoil.

24. Backfill Structure.

Delete standard spec 210.2.1 and replace with the following:

The material shall consist of sand, a mixture of sand and gravel, crushed stone, or other fragmented mineral material. The maximum size of any material shall be such 100 percent passes a 75 mm sieve and not less than 25 percent by weight passes a 4.75 mm sieve. Of the material passing the 4.75 mm sieve, not more than 75 percent passes a 0.425 mm sieve, not more than 15 percent passes a 0.150 mm sieve, and not more than 8 percent passes a 0.75 mm sieve.

Place and compact Backfill Structure as specified in standard spec 206.3.13.

25. Temporary Sidewalks and Driveways.

Construct and maintain, in satisfactory condition, temporary sidewalks and driveways at locations specified by the engineer. Construct temporary sidewalks and driveways of base aggregate dense 1¼-inch to dimensions determined by the engineer.

Base aggregate for construction of the temporary sidewalks and driveways will be paid for under the item Base Aggregate Dense 1¼-Inch. Cost of labor and equipment necessary to place and remove the temporary sidewalks and driveways shall be included in the contract unit price for Base Aggregate Dense 1¼-Inch.

26. Concrete Curb and Gutter Integral, 30-Inch Type D.

The Concrete Curb and Gutter Integral 30-Inch Type D shall have a 7-inch width from back of curb to face for curb head. The cost for this wider top of curb shall be included in the bid price for Concrete Curb and Gutter Integral 30-Inch Type D.

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.

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

B Materials

B.1 Quality Control Plan

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

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

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

B.2 Personnel

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

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

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

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

B.3 Laboratory

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

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

B.4 Quality Control Documentation

B.4.1 General

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

B.4.2 Records

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

B.4.3 Control Charts

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

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

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

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

B.5 Contractor Testing

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

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

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

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

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

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

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

B.6 Test Methods

B.6.1 Gradation

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

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

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

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

1. Control limits are at the upper and lower specification limits.
2. There are no upper warning limits for sieves allowing 100 percent passing and no lower control limits for sieves allowing 0 percent passing.
3. Dense graded warning limits, except for the No. 200 sieve, are 2 percent within the upper and lower control limits. Warning limits for the No. 200 sieve are set 0.5 percent within the upper and lower control limits.

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

B.6.2 Fracture

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

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

B.6.3 Liquid Limit and Plasticity

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

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

B.7 Corrective Action

B.7.1 General

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

B.7.2 Placement Corrective Action

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

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

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

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

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

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

B.8 Department Testing

B.8.1 General

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

B.8.2 Verification Testing

B.8.2.1 General

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

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

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

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

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

B.8.3 Independent Assurance

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

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

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

B.9 Dispute Resolution

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

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

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

or otherwise determine the final disposition of nonconforming material as specified in standard spec 106.5.

C (Vacant)

D (Vacant)

E Payment

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

(2) For material represented by a running average exceeding a control limit, the department will reduce pay by 10 percent of the contract price for the affected Base Aggregate bid items listed in subsection A. The department will administer pay reduction under the Nonconforming QMP Base Aggregate Gradation or Nonconforming QMP Base Aggregate Fracture Administrative items. The department will determine the quantity of nonconforming material as specified in B.7.2.
301-010 (20100709)

28. Base Aggregate Dense 1¼-Inch for Lower Base Layers.

Replace standard spec 305.2.2.1(2) with the following:

- Use 1¼-inch base throughout the full base depth.
- Use ¾-inch base in the top 3 inches of the unpaved portion of shoulders. Use ¾-inch base or 1¼-inch base elsewhere in shoulders.

305-020 (20080902)

Modify standard spec 301.2.4.4 to exclude the use of glass as a permitted industrial by-product or recycled/reclaimed material.

29. Concrete Pavement, 8½-Inch.

Construct 8½-Inch, Non-Reinforced, Doweled Concrete Pavement in accordance to the requirements in standard spec 415 except as hereinafter modified.

All doweled transverse joints on this project, including intersections, shall be laid out by the contractor and approved by the engineer. The joint spacing shall not exceed 15 feet as shown in the standard detail drawing and shall be placed at end-of-radii, center line and flange line extended, all zero-face driveway openings for depressed driveways and when feasible at all manholes, catch basins on inlets, and water valve boxes. The cost of all jointing shall be included in the unit bid price for concrete pavement.

30. Protection of Concrete.

Supplement standard spec 415.3.16 as follows:

Provide for a minimum of one concrete finisher to remain on the project site after final finishing of all concrete surfaces until such time as the concrete has hardened sufficiently to resist surface scarring caused by foot prints, handprints, or other type of imprint, malicious or otherwise. Finisher must actively and continuously patrol on foot the newly placed concrete and repair any damage to the surface that might be sustained as described above.

Include the cost for providing the finisher(s), the necessary equipment, and materials in the contract unit price for each concrete item.

31. Concrete Identification Stamping.

Stamp ends of all monolithic Portland cement concrete surfaces with a stamp bearing the contractor's name and the year of construction. Make all letters 2 inches in height.

Include the cost of this work in the contract unit price for other Portland cement concrete items and no additional payment will be made.

Place the concrete on a moist foundation, deposit to the required depth, and consolidate and spade sufficiently to bring the mortar to the surface, after which strike it off and float with a wooden float. Before the mortar is set, steel trowel, and brush the surface.

32. 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 straight-edging according to the standard specifications. All other surfaces being tested under this provision are exempt from straight-edging requirements.

B (Vacant)

C Construction

C.1 Quality Control Plan

(1) Submit a written quality control plan to the engineer at or before the preconstruction 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 sublot 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 specifications 105.3.

C.6 Dispute Resolution

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

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

D Measurement

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

E Payment

E.1 Payment for Profiling

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

E.2 Pay Adjustment

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

ITEM NUMBER	DESCRIPTION	UNIT
440.4410.S	Incentive IRI Ride	DOL

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

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

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

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

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

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

HMA I	
Initial IRI (inches/mile)	**Pay Adjustment[1] (dollars per standard segment)**
< 30	250
≥ 30 to <35	1750 – (50 x IRI)
≥ 35 to < 60	0
≥ 60 to < 75	1000 – (50/3 x IRI)
≥ 75	-250

HMA II and PCC II	
Initial IRI (inches/mile)	**Pay Adjustment[1] [2] (dollars per standard segment)**
< 50	250
≥ 50 to < 55	2750 – (50 x IRI)
≥ 55 to < 85	0
≥ 85 to < 100	(4250/3) – (50/3 x IRI)
≥ 100	-250

HMA IV and PCC IV	
Initial IRI (inches/mile)	**Pay Adjustment[1] [2] (dollars per standard segment)**
< 50	250
≥ 50 to < 75	750 – (10 x IRI)
≥ 75	0

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

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

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

440-010 (20100709)

33. Drilled Ties Bars.

Perform the work under this item in accordance to the requirements of standard spec 416.3.6 and as hereinafter provided.

Install pavement tie bars at locations where the new 8½-inch concrete pavement abuts existing concrete pavement. Space tie bars 3 feet center-to-center and install on a skew horizontally. Alternate the direction of the skew after every two bars.

34. Tack Coat.

Revise standard spec 455.2.5 by adding the following:

Apply the diluted tack coat between all layers of asphaltic surfacing and between existing pavement and new asphaltic surfacing.

35. Asphaltic Surface.

Use asphalt cement material type AC with a performance-graded designation of PG 64-22 for Asphaltic Surface.

Salvaged or reclaimed asphaltic pavement materials may be incorporated into the asphaltic mixture in amounts up to 25 percent for lower layers and 20 percent for upper layers without a change in PG grade. If greater amounts of salvaged or reclaimed asphaltic material are incorporated into the asphaltic mixture, the added asphaltic material shall be one PG grade lower, unless the contractor or supplier testing indicates that the resultant blend meets the PG grade originally specified in the contract.

The finished asphaltic concrete pavement may be accepted using nuclear density testing.

Perform work under this item in accordance to the requirements of standard spec 460, except as hereinafter modified.

When the asphaltic surface has cooled to a temperature of 140° F or less, paint with hot asphalt cement or heat to the point of softening with an infra-red joint heater, the edges of the longitudinal joints before work is resumed. When the joint becomes distorted, trim the edges of the joint to line and heat with an infra-red joint heater before resuming work.

Lap previously laid material a minimum of 3 inches and leave the material sufficiently high to allow for compaction. Offset the longitudinal junction in each course from the previous course by a minimum of 6 inches.

36. Concrete Aggregates.

Modify standard spec 501 as follows:

A Size Requirements
Supplement standard spec 501.2.5.4.4 (4) with the following:

Course aggregate for Concrete Grade A must consist entirely of size No. 1 when used in curb, curb and gutter, driveways, sidewalks or steps.

37. Concrete Masonry Bridges.

Perform this work in accordance to standard spec 502, except as otherwise provided in the plans or in these special provisions.

Add the following at the end of standard spec 502.5.2(1):

Payment includes constructing neighborhood emblems and the State of Wisconsin emblems on the bridge railings and as shown on the plans.

38. Piling Steel HP 12-Inch X 53 LB.

Perform this work in accordance to standard spec 550, except as otherwise provided in the plans or in these special provisions.

Add the following to standard spec 550:

Prior to the main installation of piling at the east abutment, at least three test piles need to be driven with a pile point to check final embedment depth into target glacial till and to monitor the compressive stress during pile driving (not to exceed 45 ksi) under the supervision of an experienced engineer as retained by the contractor.

Pile dynamic analysis (PDA) with CAPWAP software shall be utilized to assist the engineer in verifying the end of initial driving (EOID) resistance and the pile stress.

Restrike test to be performed after 5 days on the same test piles to confirm any set-up or relaxation effect.

The three test piles shall be located, one each, at the north end, midpoint, and south end of the east abutment.

Submit the test results to the City of Milwaukee for review. Adjustments may be made by the city to the pile lengths and number of piles based on the test results.

Allow two weeks for review after submitting the results to the city. Installation of the production piles cannot begin until approval of the test results has been received from the city.

The cost of this testing shall be incidental to the bid item 550.1120 Piling Steel HP 12-inch x 53 LB.

39. Concrete Staining (B-40-759), Item 517.1010.S.01.

A Description

Furnish and apply a two coat concrete stain to the exposed concrete surfaces of the structure, as detailed in the plans and as hereinafter provided. These surfaces include, but are not limited to, the concrete parapet, sidewalk exterior edge and underside, exterior girder face and bottom, and the concrete cap on the wing walls and abutments.

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

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, 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 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 45º F or higher, or as given by the manufacturer.

The color of the stain shall be as given on the plan. Tint the base coat to match the finish coat; the two coats shall be compatible with each other.

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 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 the stones produced by the form liner if applicable. 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 (B-40-759) in area 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
517.1010.S.01	Concrete Staining (B-40-759)	SF

Payment is full compensation for furnishing and applying the two coat system; for preparing the concrete surface; and for preparing the sample panels.

40. Street Lighting Conduit Box-Outs.

The labor associated with construction of the 2.5-feet x 2.5-feet concrete sidewalk box outs shown on the lighting conduit plans for street light poles, signal standards, and/or conduit junction boxes will be paid for under bid item 602.0410, Concrete Sidewalk 5-Inch.

41. Adjusting Manhole Covers.

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

Make manhole cover adjustments as shown in plans, construction detail drawings or otherwise directed by the engineer. The costs for adjusting manholes by the contractor will be paid under the appropriate bid items.

Each utility owner, at their own cost, will adjust their utility company manholes.

Adjustment of manholes in asphaltic areas, including sawing and patching materials used, are incidental to bid item Adjusting Manhole Covers.

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 ⅝ inches, reset the manhole frame to the correct plane and elevation. If this average is ⅝ inches or less but greater than ⅜ 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.

42. Fence Chain Link 4-FT, Item 616.0204.

Conform to standard spec 616 as modified in this special provision.

Add the following to standard spec 616:

All metal materials shall be polymer coated (PVC). Coating of fence fabric shall be 6 mil to 10 mil thickness, thermally fused to zinc coated metal, Per ASTM F668 Class 2b. Fence framing shall receive a supplemental color coating of 10 mil to 15 mil thermally fused PVC.

Color of the PVC coating shall be Green.

The contractor shall submit three samples of the coating color to the City of Milwaukee for approval.

43. Landmark References Monuments, Item 621.0100.

Locate and install the monuments at the direction of the City of Milwaukee, Infrastructure Services Division’s Construction Section.

Replace standard spec 621.2 with the following:

Use monuments provided by the Southeast Wisconsin Regional Planning Commission (SEWRPC) that consist of precast concrete with a brass cap. Notify the engineer at least one week prior to needing the monuments. The engineer will contact Mr. John Washburn of the SEWRPC (262) 547-6721, to arrange for the delivery of the monuments to the project.

Replace standard spec 621.3.2.1(2) with the following:

Provide, at the discretion of the engineer, a 2-foot diameter by 3-foot deep hole (box out) backfilled with base aggregate dense at the location of the monument until after paving is complete at which time the monument can be reset and the surrounding pavement can be placed.

Place the monuments so that the top elevation of the monuments shall be approximately 1 inch below the finished pavement surface or flush with the ground surface in unpaved areas. Place the monuments so that the caps are oriented in the cardinal direction (read from due south). Place the monuments so that the actual point of reference is centered on the location marks on the cap.

Replace standard spec 621.5(2) with the following:

Payment for the Landmark Reference Monuments is full compensation for furnishing all excavating; placing the precast monument; placing and compacting backfill material; and for properly disposing of surplus materials.

44. Seeding Mixture No. 70, Item 630.0170.

Perform this work in accordance to the pertinent requirements of standard spec 630 and as hereinafter provided.

Revise section to include a watering subsection. Under this watering subsection, which is incidental to seeding, keep all seeded areas thoroughly moist by watering or sprinkling if rainfall is not sufficient to establish or sustain growth. Apply water in a manner as to preclude washing or erosion.

45. 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 $250.00 to cover the cost of performing the work with other forces. The department will assess these damages for each day the requirements of the care cycle remain incomplete, except when the engineer extends the required time period.
632-005 (20070510)

46. Traffic Control.

Perform the work under this item in accordance to the requirements of standard spec 643, as shown on the plans or as approved by the engineer, except as herein modified.

Permanently label each barricade, sign or other traffic control device with the name and telephone number for 24-hour emergency service, printed in letters at least ¾ inches in height.

No operation may proceed until all traffic control devices for such work are in the proper location.

During the life of this contract, provide 24 hour-a-day availability of equipment and forces to promptly restore barricades, lights, signs or other traffic control devices that are damaged or disturbed. In no case may any barricade, light, sign or other traffic control device be out of service for more than 2 hours. The cost to maintain and restore the above items is incidental to the bid item Traffic Control and no additional payment will be made therefore.

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

Provide the City of Milwaukee Police Department and the engineer a current telephone number with which the contractor or his representative can be contacted during non-working hours in the event a safety hazard develops.

Mask out all traffic control signs and have flags removed when not in use.

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

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

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

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

Install appropriate advance and intermediate warning signs of standard design. Install the signs at locations indicated on the plan and at locations as directed by the engineer in accordance to Part VI of the Manual of Uniform Traffic Control Devices. Sign shape, message and color must be in accordance to Part VI of the Manual of Uniform Traffic Control Devices.

47. Construction Staking.

Supplement standard spec 650 with the following:

- Stake each plan grade so that the form-setters and inspector can check the grade and alignment.
- Item 650.4000 includes staking for the adjustment of TES manhole covers.

48. General Requirements for Electrical Work.

Append standard spec 651.3.3 with the following:

(3) Request a signal inspection of the completed signal installation to the engineer at least five working days prior to the time of the requested inspection. Notify the department's Electrical Field Unit at (414) 266-1170 to coordinate the inspection. The department's Region Electrical personnel will perform the inspection.

49. Conduit Rigid Nonmetallic Schedule 40 2-Inch, Item 652.0225; Conduit Rigid Nonmetallic Schedule 40 3-Inch, Item 652.0235.

This work consists of furnishing and installing PVC conduits in accordance to standard spec 652, and as shown in the plan details.

Locations of the conduits where they are required are identified in the plans. However, installation will require integration with existing field conditions. Appropriate adjustment on conduit locations may be made if the field conditions are such that the pipes cannot be installed at the specified locations. Any relocation of greater than 5 feet must be approved by the engineer.

Plan changes must be approved by the City of Milwaukee's electric services supervisor or traffic engineer. The primary contacts are Mr. Dennis Miller, Street Lighting Operations supervisor, (414) 286-5942 office, (414) 708-4251 mobile; or Mr. Joseph Blakeman, traffic control engineer III, (414) 286-8070.

Provide three sets of as-built plans to City of Milwaukee electric services supervisor or engineer upon completion of conduit installation. The plan sets are incidental to the conduit installation, and no extra payment will be made by the department.

50. Conduit Rigid Nonmetallic Schedule 40 2½-Inch, Item 652.0230.

These works consist of furnishing and installing PVC conduits in accordance to standard spec 652, and as shown in the plan details.

In regards to the bridge project 2025-16-70, supplement standard spec 652 with the following:

Furnish and install a total of four 2 ½-inch diameter PVC conduits. One conduit will be installed in the south sidewalk and median. Two conduits are to be installed in the north sidewalk, one straight through, the second connected through the junction box referred to in the special provision for "East Abutment Electrical Work." Install the conduits as shown in the plans, in accordance to the pertinent requirements of standard spec 652, and as hereinafter provided.

Furnish schedule 40 polyvinyl chloride (PVC) conduits. The department will accept the conduit on the basis of the manufacturer's Certificate of Compliance and field inspection by the engineer upon delivery to the project.

PVC conduit and all fittings shall conform to the requirements of the standard specifications for Smooth-Wall Poly Vinyl Chloride (PVC) Conduit and Fittings for Underground Installation, ASTM Designation: F512 (latest edition).

Direct all materials questions regarding the city conduits to Mr. Tom Manzke, (414) 286-3265.

1. Placing of duct: Inspect all ducts before placing to see that the bores are clean and free from mud, sand, and detritus. Only use ducts with a smooth bore, free from burrs, and rough projections. Smooth off burrs or other rough areas found in the duct that is likely to damage cable. Smooth them off by rasping or scraping.

2. Install a standard box adapter on all ducts mating with junction boxes.

3. Install a standard expansion coupling on all ducts at all bridge expansion locations as indicated on the plans.

4. Place end caps on all ducts terminating outside of the abutments and tape caps in place.

5. A 3/8-inch nylon pull rope is to be installed in each pipe.

6. All conduits are to be extended beyond the bridge structure by three feet. If the conduit terminates under a sidewalk area there is to be an indication stamped into the curb at the end of the pipe. There is to be a box out of 3-feet by 5-feet centered over the pipe ending, with the long dimension running parallel with the curb.

Inspection: Contact George Berdine, (414) 708-4245 cell / (414) 286-5943 office, or Dennis Miller at (414) 708-4251 cell / (414) 286-5942 office. If neither Mr. Berdine nor Mr. Miller is available, then the contractor shall contact the dispatcher at (414) 286-5944.

51. Concrete Base Type 10, Item 654.0110.

Modify standard spec 654.2 as follows:

Contractor shall supply templates, anchor rods, nuts, and washers for installation as shown on the plans.

52. Temporary Traffic Signals for Intersections, Intersection of STH 190 and STH 100, Item 661.0200.01.

Append standard spec 661.2.1 with the following:

(1) The contractor shall furnish and install all temporary traffic signal equipment as shown on the plans. The signal controller shall be capable of operating with microwave detection and Emergency Vehicle Preemption (EVP). All wood poles shall be plumb and level. All engineering requested timing changes shall be coordinated with the DOT electrical field unit, (414) 266-1170.

(3) Contractor shall use existing underground electric service and meter breaker pedestal for the operation of the Temporary Traffic Signal. The department will pay for all Energy Costs for the operation of the Temporary Traffic Signal.

Furnish and install a generator to operate the Temporary Traffic Signal for the time required to switch the existing Permanent Traffic Signal over to the Temporary Traffic Signal as well as the time required to switch the Temporary Traffic Signal back over to the existing Permanent Traffic Signal.

Contractor shall contact the local electrical utility at least four days prior to making the switch from the existing Permanent Traffic Signal to the Temporary Traffic Signal. The contractor shall contact the local electrical utility at least four days prior to making the switch from the Temporary Traffic Signal back to the existing Permanent Traffic Signal.

(5) WisDOT shall furnish Microwave Based Traffic Sensor Equipment (MS Sedco sensors and Interface Cards) as shown in the temporary signal plans. Upon completion of the project and inspection by WisDOT, all Microwave Based Sensors and Interface Cards shall be returned to the department.

Append standard spec 661.2.1.2 with the following:

(3) For microwave detection system cable, furnish all necessary cables and wiring per the manufacturer's recommendations. Furnish and install any necessary in-line repeaters due to required cable lengths. The cable must be suitable for aerial applications if installed on the temporary traffic signal span wire.

Append standard spec 661.3.1 with the following:

(2) Request a signal inspection of the complete temporary traffic signal installation. Make this request to the engineer at least five working days before the requested inspection. Notify the department's Electrical Field Unit, (414) 266-1170, to coordinate the inspection. The department's Region Electrical personnel will perform the inspection.

(4) Install microwave detection system. Install the interface boards, card racks, and other necessary equipment in the signal cabinet. Mount the sensors on the wood poles per the manufacturer's recommendations. The microwave detection zones shall be set near the vicinity and within the approximate distance from the stop bar as shown on the plans.

(5) The sensor shall be mounted on the side of a pole at a height from 14 to 19 feet for optimal performance. When mounted on the side of the pole, a maximum 30 degree offset from the traffic direction shall be allowed to provide for optimal operation. Mounting hardware shall be supplied with each sensor to allow the device to be attached to a pole with standard stainless steel strapping bands.

(6) In the event, at installation, a noticeable obstruction is present in line with the microwave detection zone(s), the contractor shall be obligated to advise the engineer before setting the zone.

(7) It shall be the contractor's responsibility to relocate the microwave sensor to a suitable location if construction activities and/or construction staging changes impede the sensor operation.

(8) The microwave detection system, as shown in the traffic signal construction staging plans, shall be complete in place, tested, and in full operation during each stage and sub-stage of construction.

Append standard spec 661.3.1.2 with the following:

(7) Feed all microwave detection cables to microwave detection sensors as the plans show.

(8) All cables associated with the microwave detection system shall be routed to the cabinet. Each lead shall be appropriately marked as to which street or avenue it is associated.

Append standard spec 661.3.1.4 with the following:

(4) Maintain all microwave detection zones as the plans show. Microwave detection zones shall be checked on a bi-weekly basis to ensure that they are working and/or are aimed properly with the construction staging. Periodic adjustment of the microwave detection zones may be required due to changes in traffic control, staging, or other construction operations.

(5) Ensure that the microwave detection system stays in clean working order. Periodic cleaning of the sensors and other equipment may be required due to dirt and dust build-up.

Append standard spec 661.3.2.6 with the following:

(6) Remove the microwave detection system from the temporary traffic signal poles and cabinet. Deliver all the microwave detection system equipment to the West Allis Electrical Service Facility at 935 South 60th Street, West Allis, Milwaukee County. Contact the department's Electrical Field Unit, (414) 266-1170, at least three working days prior to delivery to make arrangements.

Revise standard spec 661.5 with the following:

(2) Payment for the Temporary Traffic Signals for Bridges, Temporary Traffic Signals for Intersections, and Temporary Ramp Meter bid items is full compensation for providing, operating, maintaining, and repairing the complete temporary installation, including microwave detection system (WisDOT will furnish MS Sedco sensors and Interface cards) and Emergency Vehicle Preemption (EVP) system; and for removal. Payment also includes the following:

1. Furnishing and installing replacement equipment, if necessary.
2. WisDOT electrical field unit staff inspection of the microwave based sensor equipment prior to turning the temporary signal off and delivering the equipment to the department.
3. Maintaining and changing all microwave detection zones to match the plans, traffic control, and construction staging.
4. Relocating sensors due to construction activities, if required.
5. Checking and/or adjusting all microwave detection zones on a bi-weekly basis.
6. Periodically cleaning all microwave detection equipment, if required.
7. Delivering the microwave detection system equipment to the department.
8. For drilling holes; furnishing and installing all materials, including bricks, and coarse aggregate; for excavation, bedding, and backfilling, including any sand or other required materials; furnishing and placing topsoil, fertilizer, seed, and mulch in disturbed areas; for properly disposing of surplus materials; for making inspections; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

53. Inlet Covers, Type 57, Item SPV.0060.01; Inlet Covers, Type 55, Item SPV.0060.02; Manhole Covers, Type 58A, Item SPV.0060.03; Inlet Type 45A, Item SPV.0060.04.

A Description

This special provision describes furnishing and installing manhole covers, inlet covers and inlets.

Perform work under these items in accordance to the requirements of standard spec 611 and the details as shown on the plans.

B (Vacant)

C (Vacant)

D Measurement
The department will measure Inlet Covers Type 57, Inlet Covers, Type 55, and Manhole Covers Type 58, and Inlet Type 45A 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.0060.01	Inlet Covers Type 57	Each
SPV.0060.02	Inlet Covers, Type 55	Each
SPV.0060.03	Manhole Covers Type 58A	Each
SPV.0060.04	Inlet Type 45A	Each

Payment is full compensation for furnishing and installing the manhole and inlet covers and inlet.

54. Inlet Screens, Type M, Item SPV.0060.05; Inlet Screens, Type R, Item SPV.0060.06.

A Description
This special provision describes furnishing, installing, and maintaining proper inlet screens as directed by the engineer, as shown on the drawings, and as hereinafter provided.

B Materials
Use woven filtration geotextile fabric with the following physical properties:

Test	Method	Value
Grab Tensile Strength (lbs)	ASTM D-4632	180 min.
Mullen Burst (lbs/in^2)	ASTM D-3786	200 min.
Equivalent Sieve Size	ASTM D-4751	US No. 30 max.
Water Flow Rate (gpm/ft^2)	ASTM D-4491	140 min.
Permitivity (Sec^{-1})	ASTM D-4491	1.9 min.
Permeability (cm/sec)	ASTM D-4491	0.14 min.

C Construction

C.1 Installation

The control of soil erosion requires flexibility to accommodate changing conditions as the construction project progresses. In general, install the erosion control device at locations as described on the plan.

At all inlet locations, install a Type M screen. If the inlet being protected has a side inlet box, seal the inlet box until inlet protection is no longer needed. These screens must be in place prior to the start of any work, including sawing.

On reconstruction projects, install Type M screens at all inlets and storm or combined sewer manholes. Install these screens, or some other device or method acceptable to the engineer, for preventing infiltration of solids into the sewer system, on the day that removal takes place. When it becomes necessary to remove a brick from a drainage structure in order to drain the subgrade filter screen, use approximately the size and shape of one-half of the Type R screen. Pay for the cost of providing this protection, as well as that required for storage piles of earth, gravel, stone, or other debris. Should the frame on the structure be removed or an opening occurs beneath the frame, install additional erosion control in the form of Type R as part of maintaining erosion control.

C.2 Maintenance

Continue cleaning and repair of all types of control devices until the engineer accepts the work. All such cleaning and repair, as well as the eventual removal of the devices, is the responsibility of the contractor.

Completely clean out manholes into which dirt or other debris has fallen before the end of each work day. Should the contractor not perform the cleaning as required, his operation may be shut down until the situation is corrected.

Protect all control measures protruding above the normal paved and/or ground surface where vehicular and/or pedestrian traffic is being maintained by barricades with flashing lights.

Inspect the inlet basket within 24 hours after each rainfall or daily during extended periods of precipitation. Make repairs immediately, as necessary, to prevent particles from reaching the sewerage system and/or causing the surface flooding.

Remove sediment deposits after each storm event or as often as the fabric becomes clogged. Failure to maintain clean, debris free inlet baskets may result in the contractor’s operations being shut down.

D Measurement

The department will measure Inlet Screens (Type) 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.0060.05	Inlet Screens Type M	Each
SPV.0060.06	Inlet Screens Type R	Each

Payment is full compensation for the number of actual devices supplied, installed and properly maintained.

55. Internal Sanitary Manhole Seals, Item SPV.0060.07.

A Description
This special provision describes furnishing and installing internal manhole chimney seals.

B Materials
Use an internal manhole seal.

C Construction
Field-measure the inside diameter of the manhole frame and the manhole chimney, and determine as to whether the inside face of the frame is vertical or tapered in order to obtain the proper size and shape rubber seal.

Install internal rubber chimney seals no sooner than 24 hours following chimney back plastering.

The surfaces against which the sleeve is to be compressed shall be circular, clean, reasonably smooth and free of any loose materials and excessive voids. Repair all flaws in these surfaces with the approved low-shrink mortar or grind the surfaces smooth. Apply a bead of butyl rubber caulk conforming to ASSHTO M-198 Type B to the lower sealing surface of sleeve.

Install the seal according to the manufacturer's instructions. (Refer to the plan data for configuration of chimney seal.)

D Measurement
The department will measure Install Manhole Seals as each individual unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.07	Internal Sanitary Manhole Seals	Each

Payment is full compensation for furnishing and installing internal rubber chimney seals; and for furnishing all labor, tools, equipment and incidentals necessary to complete the work.

56. Adjusting TES Manholes, Item SPV.0060.08.

A Description

This special provision describes adjusting the existing chimney of the block, precast, or brick round manholes; furnishing, installing and removing protection of the cables in the manhole during adjustment operations. Perform work in accordance to the standard specifications, the provisions of the article Adjusting Manhole Covers, as shown on the plans, and as hereinafter specified.

B Material

Furnish and install materials that conform to the requirements of standard spec 519. Salvage and reinstall existing covers on designated manholes. The city will supply covers designated for replacement. Contractor shall contact Ricardo Lopez, Inventory Clerk, (414) 286-6123, prior to obtaining the frames and lids from the DPW Field Headquarters at 3850 N. 35th Street. Contractor must have the "Castings Requisitions Form" which shall be supplied by the city at the Preconstruction Meeting to obtain the covers.

C Construction

Report any pre-existing problems to Ms. Karen Rogney of City Underground Conduits Section, (414) 286-3243, three working days in advance of any construction on manholes.

Before removing the pavement around the manhole, the contractor shall place a ¾-inch plywood cover or equal over existing active street lighting, traffic control, communication or private vendor electrical cables. This cover shall be properly supported to/at the manhole floor.

Break out and remove pavement around manhole. Remove existing covers, store and properly secure the covers scheduled to be reinstalled. Any damaged, lost, or stolen covers shall be the responsibility of the contractor and shall be replaced at contractor's expense.

Remove existing chimney to surface of concrete roof slab. If manhole does not have an existing concrete roof slab, remove sufficient chimney as to provide adequate corbel to fit new cast iron from and cover.

Adjust manhole cover to proposed grade using bricks or concrete rings as necessary. Remove wedges/shims. Fill voids with bricks and/or grout. Do not back plaster inside walls.

After completion of paving, remove the temporary ¾-inch plywood cover or equal which is over the existing electrical cables in the manhole as mentioned above.

Notify Ms. Rogney three working days in advance of completion of each manhole adjustment, for inspection and acceptance of work performed. The contractor will receive no payment until the above work is approved by City Underground Conduits.

D Measurement
The department will measure Adjusting TES Manholes 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.0060.08	Adjusting TES Manholes	Each

Payment is full compensation for furnishing all required materials, exclusive of frames, grates, or lids available and designated for adjusting; for removing, reinstalling and adjusting the covers; and for furnishing all labor, tools, equipment and incidentals necessary for adjusting each cover, complete in accordance to the requirements of the plans and contract. Covers to be adjusted and which are rendered unfit for use by the contractor through the contractor's operations will be replaced by the contractor in kind at the contractor's own cost and expense.

57. Adjusting Water Boxes, Item SPV.0060.09; Adjusting Water Manholes, Item SPV.0060.10.

A Description
This special provision describes adjusting, protecting, and maintaining accessibility, for the duration of the paving project, to all city water service boxes, water gate valve boxes and water manholes located within the project limits.

B Materials
All material for the adjustment of these facilities must meet City of Milwaukee specifications and will be provided by the City of Milwaukee by contacting Mr. Jesse Hernandez, Milwaukee Water Works, (414) 708-9005, or Mr. Dave Goldapp, Milwaukee Water Works, (414) 286-6301. If there is contractor damage, the materials must still be provided by the City of Milwaukee, however, in this case, the contractor will be charged for all materials. Materials furnished by the City of Milwaukee and not used on the project shall be delivered back to the Department of Public Works Field Headquarters – Infrastructure, Operations, Water Works at 3850 North 35th Street. Materials being returned must be accompanied with a "surplus material" form completed by the public works inspector assigned to the project.

C Construction
All water service boxes, water gate valve boxes and water manhole frames and lids within the project limits shall be adjusted to proposed elevations by the contractor using materials meeting city specifications.

The city will locate, mark, inspect and repair all water service boxes, water gate valve boxes and water manhole frames and lids within the limits of the project prior to commencement of work on the project.

Throughout the duration of the project, the contractor must ensure that all water service boxes, water gate valve boxes, and water manholes are adequately located and identified by blue paint, and that at all times, all water appurtenances remain accessible for operation by city forces. Exercise caution working adjacent to water facilities to avoid damage and ensure accessibility.

Upon completion of the contract, the city will inspect all water facilities to ensure the water boxes and manholes are clean, properly aligned, and accessible. The contractor shall be responsible to make identified repairs and adjustments, and if any repairs or adjustments are made by the city, the cost will be charged to the contractor.

D Measurement
The department will measure Adjusting Water Boxes and Adjusting Water Manholes 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.0060.09	Adjusting Water Boxes	Each
SPV.0060.10	Adjusting Water Manholes	Each

Payment is full compensation for furnishing all excavation, backfilling, disposal of surplus materials, water box or manhole clean-out, and restoration of the work site; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

58. Rectangular Vault 13-Inch x 24-Inch x 18-Inch, Item SPV.0060.11; Rectangular Vault 17-Inch x 30-Inch x 18-Inch, Item SPV.0060.12.

A Description
This special provision describes furnishing and installing Polymer Concrete Vaults in accordance to current City of Milwaukee methods.

B Materials
Polymer Concrete shall be manufactured from one of the general types of grades defined in polymers in concrete structural applications state of the art report, ACI 548.6R-96 for structural uses. Thermoplastics will not be acceptable.

Enclosure walls shall be made from pattern cut structural fiberglass cloths to assure uniform, pre-measurable fiberglass content on all areas. Chopper gun fiberglass construction is not acceptable.

Binding polymers used in the manufacture of the polymer concrete and the fiber reinforced polyester shall be of the same formulation or from formulations with demonstrated chemical compatibility to assure complete chemical bonding of all components. Fiber reinforced polyester wall sections must be cast integrally into and chemically bonded within the upper polymer concrete casting.

Testing
Meet ANSI/SCTE 77 2010 (Tier 15 or greater), ASTM C 857, and WUC 3.6 structural requirements.

Underground enclosures must successfully pass numerous material and product performance tests before they can meet ANSI/SCTE 77. These tests include:

- Three Position Load Testing to Simulate Actual Application
- UV Degradation per ASTM G-53
- Fire Resistance per RUS7CFR 1755.910 and WUC 3.6 Section 5.2.7
- Chemical Resistance per ASTM D-543
- Water Absorption per ASTM D-570
- Load and Deflection Requirements per SCTE Coaxial Practice, Section 5
- Impact Resistance per ASTM D-2444
- Accelerated Service per ASTM D-756

Compressive Modulus of Elasticity (fiberglass reinforced polymer): 5.6×10^6 PSI tested in accordance to procedures outlined in ASTM D-695.

Comprehensive Strength (fiberglass reinforced polymer): 24,300 PSI tested in accordance to procedures outlined in ASTM D-695.

Flexural Strength (fiberglass reinforced polymer): 18,700 PSI tested in accordance to ASTM D-790.

Tensile Strength (fiberglass reinforced polymer) 12,100 PSI tested in accordance to procedures outlined in ASTM D-638.

Tensile Modulus of Elasticity (fiberglass reinforced polymer): 8.6×10^5 PSI tested in accordance to procedures outlined in ASTM D-638.

Splitting Tensile Strength (polymer concrete): Tested in accordance to procedures outlined in ASTM C-496.

Accelerated Service: Tested in accordance to procedure E outlined in ASTM D-756.

Water Absorption: Tested in accordance to ASTM D-570 outlined in sections 6.1 and 6.5.

Impact Resistance (fiberglass reinforced polymer concrete): 72 foot pounds in accordance to ASTM D-2444 administered with a "C" tup.

Skid Resistance: 0.60 coefficient of friction in accordance to ASTM C-1028.

Flammability Test: Tested in accordance to ASTM D-635.

Ultraviolet Exposure: Tested in accordance to ASTM test method G-53.

Chemical Resistance

- Sodium Chloride 5%
- Sodium Carbonate 0.1 N
- Hydrochloric Acid 0.2 N
- Acetic Acid 5%
- Sulfuric Acid 0.1 N
- Sodium Sulfate 0.1 N
- Sodium Hydroxide 0.1 N
- Kerosene Oil per ASTM D-543
- Transformer Oil per ASTM D-543
- The street lighting vaults and covers shall be gray in color and shall be flared wall as indicated on the Drawings. Covers shall be provided with 2 stainless steel bolts. Each cover shall have the words "STREET LIGHTING" cast into its surface along the longest dimension. The words shall be permanently recessed into the surface.

C Construction

Install rectangular flared vaults according to current City of Milwaukee standards. Provisions for inserting conduit into any side or the bottom of the vault shall be included.

D Measurement

The department will measure Rectangular Vault (Size) as each individual vault 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.0060.11	Rectangular Vault 13-Inch x 24-Inch x 18-Inch	Each
SPV.0060.12	Rectangular Vault 17-Inch x 30-Inch x 18-Inch	Each

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

59. Concrete Base Type 10 Special, Item SPV.0060.13.

A Description
This special provision describes constructing a concrete base type 10 special with a 36-inch diameter for monotube mast arm structures in accordance to standard spec 654 with modifications as shown on the plans, and as hereinafter provided.

B Materials
Modify standard spec 654.2 as follows:

Contractor shall supply templates, anchor rods, nuts, and washers for construction as shown on the plans.

C Construction
Construction of this item shall conform with standard spec 654.

D Measurement
The department will measure Concrete Base Type 10 Special as each individual concrete base, 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.0060.13	Concrete Base Type 10 Special	Each

Payment is full compensation for constructing concrete bases including all hardware and fittings necessary for installation.

60. Poles Type 10, Item SPV.0060.15.

A Description
Work under this item consists of furnishing and installing monotube poles.

B Materials
Design support structures conforming to the minimum wall thickness the plan details show and to AASHTO design and fabrication standards for structural supports for highway signs, luminaries, and traffic signals. Use a design life of 50 years. Design to withstand a three second gust wind speed of 90 mph (145 km/h). Do not use the methods of Appendix C of those AASHTO standards.

Use category III criteria for 15 to 30-foot arms.

For structures requiring a fatigue analysis, use 45 mph (72 km/h) for truck-induced gusts.

After welding and before zinc coating, clean the exterior surface of each steel pole free of all loose rust and mill scale, dirt, oil or grease, and other foreign substances.

Apply a zinc coating conforming to the process specified for steel sign bridges in standard spec 641.2.8. Ensure that the zinc coating is tight, free from rough areas or slag, and presents a uniform appearance.

After completing manufacturing, clean the exterior surfaces of each pole free of all loose scale, dirt, oil or grease, and other foreign substances.

Provide a reinforced hand hold measuring 4 inches by 6 inches (100 mm by 150 mm) as the plans show. Locate the hand hole 18 inches (450 mm) from the bottom of the pole base to the center of the door.

For the hand hole, include an access cover mounted to the pole by two ¼" -20 x ¾" (m6 x 1.00 x 19 mm) hex-head stainless steel bolts.

Provide a grounding lug complete with mounting hardware, as required, inside the pole as the plans show.

Provide access to the grounding lug from the hand hole. Weld the ground lug directly opposite the hand hole on the inside wall of the pole.

Equip the top of the shaft with a removable, ventilated cap held securely in place by at least three ¼" -20 x ¾" (m6 x 1.00 x 19 mm) hex-head stainless steel set screws.

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.

Include anchor bolts meeting AASHTO standards applicable to the pole type and loading. Provide a mounting template that ensures correct installation of anchor bolts in foundation.

C Construction

Install poles as specified in the plan details and using appropriate contractor-furnished anchor bolts and hardware. Use the appropriate anchor bolt template to ensure correct installation. Secure pole to anchor assembly and document tensioning procedures conforming to standard spec 641.3.1.2.

After completing erection using normal pole shaft raking techniques, ensure the centerline of the shaft appears vertical.

D Measurement
The department will measure Poles Type 10 as each individual pole, 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.0060.15	Poles Type 10	Each

Payment is full compensation for providing and installing poles including all hardware and fittings necessary to install the poles.

61. Poles Type 13 Special, Item SPV.0060.17.

A Description
Work under this item consists of furnishing and installing monotube poles.

B Materials
Design support structures conforming to the minimum wall thickness the plan details show and to AASHTO design and fabrication standards for structural supports for highway signs, luminaries, and traffic signals. Use a design life of 50 years. Design to withstand a three second gust wind speed of 90 mph (145 km/h). Do not use the methods of Appendix C of those AASHTO standards.

Use category II criteria for 35 to 55-foot arms.

For structures requiring a fatigue analysis, use 45 mph (72 km/h) for truck-induced gusts. After welding and before zinc coating, clean the exterior surface of each steel pole free of all loose rust and mill scale, dirt, oil or grease, and other foreign substances.

Apply a zinc coating conforming to the process specified for steel sign bridges in standard spec 641.2.8. Ensure that the zinc coating is tight, free from rough areas or slag, and presents a uniform appearance.

After completing manufacturing, clean the exterior surfaces of each pole free of all loose scale, dirt, oil or grease, and other foreign substances.

Provide a reinforced hand hold measuring 4 inches by 6 inches (100 mm by 150 mm) as the plans show. Locate the hand hole 18 inches (450 mm) from the bottom of the pole base to the center of the door.

For the hand hole, include an access cover mounted to the pole by two ¼” -20 x ¾” (m6 x 1.00 x 19 mm) hex-head stainless steel bolts.

Provide a grounding lug complete with mounting hardware, as required, inside the pole as the plans show.

Provide access to the grounding lug from the hand hole. Weld the ground lug directly opposite the hand hole on the inside wall of the pole.

Equip the top of the shaft with a removable, ventilated cap held securely in place by at least three ¼" -20 x ¾" (m6 x 1.00 x 19 mm) hex-head stainless steel set screws.

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.

Include anchor bolts meeting AASHTO standards applicable to the pole type and loading. Provide a mounting template that ensures correct installation of anchor bolts in foundation.

C Construction
Install poles as specified in the plan details and using appropriate contractor-furnished anchor bolts and hardware. Use the appropriate anchor bolt template to ensure correct installation. Secure pole to anchor assembly and document tensioning procedures conforming to standard spec 641.3.1.2.

After completing erection using normal pole shaft raking techniques, ensure the centerline of the shaft appears vertical.

D Measurement
The department will measure Poles Type 13 Special as each individual pole, 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.0060.17	Poles Type 13 Special	Each

Payment is full compensation for providing and installing poles including all hardware and fittings necessary to install the poles.

62. Pre-Cast Traffic Signal Bases, Item SPV.0060.18.

A Description
Install concrete traffic signal bases furnished by the City of Milwaukee, for traffic signals as shown on the plans.

B Materials
Pre-cast concrete traffic signal bases will be furnished by the City of Milwaukee.

C Construction
Pick up pre-cast concrete traffic signal bases from the City of Milwaukee yard located at 1540 West Canal Street. Contact traffic signal shop dispatch, (414) 286-3687 to coordinate pick up. Install concrete traffic signal bases in accordance to the plans. Plan changes must be approved by the City of Milwaukee Electric Services Supervisor or Traffic Engineer. The primary contacts are Mr. Jerry Wilson, Traffic Operations Supervisor, (414) 286-5941 office / (414) 708-3170 mobile; or Mr. Joseph Blakeman, Traffic Control Engineer III, (414) 286-8070.

D Measurement
The department will measure Install Traffic Signal Bases as each individual pre-cast traffic signal base, 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.0060.18	Pre-Cast Traffic Signal Bases	Each

Payment is full compensation for picking up, transporting and installing all materials; for excavation, backfilling and disposal of surplus material.

63. Monotube Arms 20-FT Special, Item SPV.0060.19; Monotube Arms 25-FT Special, Item SPV.0060.20, Monotube Arms 30-FT Special, Item SPV.0060.21; Monotube Arms 35-FT Special, Item SPV.0060.22; Monotube Arms 40-FT Special, Item SPV.0060.23.

A Description
Work under this item consists of furnishing and installing monotube arms.

B Materials
Design support structures conforming to the minimum wall thickness the plan details show 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 (145 km/h). Do not use the methods of appendix C of those AASHTO standards.

Use category III criteria for 15 to 30-foot arms. Use category II criteria for 35 to 55-foot arms.

For structures requiring a fatigue analysis, use 45 mph (72 km/h) for truck-induced gusts.

Base the designs on the completed maximum loading configuration the standard detail drawing shows. Along with the materials list, submit a certificate of compliance certifying that the arms 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 monotube arm shop drawings to the department electrical engineer.

Furnish monotube arms conforming to the following:

1. Consist of zinc coated steel round or oval members.

2. Have a mounting device welded to the pole end of the monotube arm that allows the attachment of the arm to a pole as the plans show.

3. Have stiffeners or gussets if required between the arm tube and the arm mounting device to provide adequate strength to resist side loads.

4. Have a clean, uniform natural finish. No paint or other corrosion preventive maintenance coating is required.

After welding and before zinc coating, clean exterior surfaces of each arm free of all loose rust and mill scale, dirt, oil or grease, and other foreign substances.

Apply zinc coating as specified for sign bridge components in standard spec 641.2.8. Ensure that the zinc coating is tight, free from rough areas or slag, and presents a uniform appearance.

After manufacturing is complete, clean the exterior surfaces of each pole free of all loose scale, dirt, oil, or grease, and other foreign substances.

C Construction
Install monotube arms on poles as shown in the plans.

D Measurement
The department will measure each Monotube Arms (FT) Special as each individual arm, 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.0060.19	Monotube Arms 20-FT Special	Each
SPV.0060.20	Monotube Arms 25-FT Special	Each
SPV.0060.21	Monotube Arms 30-FT Special	Each
SPV.0060.22	Monotube Arms 35-FT Special	Each
SPV.0060.23	Monotube Arms 40-FT Special	Each

Payment is full compensation for providing and installing all materials, including all hardware, fittings, mounting devices, shims, and attachments necessary to completely install the arms.

64. 4-Foot Diameter TES Manhole, Item SPV.0060.26.

A Description

The work under this item consists of a 4'-0" round manhole for the City of Milwaukee Underground Conduit Section at locations shown in the plans, in accordance to standard spec 301, 611 and 501, and as hereinafter provided.

B Materials

Concrete and steel reinforcement shall conform to ASTM specification: C478 (latest edition), except that the single cage circumferential reinforcement in all vertical walls shall consist of lines of #6 steel wire spaced 3" horizontally and lines of #10 steel wire spaced 8" vertically located in the center of the wall.

Two lifting inserts for 1-1/2" diameter lifting eyes shall be cast in the wall of the base and all other riser sections except the top cap section.

Up to four 7/8" diameter galvanized steel 1-11/16" pulling-in eyes shall be cast in the wall of the base section directly across from each duct entrance.

Four 5/8" diameter plastic threaded cable rack bolt inserts shall be cast in the wall of the riser section.

A continuous circumferential Butyl Rubber gasket shall be supplied, to be laid on the wall joint of the base and riser section when manhole is being assembled at job site. The number of pulling-in eyes and/or cable rack bolt inserts may vary.

Additionally, the size, location, shape and number of duct entrances and/or knock-out area may vary. Unit price of manhole shall not vary for number of openings, pulling-in eyes and/or rack bolt inserts.

The city will supply a frame and lid for the manhole. Contractor shall contact Mr. Ricardo Lopez, Inventory Clerk, (414) 286-6123, prior to obtaining the frame and lid from the DPW Headquarters at 3850 N. 35th Street. Contractor must have the "Casting Requisition Form" which shall be supplied by the city at the Preconstruction Meeting.

For any questions on materials, contact Ms. Karen Rogney, (414) 286-3243.

C Construction

4' Diameter Manholes Type TES shall be installed in accordance to standard spec 611.3.

D Measurement

The department will measure 4-foot Diameter TES Manhole by each individual manhole, acceptably completed.

E Payment

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

Item Number	Description	Unit
SPV.0060.26	4-Foot Diameter TES Manhole	Each

Payment is full compensation for furnishing all excavation work and disposal of material; for, furnishing and installing all materials, including bricks, and coarse aggregate, bedding and backfilling, concrete forms, concrete placement, appurtenances, and backfilling; and for furnishing all labor, tools, equipment and incidentals necessary to complete the work.

65. 5-Foot Diameter TES Manhole, Item SPV.0060.27.

A Description

The work under this item consists of a 5'-0" round manhole for the City of Milwaukee Underground Conduit Section at locations shown in the plans, in accordance to standard spec 301, 611 and 501, and as hereinafter provided.

B Materials

Concrete and steel reinforcement shall conform to ASTM specification: C478 (latest edition), except that the two cage circumferential reinforcements in all vertical walls shall consist of lines of #6 steel wire spaced 3" horizontally and lines of #10 steel wire spaced 8" vertically located in the center of the wall.

Two lifting inserts for 1-1/2" diameter lifting eyes shall be cast in the wall of the base and all other riser sections except the top cap section.

Up to four 7/8" diameter galvanized steel 1-11/16" pulling-in eyes shall be cast in the wall of the base section directly across from each duct entrance.

Four 5/8" diameter plastic threaded cable rack bolt inserts shall be cast in the wall of the riser section.

A continuous circumferential Butyl Rubber gasket shall be supplied, to be laid on the wall joint of the base and riser section when manhole is being assembled at job site.

The number of pulling-in eyes and/or cable rack bolt inserts may vary.

Additionally, the size, location, shape and number of duct entrances and/or knock-out area may vary. Unit price of manhole shall not vary for number of openings, pulling-in eyes and/or rack bolt inserts.

The city will supply a frame and lid for the manhole. Contractor shall contact Mr. Ricardo Lopez, Inventory Clerk, (414) 286-6123, prior to obtaining the frame and lid from the DPW Headquarters at 3850 N. 35th Street. Contractor must have the "Casting Requisition Form" which shall be supplied by the city at the Preconstruction Meeting.

For any questions on materials, contact Ms. Karen Rogney, (414) 286-3243.

C Construction
5' Diameter Manholes Type TES shall be installed in accordance to standard spec 611.3.

D Measurement
The department will measure 5-foot Diameter TES Manhole by each individual manhole, acceptably completed.

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

Item Number	Description	Unit
SPV.0060.27	5-Foot Diameter TES Manhole	Each

Payment is full compensation for furnishing all excavation work and disposal of material; for, furnishing and installing all materials, including bricks, and coarse aggregate, bedding and backfilling, concrete forms, concrete placement, appurtenances, and backfilling; and for furnishing all labor, tools, equipment and incidentals necessary to complete the work.

66. Conduit Into Existing Manhole, Item SPV.0060.28.

A Description
This special provision describes locating existing conduit system manholes and installing new conduit into those manholes at the locations shown on the plans. The contractor shall verify existing conduit manhole locations with the City of Milwaukee, and shall maintain any existing conductors, fibers, and conduit paths without interruption or damage. Repair and restoration of all disturbed areas resulting from the work shall be in accordance to the pertinent provisions of the standard specifications, and as hereinafter provided.

B Materials
Conduit, as provided and paid for under the other items in this contract. All materials shall conform to the pertinent provisions of the standard specifications unless otherwise noted.

C Construction
Carefully expose the outside of the existing structure without disturbing any existing conduits or cabling.

Drill the appropriate sized hole for the entering conduit at a location within the structure that will not disturb the existing cabling and will not hinder the installation of new cabling within the installed conduit, or remove existing abandoned conduit from the structure to allow for the installation of the new conduits as indicated on the plans.

Fill any void area between the drilled hole and conduit with an engineer-approved filling material to protect against conduit movement and entry of fill material into the structure.

Carefully tamp backfill into place.

All disturbed areas shall be repaired and restored in kind.

D Measurement

The department will measure Conduit Into Existing Manhole by each individual unit, acceptably completed. Up to six conduits entering a structure per entry point into the existing structure will be considered a single unit. Conduits in excess of six, or conduits entering at significantly different entry points into the existing manhole will constitute multiple units.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.28	Conduit Into Existing Manhole	Each

Payment is full compensation for drilling holes; removing abandoned conduit; furnishing and installing all materials, including bricks, and coarse aggregate; for excavation, bedding and backfilling, including any sand or other required materials; furnishing and placing topsoil, fertilizer, seed, and mulch in disturbed areas; for disposal of surplus materials; and for making inspections.

67. Concrete Collar Special, Item SPV.0060.29.

A Description

This special provision describes constructing a concrete collar as shown on the plans and as hereinafter provided.

B Materials

Furnish concrete masonry and material that is in accordance to standard spec 501.

C Construction

Cut and remove only the minimum amount of wall necessary around the existing junction chamber wall to make a new connection. Do not damage the existing junction chamber while making a connection. Build a concrete collar at connection to the junction chamber. The finished concrete collar shall have a strength of 4000 psi; dowel it into the existing structure with 9-inch long #5 deformed steel reinforcement bars placed 12 inches on center.

D Measurement
The department will measure Concrete Collar Special by each unit, acceptably complete in place.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.29	Concrete Collar Special	Each

Payment is full compensation for furnishing, hauling, and placing of all materials; and for excavation, backfilling and properly disposing of excess materials.

68. MIS Manhole Riser Extension, Item SPV.0060.30.

A Description
Furnish and Install MIS Manhole Riser Extension at the location indicated on the plans and specified herein.

B Materials
Furnish materials conforming to the following: State of Wisconsin Standard Specification for Sewer and Water Construction Sixth Edition Chapter 8.39.0 Precast Reinforced Concrete Manholes.

Manhole Steps
Manhole steps shall be Type PS2-PFS as manufactured by M. A. Industries, Peachtree City, Georgia 30269; or equal. Provide certified test data that the steps are capable of withstanding an 800-pound vertical load without sustaining more than a 3/8-inch permanent set when tested in accordance to Section 10 of ASTM C497.

Bentonite Waterstops
The bentonite waterstop material shall be the 1-inch by ¾-inch size flexible strip of bentonite waterproofing compound with an adhesive surface on one side of the strip, and it shall be the waterstop Type RX, as manufactured by the American Colloid Company, Arlington Heights, IL; or approved equal.

Bonding Agent
Bonding agent for installing waterstops in grooves cut into existing concrete shall be Sikastix 391, Sikadur Hi-Mod Gel; Horn Co. Epoxtite Grout 2388; or equal. Bonding agent for use on existing concrete surfaces shall be Sikastix 370, Sikadur Hi-Mod; Horn Co. Epoxtite Binder 2385; or equal.

C Construction
Install MIS Manhole Riser Extension at the location shown on the plans.

Perform work under this item in accordance to the requirements of standard spec 611, and the details as shown on the plans.

D Measurement
The department will measure MIS Manhole Riser Extension 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.0060.30	MIS Manhole Riser Extension	Each

Payment is full compensation for providing and installing all required materials, including masonry and fittings; for salvaging and reinstalling existing covers, including frame or lid; for furnishing all necessary excavation, backfilling, disposing of surplus material, and for cleaning out and restoring the work site.

69. Sawing Concrete-Encased Duct Package, Item SPV.0060.31.

A Description
The work under this provision consists of full depth sawing of cement encased multiple duct conduit below grade; preparing sawed conduit ends to accept adaptor couplings needed to allow transition of new PVC conduit from existing clay, fiber or PVC conduit (See Item SPV.0090.03).

B (Vacant)

C Construction
Equipment
Use ring saw or concrete cutting chainsaw for all full-depth cuts. Use diamond blades. The contractor may use a high speed 16” construction saw on duct systems with less than 4-ducts when approved by the engineer.

Sawing Encasement
Carefully expose the outside of the existing cement encasement. The contractor is to verify that the conduit lines are free of all cabling. Saw a full depth transverse cut through the encasement. Saw straight cuts with the surface remaining vertical over its full depth. Hand chip concrete away from sawed conduit duct ends to allow transition fittings to be placed over the ends. The exposed conduit will be protected from damage. Any damaged conduit ends will be the responsibility of the contractor and will require a resaw at the contractor’s expense.

D. Measurement
The department will measure Sawing Concrete-Encased Duct Package by each individual unit, acceptably completed. Up to 6 conduits per cement encasement will be considered a single unit.

Encasements in excess of 6 conduits will constitute multiple units.

E. Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.31	Sawing Concrete-Encased Duct Package	Each

Payment is full compensation for sawing concrete encased duct packages full depth and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work in accordance to the requirements of the plans and contract.

70. Construction Staking, Concrete Sidewalk, Item SPV.0090.01.

A Description

This special provision describes furnishing and setting construction stakes or control points, including all calculations required, necessary to establish the horizontal and vertical position of the concrete sidewalk as shown on the plans.

B (Vacant)

C Construction

C.1 General

Obtain or calculate benchmark data, grades, and alignment from data in the plan and verify with the engineer prior to beginning the work. The engineer will furnish horizontal alignment, horizontal alignment ties and control point data. This work shall include reestablishing the plan horizontal roadway alignment, alignment ties, and control points.

Obtain approval from the engineer prior to beginning the work for methods of survey and prior to beginning the work. The degree of accuracy used in the survey work shall be consistent with third order, class II. Establish additional benchmarks and control points as necessary or as directed by the engineer. Check plan dimensions, alignment, and elevations for accuracy with existing field conditions. Immediately call to the engineer's attention any errors and apparent discrepancies for correction or interpretation prior to proceeding with the work.

Maintain neat, orderly and complete survey notes and computations used in establishing the lines and grades. Make the survey notes and computations available to the engineer within 24 hours upon request as the work progresses.

C.2 Concrete Sidewalk

Place construction stakes for concrete sidewalk at intervals of 25 feet. A minimum of three stakes per cross section is required. Set and maintain as necessary additional stakes per cross section to achieve the required accuracy and to satisfy the contractors' method of operations. Set additional stakes as necessary to establish location and grade along intersecting road radii; and for auxiliary lanes, vertical curves, horizontal curves, and

curve transitions. Locate all concrete sidewalk construction stakes to within 0.25 ft. of the true horizontal position and establish the grade elevation to within 0.01 ft. of the true vertical position.

D Measurement

The department will measure Construction Staking, Concrete Sidewalk by the linear foot along each roadway centerline or reference line, acceptably completed. When sidewalk occurs on both sides of the roadway, the quantity of Construction Staking, Concrete Sidewalk, will be measured by the linear foot along the centerline or reference line of each side of the roadway.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.01	Construction Staking, Concrete Sidewalk	LF

Payment is full compensation for furnishing all survey work necessary to locate and set all concrete sidewalk construction stakes including additional stakes per cross section set to achieve the required accuracy and to satisfy the contractors' method of operations including intersecting road radii, auxiliary lanes, vertical curves, horizontal curves, and curve transitions; for resetting damaged or missing concrete sidewalk construction stakes; and for furnishing all labor, tools, stakes, lath, flags, equipment and incidentals necessary to complete the work for staking storm sewer staking-control.

71. Storm Sewer Pipe 8-Inch PVC, Item SPV.0090.02.

A Description

This special provision describes furnishing and installing storm sewer in accordance to standard spec 607 and 608, as shown on the plans, and as hereinafter provided.

B Materials

Supplement standard spec 607.2 and 608.2 as follows:

Furnish 8-inch polyvinyl chloride (PVC) pipe (AWWA Standard C-900-07, DR-18). Storm sewer will be accepted on the basis of a Manufacturer's Certificate of Compliance and WisDOT field inspection upon delivery to a project.

Manufacturers of PVC pipe shall request evaluation and approval of their projects by filing with the department's Bureau of Technical Services, a certificate setting forth the name or brand of pipe to be furnished, the specified type, category, grade and PVC plastic cell classification. The certificate shall have attached a certified test report from an approved independent testing laboratory showing specific results of tests performed on each diameter pipe to be furnished conforming to all requirements of these specifications. The pipes tested shall be randomly selected for test by the independent testing laboratory as being representative of that manufacturer's pipe. The manufacturer of the pipe shall also submit with the certification, a guarantee that all pipe furnished be of the same

quality and composition and conform to the specifications requirements as tested by the independent laboratory, as long as the manufacturer continues to furnish materials for WisDOT projects.

Corrugated PVC pipe and fittings shall conform to PVC AWWA C-900-07 DR-18 PVC Pressure Pipe that is manufactured from compounds conforming to PVC cell classification of 12454 as defined in ASTM D-1784. The pipe shall meet the requirements of the AWWA C-900-07 standard specification for polyvinyl chloride water distribution pipe. The integral bell joint system meets the requirements of ASTM D-3139 and utilizes an elastomeric seal conforming to ASTM F-477. Joint connections shall include gaskets as recommended by the manufacturer.

C Construction

Supplement standard spec 607.3 for corrugated PVC pipe with the following:

Trench width shall be in accordance to standard practice for underground installation of thermoplastic sewer pipe, ASTM Designation D 2321. Minimum trench width shall be not less than a greater of either the pipe outside diameter plus 16 inches or the pipe outside diameter times 1.25 plus 12 inches.

Seal joints for sewer pipe to be soil tight in accordance to AASHTO Standard Specifications for Highway Bridges, section 26.4.2(e).

Protect all storm sewer pipes until final acceptance of the work; replace all pipes that are damaged either through the construction operations or due to contractor failure to properly protect the same, in kind at contractor expense.

Backfill all trenches and excavations immediately after the sewers have been constructed therein. Use backfilling material that is in accordance to the requirements for granular backfill, standard spec 209, except that all such materials placed around the pipe and to 6 inches above the pipe shall pass a 25 mm sieve.

D Measurement

The department will measure Storm Sewer Pipe, 8-Inch in length by the linear foot in accordance to standard spec 607.4.1.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.02	Storm Sewer Pipe PVC 8-Inch	LF

Payment is full compensation according to standard spec 607.5.1.

72. 1-Duct Conduit Cement Encased, 4-Inch Conduit DB-60, Item SPV.0090.03; 2-Duct Conduit Cement Encased, DB-60, Item SPV.0090.04; 3-Duct Conduit Cement Encased DB-60 Item SPV0090.05; 4-Duct Conduit Cement Encased DB-60 Item SPV0090.06; 5-Duct Conduit Cement Encased DB-60 Item SPV0090.07; 6-Duct Conduit Cement Encased DB-60 Item SPV0090.08; 7-Duct Conduit Cement Encased DB-60 Item SPV0090.09; 8-Duct Conduit Cement Encased DB-60 Item SPV0090.10; 10-Duct Conduit Cement Encased DB-60 Item SPV0090.11; 12-Duct Conduit Cement Encased DB-60 Item SPV0090.12.

A Description

This work consists of furnishing and installing cement encased multiple duct conduit packages below grade in accordance to the applicable sections of the standard specifications, as shown on the plans and as hereinafter described.

B Materials

B.1 Conduit

The contractor shall furnish DB-60 polyvinyl chloride (PVC) conduit

PVC conduit and fittings shall conform to the requirements of Standard Specifications for Smooth-Wall Poly (Vinyl Chloride) (PVC) Conduit and Fittings for Underground Installation, ASTM Designation: F512 (latest edition).

B.2 Concrete

The type of concrete to be used to encase the ducts will be:

Class of Concrete	Type of Cement	Min. Cement Content Sacks per Cubic Yard	Sizes of Coarse Aggregate
G-1	Standard Portland Cement Type 1A or 1SA	6.0	Sharp Torpedo Sand only

B.3 Slurry Backfill

Aggregate slurry backfill consists of No. 1 concrete aggregate class ‘C’ concrete mix with the cement deleted.

Fly Ash (Class C)	75 lbs.
Concrete Sand (Damp)	1830 lbs.
No. 1 Concrete Aggregate	1830 lbs.

The material shall be mixed with water to inundate the aggregate sufficiently to provide an approximate 3-inch slump. The mix shall be deposited in the trench directly from a concrete transit mix truck.

B.4 Pull Rope
Pull rope specifications will be:

- Flat construction ($^{7}/_{16}$" to $^{5}/_{8}$" wide)
- 100% woven aramid fiber (may include tracer wire)
- 1500 lbs. minimum pull strength prelubricated
- Sequential footage markings for location

For any questions on materials, contact Ms. Karen Rogney, (414) 286-3243.

C Construction
C.1 Excavation
The excavation shall have the minimum or maximum dimensions shown on the plans and as follows:

No. of Ducts Wide	Minimum	Maximum
2	14 $^{1}/_{8}$"	16 $^{5}/_{8}$"
3	19 $^{3}/_{4}$"	22 $^{1}/_{4}$"
4	25 $^{3}/_{8}$"	27 $^{7}/_{8}$"

These minimum and maximum trench widths apply to standard 4 inch PVC electrical duct only. When required, the excavation may be widened for the handling and placing of materials.

Open-cut trenches shall be sheathed and braced as required by code and as necessary to maintain safety. The cost of furnishing, placing and removing of sheathing and bracing shall be included in the unit bid for the work.

The dimensions of the excavation will be governed by the number, configuration and the grade (cover) to which the conduit is to be installed as shown on the plan. The walls of the excavation shall be clean and true.

Previous to excavating trenches, the contractor shall expose the existing manhole and conduit lines. The object of this is to permit adjustments in line and grade to avoid special construction methods. The exposed manhole and conduit shall be protected from damage.

The conduit shall be laid at a depth so that sufficient protection from damage is provided. Allowable covers shall be as follows:

The standard cover for mainline conduit is 39 inches and the minimum cover acceptable shall be 28 inches.

The standard cover shall be maintained wherever possible and any deviation less than the minimum may be allowed only with specific approval of the engineer.

The trench shall be graded so that it will have a minimum pitch of 3 inches per 100 feet. When an obstruction is encountered in the trench and it is necessary to excavate a deeper trench than would otherwise be required, in order to obtain drainage, refer the matter to the inspector to determine whether the extra excavation should be made.

In grading a trench for mainline conduit, there are three general practices for direction of pitch:

When grading a trench in a street with a level grade, the high point of the trench bottom should ordinarily be centered between manholes and pitched downward equally toward each manhole.

Where the street slopes in one direction, locate the high point of the trench bottom approximately 30 feet from the end wall of the higher manhole and grade toward both manholes.

Where a steep grade is encountered, grade the trench at the minimum pitch from the end wall of the higher manhole to a point 20 feet plus or minus toward the lower manhole. From this point, follow the street grade at the standard cover to a point 20 feet plus or minimum away from the end wall of the lower manhole. From this point, the remainder of the section shall be laid at the normal pitch.

After the rough excavation is completed, the bottom of the trench shall be prepared to receive the conduit. The duct bed shall be brought to the final grade and graded uniformly from the high point to the low or drainage points. Stone chips or limestone screenings shall be used for grading the trench.

C.2 Placing of Duct

Placing of the duct is to proceed as soon as the duct bed has been completed. All ducts shall be inspected before placing to see that the bores are clean and free from mud, sand, etc. Only ducts with a smooth bore, free from burrs, rough projections etc. shall be used. Where burrs or other rough areas likely to damage cable are found in the duct, they shall be smoothed off by rasping or scraping.

The duct shall be placed (as shown on the detail) with the ends staggered so no two couplings are adjacent. This may be accomplished by the use of the short lengths in stock or cutting back full length sections to the desired lengths. If cut pieces are used, the cut end shall be placed at the manhole.

Full length pieces shall be used for the balance of the conduit line.

Formations of two ducts or more in height are to be carried forward in full formation, that is, as each tier of 20-foot lengths is laid on base spacers, the next higher tier of ducts shall then be placed on the intermediate spacers. These spacers shall be 2 feet from each duct end and one in the middle. The intermediate spacers and ducts shall be placed for the remaining tiers. Each length shall be glued into the adjoining coupling. A twist and push on the duct being placed will suffice for a water tight joint. Caution must be exercised in the driving operation, so that neither the coupling nor duct will be split or damaged in any way. After the full formation has been completed, wood trench and duct bracing shall be placed on the ducts to prevent shifting or floating while the concrete envelope is being placed and during driving operation.

This procedure shall be followed with succeeding lengths, providing spacers (as shown on the detail) at the proper intervals, until sufficient trench footage of completed formation has been placed and is read to receive concrete encasement.

The terminating point for mainline conduit will be the inside manhole wall, inside abutment wall, or inside wall of bridge house. A standard end bell fitting shall be installed on all duct access points into manholes.

When the terminating point is not at a manhole but under pavement, an end cap shall be glued to the end of each duct. The grout encasement shall stop 4 inches from the end of the ducts leaving the ends exposed.

When the terminating point is at a police call box or traffic vault the ducts shall elbow up as shown in the construction details and a temporary cap shall be placed on the end of each duct.

A #10 copper tracer wire shall be installed along and above the centerline of the duct for encasement in the concrete. The wire shall be 2 feet longer than the run of conduit and extend beyond the end of the grout encasement.

C.3 Concreting

After sufficient conduit has been laid and the trench and duct have been inspected, concreting is to begin. The minimum concrete encasement of the ducts shall be 3 inches on the top, 2 inches on the sides, and 3 inches on the bottom (as shown on the detail).

After placing, the concrete shall be puddle with a splicing bar or similar tool so that complete duct encasement is accomplished. Wood braces used to keep the conduit from floating shall be removed before the concrete sets completely and the resultant encasement voids filled with concrete.

Concrete encasement shall be allowed sufficient time to set before backfilling is commenced.

C.4 Slurry Backfill
The backfilling of the conduit shall commence immediately after the duct has been inspected, approved and has had sufficient time to set to withstand the load.

An aggregate slurry as specified shall be used to backfill all concrete encased conduit. The trench shall be slurry backfilled to the proposed or existing subgrade. The mix shall be deposited in the trench directly from a concrete transit mix truck.

D Measurement
The department will measure (Duct) Conduit Cement Encased DB-60, by the linear foot acceptably completed. The linear feet of encased duct will be measured along the centerline of duct between ends of conduit.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.03	1-Duct Conduit Cement Encased 4-Inch Conduit DB60	LF
SPV.0090.04	2-Duct Conduit Cement Encased DB-60	LF
SPV.0090.05	3-Duct Conduit Cement Encased DB-60	LF
SPV.0090.06	4-Duct Conduit Cement Encased DB-60	LF
SPV.0090.07	5-Duct Conduit Cement Encased DB-60	LF
SPV.0090.08	6- Duct Conduit Cement Encased DB-60	LF
SPV.0090.09	7- Duct Conduit Cement Encased DB-60	LF
SPV.0090.10	8- Duct Conduit Cement Encased DB-60	LF
SPV.0090.11	10- Duct Conduit Cement Encased DB-60	LF
SPV.0090.12	12- Duct Conduit Cement Encased DB-60	LF

Payment is full compensation for furnishing the conduit, conduit bodies, conduit fittings, conduit spacers, end caps, pull ropes and trace wires; for excavating, bedding, encasement and backfilling including any concrete, stone, aggregate slurry, bracing, or other related materials; for disposing of surplus materials; for making inspections, and for installing the conduit.

73. Ductile Iron Water Main 12-Inch, Item SPV.0090.13; Steel Casing Pipe 24-Inch, Item SPV.0090.14.

A Description
This special provision describes the installation of 12-inch diameter water main alteration.

A.1 General
Perform work under these items in accordance to the details as shown on the plans and the requirements of the City of Milwaukee Water Main Installation Specifications, dated January 2, 1987 (City Water Main Specifications). Additionally, perform all work in accordance to the “Milwaukee Water Works Standard Plan Notes for Water Main

Construction", June 14, 2011. Notes 4, 6, 16, 17, and 21 shall not apply to this project. In case of conflicts between the City Water Main Specifications and the standard specifications or these special provisions, the requirements of the standard specifications and the special provisions shall govern. Contact Mr. Bill Gehweiler, (414) 286-2927, to purchase copies of the required documents.

A.2 Submittals

Address all required submittals to Milwaukee Water Works as follows:

Superintendent
Milwaukee Water Works
Zeidler Municipal Building
841 North Broadway, Room 409
Milwaukee, WI 53202

A.3 Sequence of Construction

Due to the nature of this work, including traffic staging and coordination with other work, the contractor is advised there may be multiple mobilizations to complete the water main work. No additional payment will be made by the department for said mobilizations.
Determine sequence and schedule for water main construction, subject to the requirements herein.

Prepare and submit for review by the Superintendent of Milwaukee Water Works a detailed construction schedule stating the anticipated dates and duration of all interruptions in water service necessary to complete the work under the contract, including the abandonment of existing water mains.

B Materials

B.1 General

Provide all water main materials conforming to the latest version of the City of Milwaukee's Material Specifications. Material specifications can be found at the following website, http://city.milwaukee.gov/water/business/standardspecs.htm. All materials will require inspection by the City of Milwaukee. Notify Mr. Mark Scheller, (414) 286-2427 or Mr. Steve Brengosz, (414) 708-2808, for materials inspection and the City of Milwaukee's Construction Section, (414) 286-2497, for construction inspection, four working days prior to starting construction.

Milwaukee Water Works will test all pipe, in accordance to the City of Milwaukee Material Testing Specifications.

B.2 Valve Box Adapters

Install all valve boxes on gate valves with the use of valve box base adapters as detailed in the Standard Plan Notes Regarding Water Main Construction. Install the adapter in addition to the hardwood blocking.

B.3 Steel Casing Pipe

For casing pipe up to and including 24-inch diameter, provide extra strong, seamless carbon steel pipe conforming to ASTM A53, Grade B. For casing pipe over 24-inch diameter, provide extra strong, spiral welded steel pipe conforming to ASTM A139, Grade B. Provide all steel casing pipe fabricated in sections for welded field joints.

Welding: All welds shall be free from embedded scale and slag, and have a tensile strength across the weld not less than that of the thinner of the connected sections. Make all pipe welds watertight. Use butt welds for all shop-welded joints (to be approved by Milwaukee Water Works). The use of back-up welding strips or rings for welds will not be permitted. Repair leaks and defects in welds as directed by Milwaukee Water Works.

C Construction

The Milwaukee Water Works will shut off the water main to be altered and provide temporary hose connections to affected services as required.

The contractor will be responsible for all surveying required to layout and construct the water main relocations.

D Measurement

The department will measure Ductile Iron Water Main 12-Inch, and Steel Casing Pipe 24-Inch by the linear foot of water main, of the type and diameter specified, acceptably completed.

The linear footage for water main and casing pipe will be measured for payment to the nearest foot as specified in Chapter 3.6.0 of the City of Milwaukee Water Main Installation Specifications. Water main in casing will be measured for payment under the water main bid item.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.13	Ductile Iron Water Main 12-Inch	LF
SPV.0090.14	Steel Casing Pipe 24-Inch	LF

Payment is full compensation for providing all labor, equipment, materials including all valves, fittings, and accessories required; for furnishing all surveying; excavating, for sheeting and shoring; for forming foundation; for laying pipe; for concrete base, buttresses, and anchors; for bulk heading and abandoning existing water mains; for sealing joints and making connections to new or existing facilities; for providing granular backfill material, including bedding material; for backfilling; for removing sheeting and shoring; for cleaning out the site of the work and incidentals necessary to complete the work.

74. Custom Steel Diaphragm (B-40-759), Item SPV.0105.01.

A Description
Furnish and install custom steel diaphragm at mid-span between girders 8 and 9 in accordance to standard spec 506 except as modified herein and as shown in the plans.

B Materials
Furnish zinc coated steel diaphragms conforming to the plan details. Furnish structural carbon steel conforming to ASTM A709 grade 36.

C Construction
Fabricate and install the custom steel diaphragm as shown in the plan details.

D Measurement
The department will measure Custom Steel Diaphragm (B-40-759) as a single lump sum unit of work for steel diaphragm, 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.0105.01	Custom Steel Diaphragm (B-40-759)	LS

Payment is full compensation for providing, fabricating, zinc coating, transporting, and erecting.

75. East Abutment Electrical Work, Item SPV.0105.02.

A Description
Furnish and install conduit, conduit elbows, and junction boxes from the north sidewalk to the light attachment areas on the east abutment. This item includes the junction box in the north sidewalk and all conduit from that junction box to the junction boxes for the individual lights on the face of the east abutment.

B Materials
B.1 Conduit
Furnish and install 2 1/2-inch diameter Schedule 40 conduit and elbows with a 24-inch radius, plain end (one side may be belled) and UL/ETL listed. Elbows with a radius of less than 24 inches are not acceptable. Install the conduit from the north sidewalk and in the east abutment as shown on the plans, in accordance to the pertinent requirements of standard spec 652, and as hereinafter provided.

All conduits should be terminated in junction boxes.

A 3/8-inch nylon pull rope shall be installed in all new conduit with four feet coiled in each junction box.

B.2 Junction Box

B.2.1 6”x6”x6” Junction Box

Furnish cast iron junction boxes made by a City of Milwaukee approved manufacturer. The junction boxes are to be hot dipped galvanized. The cover and removable flanges shall be cast iron with a hot dipped galvanized coating. The junction box shall be rated NEMA 3R and designed to be dust tight, rain tight, and suitable for outdoor use.

A ¼-20 stud, approximately 2 inches long is to be proved in each box for grounding.

All hardware shall be stainless steel.

B.2.2 12”x12”x8” Junction Box

Furnish a cast iron junction box made by a City of Milwaukee approved manufacturer. The junction box is to be hot dipped galvanized. The cover and removable flanges shall be cast iron, be hot dipped galvanized, and be designed for vehicle loading (H-25 Loading).

“Street Lighting” is to be permanently embossed, cast, or otherwise affixed to the cover.
A 1-inch nonmetallic pipe is to be placed from the bottom of the junction box down through the deck to drain the junction box.

A ¼-20 stud, approximately 2 inches long is to be provided in each box for grounding.

All hardware shall be stainless steel.
Direct all materials questions to Mr. Tom Manzke, (414) 286-3265.

C Construction

Inspect all conduit and elbows before placing to be certain that bores are clean and free of mud, sand, and other deleterious substances. Only use conduit and elbows free from burrs and rough projections. Install a standard box adaptor on conduit and elbows at junction box access points.

Contact George Berdine, (414) 708-4245 cell / (414) 286-5943 office, or Dennis Miller at (414) 708-4251 cell / (414) 286-5942 office, to arrange for inspection of the conduit and junction box installation before any concrete is poured.

D Measurement

The department will measure East Abutment Electrical Work, acceptably completed as a single complete lump sum unit of work.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.02	East Abutment Electrical Work	LS

Payment is full compensation for furnishing and installing the conduit, elbows, couplers, and fittings; for furnishing and installing junction boxes, including all materials, drains, fittings, covers, grounding lug and stainless steel mounting hardware; for making inspections; and for properly disposing of surplus materials.

76. Remove Loop Detector Wire and Lead-in Cable, Intersection of STH 190 and STH 100, Item SPV.0105.04.

A Description

This special provision describes removing loop detector wire and lead-in cable at the Intersection of STH 190 and STH 100. Removal will be in accordance to standard spec 204, as shown in the plans, and as hereinafter provided.

B (Vacant)

C Construction

Notify the department's Electrical Field Unit, (414) 266-1170, at least five working days prior to the removal of the loop detector wire and lead-in cable.

Remove and dispose of detector lead-in cable, including loop wire, for abandoned loops. Detector lead-in cable and loop wire shall become property of the contractor and shall be disposed off of the right-of-way.

D Measurement

The department will measure Remove Loop Detector Wire and Lead-in Cable as a single lump sum unit of work for each intersection, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.04	Remove Loop Detector Wire and Lead in Cable, Intersection of STH 190 and STH 100	LS

Payment is full compensation for removing, scrapping, and disposing of material and incidentals necessary to complete the contract work.

77. Infrared EVP System for Temporary Signals, Intersection of STH 190 and STH 100, Item SPV.0105.05.

A Description

This special provision describes furnishing, installing, and maintaining a temporary infrared EVP system at the temporary signalized intersection as shown in the plans.

B Materials

Furnish an infrared emergency vehicle preemption system compatible with the City of Wauwatosa's system and users. Contact the City of Wauwatosa Fire Department [Rob Ugaste – Fire Department Chief, (414) 471-8490] for information regarding the equipment needs and operational requirements of the emergency vehicle preemption system.

C Construction

The temporary infrared EVP system, as shown in the temporary traffic signal plans or as directed by the engineer, shall be complete in place, tested, and in full operation during each stage of construction.

Install the temporary infrared EVP system as shown in the plans and according to the manufacturer's recommendations. Detectors may be mounted on the temporary traffic signal span wire or wood poles. It shall be the contractor's responsibility to relocate the temporary infrared EVP detectors to a suitable location if there is impedance on the sensor operation. Arrange for testing of equipment prior to acceptance of the installation for each construction stage.

All cables associated with the temporary infrared EVP system shall be routed to the cabinet. Each lead shall be appropriately marked as to which EVP channel it is associated.

Periodic adjustment and/or moving of the temporary infrared EVP detectors may be required due to changes in traffic control, staging, or other construction operations.

Ensure that the temporary infrared EVP system stays in clean working order. Periodic cleaning of the equipment may be required due to dirt and dust build-up.

D Measurement

The department will measure Temporary Infrared EVP System (Location), furnished, installed, and completely operational, as a single complete unit of work per intersection, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.05	Infrared EVP System for Temporary Signals, Intersection of STH 190 and STH 100	LS

Payment is full compensation for furnishing and installing all required equipment, materials, and supplies; for maintaining and changing the EVP detectors to match the plans, traffic control, and construction staging; for relocating the temporary EVP detectors due to construction activities, if required; for testing the EVP system for each

stage and sub-stage of construction; for periodically cleaning all temporary EVP detectors; and for cleaning up and properly disposing of waste.

78. 12-Inch Cast Iron Water Main Concrete Encasement, Item SPV.0105.06.

A Description

This special provision describes the installation of 12-inch cast iron water main concrete encasement.

A.1 General

Perform work under these items in accordance to the details as shown on the plans and the requirements of the: 1.) The "Standard Specifications for Sewer and Water Construction in Wisconsin" Sixth Edition, December 22, 2003 and any addenda where applicable to sewer and water construction, hereinafter called "Standard Specs."; and, the 2006 edition with errata and supplemental specifications of the State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction, hereinafter called "State Specs."

A.2 Submittals

Address all required submittals to City of Wauwatosa Water Utility as follows:

Jim Wojcehowicz
Water Superintendent
City of Wauwatosa Water Utility
Wauwatosa City Hall
7725 W. North Ave.
Wauwatosa, WI 53213

Phone#: (414) 479-8965
Email: jwojcehowicz@wauwatosa.net

A.3 Sequence of Construction

Due to the nature of this work, including coordination with new MSE wall construction and other, the contractor is advised there may be multiple mobilizations to complete the water main work. No additional payment will be made by the department for said mobilizations.

Determine sequence and schedule for water main concrete encasement construction, subject to the requirements herein.

Prepare and submit for review by the Superintendent of Wauwatosa Water Utility a detailed construction schedule stating the anticipated dates and duration of all water main concrete encasement construction under the contract.

B Materials

B.1 General

Provide all water main materials conforming to the latest version of the "Standard Specifications for Sewer and Water Construction in Wisconsin" Sixth Edition, December 22, 2003 and any addenda where applicable to sewer and water construction, hereinafter called "Standard Specs." All materials and construction will require inspection by the City of Wauwatosa. Notify Mr. Joseph Marks (414) 322-8923, for material and construction inspection, four working days prior to starting construction.

C Construction

The City of Wauwatosa Water Utility will only allow a one day shut off of the 12-inch water main to be concrete encased during construction, so plan accordingly. The Wauwatosa Water Utility must be notified four working days prior, to schedule shut down of the main for concrete encasement construction. Contact Jim Wojcehowicz, (414) 322-8923, for shut down scheduling.

The contractor will be responsible for all surveying required to layout and construct the water main concrete encasement.

D Measurement

The department will measure 12-Inch Cast Iron Water Main Concrete Encasement as a single lump sum unit of work for watermain, 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	12-Inch Cast Iron Water Main Concrete Encasement	LS

Payment is full compensation for providing all labor, equipment, materials including all concrete and horizontal and vertical rebar reinforcement; for furnishing all surveying; for excavating, for sheeting and shoring; for forming concrete and foundation; for providing slurry backfill material; for backfilling; for removing sheeting and shoring; and for cleaning out the site of the work and incidentals necessary to complete the work.

79. Railing Steel Type C2 Galvanized B-40-759, Item SPV.0105.07.

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

All materials for railing shall be new stock, free from defects impairing strength, durability and appearance. Railing assemblies shall be galvanized and receive 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. Vent holes shall be drilled in members as required to facilitate galvanizing and drainage. Location and size of vent holes are to be shown on the shop drawings. All burrs at component edges, corners and at holes shall be removed 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. All galvanized surfaces to be painted shall be cleaned per SSPC-SP1 to remove chlorides, sulfates, zinc salts, oil, dirt, organic matter and other contaminants. The cleaned surface shall then be brush blast cleaned per SSPC-SP16 to create a slight angular surface profile per manufacturer's recommendation for adhesion of the tie coat. Blasting shall not fracture the galvanized finish or remove any dry film thickness. 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. The tie coat shall etch the galvanized rail and prepare the surface for the top 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 shall include 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. Time[1] 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
Carboline 350 Hanley Industrial St. Louis, MO 63144 (314) 644-1000	Tie	Rustbond Penetrating Sealer FC	1	36
	Tie	Carboguard 60	4.0 to 6.0	10
	Tie	Carboguard 635	4.0 to 6.0	1
	Top	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
PPG Protective and Marine Coatings P.O. Box 192610 Little Rock, AR 72219-2610 (414) 339-5084	Tie	Amercoat 399	3.0 to 5.0	3
	Top	Amercoat 450H	2.0 to 4.0	NA

[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, all materials shall be thoroughly inspected to ensure that no damage occurred during shipping or handling and conditions of materials is in conformance with these specifications. If coating is damaged, contractor shall 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, the railing assembly shall be replaced at no additional cost to the Owner. The contractor shall provide the engineer with a copy of the manufacturer's recommended repair procedure and materials before repairing damaged coatings.

D Measurement

The department will measure Railing Steel Type C2 Galvanized B-40-759 as a single lump sum unit of work for railing, 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.0105.07	Railing Steel Type C2 Galvanized B-40-759	LS

Payment is full compensation for fabricating, galvanizing, painting, transporting, and installing the railing, including any touch-up and repairs.

80. Architectural Surface Treatment, Item SPV.0165.01.

A Description

This work will consist of concrete masonry Architectural Surface Treatment, of the dimensions and design as indicated, and at locations shown on the plans and provided by the contract. The surface treatment and finish will accurately duplicate the architectural surface treatment shown on the plans. Provide the engineer a sample of the stone panel detail for approval two weeks prior to the commencing with this work. Provide an ashlar stone pattern with multi-color stain with a natural earth tone look with a blended multi-color stain for each stone.

B Materials
Use materials in the work that conform to the following requirements:

Form Liner Pattern: Ashlar stone pattern, stone size varies 8-inch to 32-inch on abutment and wingwall applications, with a 1 ½-inch maximum relief. Stone size varies 8-inch to 16-inch on parapet application, 1 ½-inch maximum relief on the exterior face and a ½-inch maximum relief on the interior face (roadway side). Maximum relief of 1 ½ -inch allowed on the interior face for joints up to ¾-inch width. A larger relief is to be used on the exterior face of the parapet, abutment, and wingwalls, than the interior face of the parapet wall. Submit sample and photos of similar applications for approval.

Form Liner: Reusable, highway strength urethane which attaches easily to the forming system; shall not compress more than ¼ inch when poured at a rate of 10 vertical feet/hour.

Release Agent: Compatible with form liner and coloring materials.

Decorative Grout: Manufactured with integral bonding agent, sand and cement, and capable of achieving a minimum compressive strength of 3,000psi, integrate color to the approval of the engineer.

Surface Stain and/or Coloring Agent: Product must not alter surface texture, be breathable (allow vapor transmission), conform to ASTM standards – Sec. 1.05/c. No sealer will be required for walls having stain as specified. Stain will be a certified concrete stain approved by the engineer.

Wall Ties: Will have set “break-backs” at 3/4-inch minimums form finished concrete surface.

C Construction
C.1 Equipment
Provide equipment and tools necessary for performing all parts of the work that are satisfactory as to design, capacity, and mechanical condition for the purposed intended. Any equipment which is not maintained in full working order, or which as used by the contractor is proved inadequate to obtain the result prescribed will be repaired, improved, replaced or supplemented to obtain the progress and workmanship contemplated by the contract.

C.2 Methods
Form Liner Preparation: Clean, make free of build-up prior to each pour, visually inspect each liner for blemishes and/or tears, repair if necessary per manufacturer’s recommendation. Place form liner to a minimum of 1-foot below finish grade for abutments and minimum 1 ½-foot for wing walls.

Form Liner Attachment: Place liners adjacent with less than ¼-inch seam, securely attach liner to forms per manufacturer's recommendation; coordinate "wall ties" with form liner and form manufacturer – e.g. diameter, size, and frequency.

Form Release: Apply per manufacturer's recommendation, material to be compatible.
Surface Preparation: Keep textured surface free of laitance. Sandblasting is not permitted.

Patching and Grinding: Grind or fill pouring blemishes per approved sample.

Coloring: Apply multi-color stain as per manufacturer's specification. Coloring will be a multiple of non-standard colors to provide a natural stone finish with a variety of stone coloring as determined by the engineer. Grout color shall be concrete gray in color. Apply concrete stain base by air or airless sprayer; staining or other suitable method to accomplish coloration. Apply color to all exposed concrete surfaces of the architectural surface finish.

Grouting Pattern Joints: Ensure the finish grouting is uniform in color and texture; remove surface residue prior to setting. Prevent visible overspray of stain in joints when grout work is complete.

Sample Panel: Prepare a sample panel two weeks prior to commencing work on this item for approval by the engineer. Prepare sample to a minimum 4' x 8' size. Place at job site and remove after the surface treatment and finish have been compared with the panel and approved.

Contractor's concrete stainer will submit photos of previous project in which a similar stone pattern and staining application was performed for approval by the engineer.
Concrete staining is temperature and concrete age sensitive. Staining not completed in the fall, before temperatures drop, will be completed in the spring, once temperatures have risen, at no additional cost to the department.

D Measurement
The department will measure Architectural Surface Treatment, completed in accordance to the terms of the contract and accepted, by the square foot completed in place. No allowance will be made for the test panel or for Architectural Surface Treatment more than 1 foot below the finished grade for the abutments or more than 1 ½-feet below finished grade for the wing walls.

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 Surface Treatment	SF

Payment is full compensation for furnishing, applying, and installing the form liner, release agent, decorative grout, wall ties, and multi-color surface stain.

81. Wall Modular Block Mechanically Stabilized Earth LRFD, Item SPV.0165.02.

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. This project includes retaining wall Structure R-40-478 and Structure R-40-479.

B Materials

B.1 Proprietary Mechanically Stabilized Earth Modular Block Wall Systems

The supplied wall system must be from the department's approved list of modular block mechanically stabilized earth wall systems.

Proprietary wall systems may be used for this work, but must conform to the requirements of this specification and be pre-approved for use by the department's Bureau of Structures, Structures Design Section. The department maintains a list of pre-approved 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. The name of the companies supplying pre-approved material shall be furnished within 25 days after the award of contract.

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

B.2 Design Requirements

It is the responsibility of the contractor to supply a design and supporting documentation as required by this special provision for review by the department to show the proposed wall design is in compliance with the design specifications.

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 8 ½ inch x 11 inch sheets, and shall contain the project identification number, name or designation of the wall, date of preparation, initials of designer and checker, and page number at the top of the page. All plans and calculations shall be signed, sealed and dated by a professional engineer licensed in the State of Wisconsin.

The wall shall be designed for the heights shown on the plans. The design shall be in compliance with the *AASHTO LRFD Design Specifications 5*th *Edition* 2010 (AASHTO LRFD) with latest interim specifications for Mechanically Stabilized Earth Walls, WisDOT's current *Standard Specifications for Highway and Structure Construction (*Standard Specifications), Chapter 14 of the WisDOT LRFD Bridge Manual and standard design procedures as determined by the department. Loads, load combinations and load and resistance factors shall be as specified in AASHTO LRFD Section 11. The associated resistance factors shall be defined in accordance to Table 11.5.6-1 in AASHTO LRFD.

The design shall include a minimum overburden surcharge of 100 psf in accordance to Chapter 14 of the WisDOT LRFD Bridge Manual or as shown on the plans. The maximum value of the angle of internal friction of the wall backfill material used for design shall be assumed to be 30 degrees without a certified report of tests. If a certified report of tests yields an angle of internal friction greater than 30 degrees, the larger test value may be used for design, up to a maximum value of 36 degrees.

An external stability check at critical wall stations is performed by the department or its design consultant and the Capacity Demand Ratio (CDR) for sliding, eccentricity, and bearing check is provided by the department or its consultant and shown on the plans.

The design of the Wall Modular Block Mechanically Stabilized Earth shall consider the internal stability of the wall mass (tensile stress, pullout resistance, and tensile stress at the connection with the facing) within each layer of reinforcement for the applicable strength limit and extreme event limit states. Maximum factored loads applied to reinforcements for pullout and the connection to the wall face shall be calculated using the Simplified Method or Coherent Gravity Method, as presented in AASHTO LRFD. In addition, compound stability shall be computed for the applicable strength limit and extreme event limit states in accordance to AASHTO LRFD.

The minimum embedment to the top of the leveling pad shall be as specified in the plans. Potential depth of frost penetration at the wall location shall not be considered in designing the wall for depth of leveling pad.

100% of the soil reinforcement shall be connected to the wall facings. The minimum length of soil reinforcement measured from the back face of the wall shall be equal to 0.7 of the wall height or as shown on the plans. In no case shall this length be less than 6 feet. The soil reinforcement shall extend 3 feet beyond the theoretical failure plane in all cases. The maximum vertical spacing of soil reinforcement layers shall be two times the block depth (front face to back face) or 32 inches, whichever is less. The first (bottom) layer of reinforcement shall be placed no further than 12 inches above the top of the leveling pad or the height of the block, but at least one block height above the leveling pad. The last (top) layer of soil reinforcement shall be no further than 21 inches below the top of the uppermost block.

Submit the following to the engineer for review: complete design calculations, explanatory notes, supporting materials, specifications, and detailed plans and shop drawings for the proposed wall system. The design calculations and notes shall clearly indicate the Capacity to Demand Ratios (CDR) for all internal stabilities as defined in AASHTO LRFD.

The wall submittal package shall be submitted electronically to the engineer and Structures Design Section. Submit all required information no later than 30 days prior to beginning construction of the wall. The detailed plans and shop drawings shall include all details, dimensions, quantities and cross-sections necessary to construct the walls.

B.3 Wall System Components

Materials furnished under this contract shall conform to the requirements of this specification. All certifications related to material and components of the wall systems specified in this subsection shall be submitted to the engineer.

B.3.1 Leveling Pad

The leveling pad shall step to follow the general slope of the ground line. The leveling pad steps shall keep the bottom of the wall below the minimum embedment. Additional embedment that is greater than the minimum embedment will not be measured for payment. The leveling pad shall be as wide as the proposed blocks or a minimum of 12 inches, whichever is greater. The bottom row of blocks shall be horizontal and 100% of the block surface shall bear on the leveling pad.

Provide a wall leveling pad that consists of poured concrete masonry, 6 inches deep by 12 inch (minimum) wide Grade A, A-FA, A-S, A-T, A-IS, or A-IP concrete conforming to standard spec 501 as modified in standard spec 716. Provide QMP for leveling pad concrete as specified in standard spec 716. A concrete leveling pad shall be provided in following scenarios:

a. When the wall height measured from the top of the leveling pad to the top of the wall exceeds 5 feet at any point along the entire wall length.
b. A structure number has been assigned (such as R-XX-XXX), regardless of wall height.

Additionally, for walls that are less than or equal to 5 feet in height and do not have a wall number assigned to them, a compacted 1 foot deep by 2 foot wide leveling pad made from base aggregate dense 1¼-inch in conformance with standard spec 305 may be used.

B.3.2 Wall Facing

Wall facing units shall consist of precast modular concrete blocks. All units shall incorporate a mechanism or devices that develop a mechanical connection between vertical block layers. Units that are cracked, chipped, or have other imperfections in accordance to ASTM C1372, or have 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 appearance that complement 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 and at 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.

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 12 inches. The minimum front face thickness of blocks shall be 4 inches measured perpendicular from the front face to inside voids greater than 4 square inches. The minimum allowed thickness of any other portions of the block is 1¾ inches. The front face of the blocks shall conform to plan requirements for color, texture, or patterns.

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 (%) 40 cycles, 5 of 5 samples 50 cycles, 4 of 5 samples	ASTM C1262[1]	 1.0 max.[2] 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 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 conducting the sampling and testing, the type of block, the date sampled, the name of the person who conducted 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. The tests should have been conducted not more than 18 months prior to delivery. A lot shall not exceed 5000 blocks or fraction thereof produced in day. The certified test results will represent all blocks within the lot. Each pallet of blocks delivered shall bear lot identification information. Block lots that do not meet the requirements of this specification or blocks

without supporting certified test reports will be rejected and shall be removed from the project at no expense to the department.

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. At no expense to the department, the contractor shall remove all rejected blocks from the project.

The department may conduct testing of certified or non-certified modular blocks lots delivered to the project. The department will not conduct 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 not 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 Geogrids

Geogrid supplied as reinforcing members shall be manufactured from long chain polymers limited to polypropylene, high-density polyethylene, polyaramid, and polyester. Geogrids shall form a uniform rectangular grid of bonded, formed, or fused polymer tensile strands crossing with a nominal right angle orientation. The minimum grid aperture shall be 0.5 inch. The geogrid shall maintain dimension stability during handling, placing, and installation. The geogrid shall be insect, rodent, mildew, and rot resistant. The geogrid shall be furnished in a protective wrapping that shall prevent exposure to ultraviolet radiation and damage from shipping or handling. The geogrid shall be kept dry until installed. Each roll shall be clearly marked to identify the material contained.

The wall supplier shall provide the nominal long-term design strength (T_{al}) and nominal long-term connection strength, T_{alc} as discussed below.

Nominal Long-Term Design Strength (T_{al})

The wall supplier shall supply the nominal long-term design strength (T_{al}) used in the design for each reinforcement layer and shall be determined by dividing the Ultimate Tensile Strength (T_{ult}) by the factors RF_{ID}, RF_{CR}, RF_{D}.

Hence,

$$T_{al} = \frac{T_{ult}}{RF_{ID} \, x RF_{CR} \, x RF_{D}}$$

where:

T_{ult}	=	ultimate tensile strength of the reinforcement determined from wide width tensile tests (ASTM D6637) for geogrids based on the minimum average roll value (MARV) for the product
RF_{ID}	=	strength reduction factor to account for installation damage to the reinforcement. In no case shall RF_{ID} be less than 1.1.
RF_{CR}	=	strength reduction factor to prevent long-term creep rupture of the reinforcement. In no case shall RF_{CR} be less than 1.2.
RF_{D}	=	strength reduction factor to prevent rupture of the reinforcement due to chemical and biological degradation. In no case shall RF_{D} be less than 1.1.

Values for RF_{ID}, RF_{CR}, and RF_{D} shall be determined from product specific test results. Guidelines for determining RF_{ID}, RF_{CR}, and RF_{D} from product specific data are provided in FHWA Publication No. FHWA-NHI-10-024 and FHWA –NHI-10-025 “Design and Construction of Mechanically Stabilized Earth Walls and Reinforced Soil Slopes”.

Nominal Long-term Connection Strength T_{ac}

The nominal long term connection strength, $T_{ac,}$ shall be based on laboratory geogrid connection tests between wall facing and geogrids. T_{ac} shall be as given below:

$$T_{ac} = \frac{T_{ult} * CR_{cr}}{RF_D}$$

where:

T_{ac}	=	nominal long-term reinforcement facing connection strength per unit reinfrocment width at a specified confining pressure
T_{ult}	=	ultimate tensile strength of the reinforcement for geogrids defined as the minimum average roll value (MARV) for the product
CR_{cr}	=	long term connection strength reduction factor to account for reduced ultimate strength resulting from connection.
RF_D	=	strength reduction factor to prevent rupture of the reinforcement due to chemical and biological degradation.

T_{ac} shall be developed from the tests conducted by an independent laboratory on the same facing blocks and geogrids as proposed for the wall and shall cover a range of overburden pressures comparable to those anticipated in the proposed wall. The connection strength reduction factor CR_{cr} shall be determined in accordance to long-term connection test as described in Appendix B of FHWA Publication No. FHWA-NHI 10-025 "Design and Construction of Mechanically Stabilized Earth Walls and Reinforced Soil Slopes". CR_{cr} may also be obtained from the short term connection test meeting the requirements of NCMA test method SRWU-1 in Simac et al 1993 or ASTM D4884.

The contractor shall provide a manufacturer's certificate that the Tult (MARV) of the supplied geogrid has been determined in accordance to ASTM D4595 or ASTM D6637 as appropriate. Contractor shall also provide block to block and block to reinforcement connection test reports prepared and certified by an independent laboratory. Also provide calculations in accordance to AASHTO LRFD, and using the results of laboratory tests, that the block-geogrid connections shall be capable of resisting 100% of the maximum tension load in the soil reinforcements at any level within the wall, for the design life of the wall system.

B.3.4 Galvanized Metal Reinforcement

In lieu of polymeric geogrid earth reinforcement, galvanized metal reinforcement may be used. Design and materials shall be in accordance to Section 11.10.6.4.2 of the current *AASHTO LRFD* Specifications. The design life of steel soil reinforcements shall also comply with AASHTO LRFD.

B.3.5 Pins

If pins are used to align modular block facing units, they shall consist of a non-degrading polymer, or hot dipping galvanized steel and be made for the express use with the modular block units supplied, to develop mechanical interlock between facing unit block layers. Connecting pins shall be capable of holding the geogrid in the proper position during backfilling. Furnish documentation that establishes and substantiates the design life of such devices.

B.3.6 Backfill Materials

Wall Backfill, Type A, shall comply with the requirements for Coarse Aggregate No. 1 as given in standard spec 501.2.5.4.4. 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.

Wall Backfill, Type B, shall comply with the requirements of Crushed Stone, Open Graded Base as given in standard spec 310. All backfill placed in a zone extending horizontally from 1 foot behind the back face of the wall to 1 foot beyond the end of the reinforcement and extending vertically from the base of the leveling pad to the top of the final layer of all facing units shall be Wall Backfill, Type B.

Backfill within the reinforced zone shall meet the following requirements:

Test	Method	Value
pH	AASHTO T-289	4.5 – 9.0
Sulfate content[1]	AASHTO T-290	200 ppm max.
Chloride content[1]	AASHTO T-291	100 ppm max.
Electrical Resistivity[1]	AASHTO T-288	3000 ohm/cm min.
Angle of Internal Friction	AASHTO T-236	30 degrees min.
Organic Content[1]	AASHTO T-267	1.0% max.

[1] Requirement does not apply to walls with non-metallic reinforcement.

Prior to placement of the backfill, obtain and furnish to the engineer certified report of test results that the backfill material complies with the requirements of this specification. When backfill characteristics and/or sources change, a certified report of tests must be provided for the new backfill material.

All other backfill materials required to finish the wall and restore the ground surface may be select material available on the project that meets the engineer's approval.

C Construction

C.1 General

Place the wall facing units in accordance to the manufacturer's instructions and to the lines, elevations, batter, and tolerances as shown on the plans. Center the initial layer of facing units on the leveling pad; then level them and properly align them. Fill formed

voids or openings in the facing units with wall backfill, Type A. Remove all debris on the top of each layer of facing units, before placing the next layer of facing units.

Install all pins, rods, clips, or other devices used to develop mechanical interlock between facing unit layers in accordance to the manufacturer's directions.

All excavation for the Wall Modular Block Mechanically Stabilized Earth shall conform to standard spec 206. At the end of each working day, provide good temporary drainage such that the backfill shall not become contaminated with run-off soil or water if it should rain. Do not stockpile or store materials or large equipment within 10 feet of the back face of the wall.

C.2 Backfill

Place backfill materials in the areas as indicated on the plans and as detailed in this specification. Backfill lifts shall be no more than 8-inches in depth. Backfilling shall closely follow erection of each course of wall facing units. Compact wall backfill Type A with at least three passes of lightweight manually operated compaction equipment acceptable to the engineer.

Compact wall backfill Type B as specified in standard spec 310.3. Compact Wall Backfill Type B to 95.0% of maximum density as determined by AASHTO T-99, Method C. Perform compaction testing on the backfill. When performing nuclear testing, use a nuclear gauge from the department's approved list, ensure that the operator is a HTCP certified Nuclear Density Technician I, and conform to CMM 8.15 for testing and gauge monitoring methods. Conduct testing at a minimum frequency of 1 test per 2 feet of vertical wall height, per 200 feet length of wall, or major portion thereof. A minimum of one test for every 2-foot layer of vertical wall height is required. Test sites shall be selected using ASTM Method D3665. Deliver documentation of all compaction testing results to the engineer at the time of testing.

Conduct backfilling operations in such a manner as to prevent damage or misalignment of the wall facing units, soil reinforcement, or other wall components. At no expense to the department, correct any such damage or misalignment as directed by the engineer. A field representative of the wall supplier shall be available during wall construction to provide technical assistance to the contractor and the engineer.

Place and compact the MSE backfill to the level of the next higher layer of MSE reinforcement before placing the MSE reinforcement or connecting it to the wall facing. The MSE reinforcement shall lay horizontally on top of the most recently placed and compacted layer of MSE backfill.

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

C.3 Soil Reinforcement
Place soil reinforcement at the positions and to the lengths as indicated on the accepted shop drawings. Take care that backfill placement over the positioned soil reinforcement elements does not cause damage or misalignment of these elements. Correct any such damage or misalignment as directed by the engineer. Do not operate wheeled or tracked equipment directly on the soil reinforcement. A minimum cover of 6 inches is required before such operation is allowed.

C.4 Geogrid Layers
Place and anchor geogrid material between wall unit layers in the same manner as used to determine the Geogrid Block-to-Connection Strength. Place the grid material so that the machine direction of the grid is perpendicular to the wall face. Each grid layer shall be continuous throughout the lengths indicated on the plans. Join grid strips with straps, rings, hooks or other mechanical devices to prevent movement during backfilling operations. Prior to placing backfill on the grid, pull the grid taunt and hold in position with pins, stakes or other methods approved by the engineer.

C.5 Steel Layers
Place the steel reinforcement full width in one piece as shown on the plans. No splicing will be allowed. Maintain elements in position during backfilling.

C.6 Geotechnical Information
Geotechnical data to be used in the design of the wall is given on the wall plan. After completion of wall excavation, notify the department and allow 2 days for the Regional Soil Engineer to review the foundation.

D Measurement
The department will measure Wall Modular Block Mechanically Stabilized Earth in area by the square foot, acceptably completed, of face on a vertical plane between the top of the leveling pad as shown in the contract plans and the top of wall including wall cap or copings as required and shown in the contract plans. Unless ordered 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
SPV.0165.02	Wall Modular Block Mechanically Stabilized Earth LRFD	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, copings and leveling pad; constructing the retaining system and wall drainage systems if applicable; providing backfill, backfilling and compacting, and performing compaction testing. 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.

82. Joint Sealing, Item SPV.0180.01.

A Description

This special provision describes the minimum requirements for preparing the pavement joints or cracks, and furnishing and installing the sealant. Seal all expansion, hand-formed, and sawed joints in the pavement. Also, seal all bond or construction joints.

B Materials

Furnish joint sealer that complies with the requirements of ASTM Designation D 3405. Joint sealer shall be composed of a mixture of materials that will form a resilient and adhesive compound capable of effectively sealing joints in concrete against the infiltration of moisture and foreign material throughout repeated cycles of expansion and contraction with temperature changes, and shall be of a mixture that will not flow from the joints or be picked up by vehicle tires at summer temperatures. The material must be capable of being brought to a uniform pouring consistency suitable for completely filling the joints without inclusion of large air holes or discontinuities.

The joint sealer shall be elastic type but poured, and it shall be melted by indirect heat in suitable equipment provided with positive temperature control and mechanical agitation. The material shall not be damaged when heated to the temperature required for satisfactory pouring.

C Construction

Prior to the installation of the joint sealer, clean the pavement joint or crack of all foreign material. Completely remove the slurry resulting from the sawing operations from the joint by blowing it clean with compressed air (using a minimum air pressure of 80 psi).

Only apply the joint sealer when the atmospheric and concrete temperatures are both above 40° F.

D Measurement

The department will measure Joint Sealing in square yards area of pavement sealed, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.01	Joint Sealing	SY

Payment is full compensation for furnishing and placing the joint sealant; and for cleaning the pavement joints and cracks.

83. Granite Boulders, Item SPV.0195.01.

A Description
This special provision describes granite boulders that vary in size from 12” to 18” in average diameter.

B Materials
Furnish boulders that are a natural granite stone with a natural color mixture consisting of grays, pinks, tans, browns, and charcoals that are typical of quarries found in southeastern Wisconsin.

C Construction
These granite boulders shall be used to construct a planting wall that consists of two courses of boulders with the base course being buried a minimum of 4” below existing grade. There shall be a minimum of 3” setback on the second course of boulders. The backfill material shall consist of topsoil that is consistent with topsoil used in the planting beds.

D Measurement
The department will measure Granite Boulders by the ton, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0195.01	Granite Boulders	TON

Payment is full compensation for furnishing and placing boulders and all other required materials.

84. Reclaimed Granite Pavers 5”x5”x8.5”, Item SPV.00195.02.

A Description
This special provision describes granite pavers that are approximate in size -5”x5”x8.5” and are rectangular in shape.

B Materials
Furnish pavers that are a natural granite stone with a natural color mixture consisting of grays, pinks, tans, browns, and charcoals that are typical of quarries found in southeastern Wisconsin.

C Construction
These pavers shall be used as planting bed edging. The pavers shall be installed by submerging the pavers into the ground on a level pad of 3”-4” of compacted crushed gravel. The pavers shall be buried 4” with 1” being exposed above existing grade level. Pavers shall abut one another as they follow the bed edge with a maximum of 1/8” gap between each paver.

D Measurement
The department will measure Reclaimed Granite Pavers 5” x 5” x 8.5” by the ton, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0195.02	Reclaimed Granite Pavers 5” x 5” x 8.5”	TON

Payment is full compensation for furnishing and placing the pavers and all other required materials.

85. 6-Inch Snapped - Width Wall Stone, Item SPV.0195.03.

A Description
This special provision describes 6” Snapped Width Wall Stone that vary in length from 12” to 30” in average length. The width of the stone will be approximately 6” and the thickness will vary between 2”-3”. The pieces will be natural quarry stone rectangular in form.

B Materials
Furnish stone that is natural Wisconsin quarry stone with a color mixture consisting of grays, buffs, tans, browns, and charcoals that are typical of quarries found in southeastern Wisconsin.

C Construction
These stone pieces shall be used to construct a planting wall that consists of 6-10 courses of stone with the base course being buried a minimum of 4” below existing grade. The base course of wall shall be installed on a 12” wide and 6” depth bed of compacted crushed gravel. There shall be a minimum of 1” setback on each subsequent course of stone. The backfill material shall consist of topsoil that is consistent with topsoil used in the planting beds.

D Measurement
The department will measure 6-Inch Snapped-Width Wall Stone by the ton, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0195.03	6-Inch Snapped - Width Wall Stone	TON

Payment is full compensation for furnishing and placing the boulders and all other required materials.

86. Crushed Stone Mountain Shadows, Item SPV.0195.04.

A Description

This special provision describes crushed angular decorative landscape stones that vary in size from 1/4”-3/4”in average diameter. It is known in southeastern Wisconsin as “Mountain Shadows”.

B Materials

Furnish crushed stone mulch that is a natural granite stone with a color mixture consisting of grays, pinks, tans, browns, and charcoals that are typical of quarries found in southeastern Wisconsin.

C Construction

This crushed stone shall be used to fill in around plantings where it already exists in the bed on site. It shall also be placed along the border of the landscape beds for a border along the curbside bed edge to prevent salt damage to the plantings. Stone shall be placed on a weed barrier fabric and at depth of 4” up top of curb height. Stone shall be compacted with plate compacter or by hand as needed to create level bed surface.

D Measurement

The department will measure Crushed Stone Mountain Shadows by the ton, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0195.04	Crushed Stone Mountain Shadows	TON

Payment is full compensation for furnishing and placing the boulders.

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 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 AWPA Standard P8 or P36.

614.3.2.1 Installing Posts

Replace paragraph four with the following effective with the July 2012 letting:

(4) Cut post tops to the finished elevation the plans show.

628.2.13 Rock Bags

Replace paragraph one with the following effective with the November 2012 letting:

(1) Furnish rock bags made of a porous, ultraviolet resistant, high-density polyethylene or geotextile fabric that will retain 70% of its original strength after 500 hours of exposure according to ASTM D4355 and a minimum in-place filled size of 18-inches long by 12-inches wide by 6-inches high. Ensure that the fabric conforms to the following:

TEST REQUIREMENT	METHOD	VALUE
Minimum Tensile	ASTM D4632	
Machine direction		70 lb minimum
Cross direction		40 lb minimum
Elongation	ASTM D4632	
Machine direction		20% minimum
Cross direction		10 % min
Puncture	ASTM 4833	65 lbs minimum
Minimum Apparent Opening		0.0234 inches (No. 30 sieve)
Maximum Apparent Opening		0.0787 inches (No. 10 sieve)

639.2.1 General

Replace paragraph two with the following effective with the March 2013 letting:

(2) For grout use fine aggregate conforming to 501.2.5.3 and type I, IL, IS, or IP 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 Bolts

Correct errata by changing ASTM A570 to ASTM A1011.

(1) Use toggle bolts made of steel, conforming to the plans. Make the assembly from the material specified below:

Toggle bolt and pin ..... Cold finished steel heat-treated Brinell 311-363 ASTM A354.

Toggle washer ..... Hot rolled steel ASTM A1011. Manufacturer's standard washer.

Spacer nut ..... Grade 1213, ASTM A108. Cold finished steel heat-treated ASTM A325.

660.2.1 General

Correct errata by changing section 511 to 550.

(1) Furnish materials conforming to the following:

Concrete ..... section 501

Concrete bridges ..... section 502

Luminaires ..... section 659

Steel piling ..... section 550

Steel reinforcement ..... section 505

660.3.2.3 Pile Type Foundations

Correct errata by changing section 511 to 550.

(1) Drive piles as specified in for steel piling in section 550.

701.3 Contractor Testing

Correct errata by updating AASHTO T141 to AASHTO R60 and changing AASHTO T309 to ASTM C1064.

(1) Perform contract required QC tests for samples randomly located according to CMM 8-30. Also perform other tests as necessary to control production and construction processes, and additional testing enumerated in the contractor's quality control plan or that the engineer directs. Use test methods as follows:

TABLE 701-2 TESTING STANDARDS

TEST	TEST STANDARD
Washed P 200 analysis	AASHTO T11[1]
Sieve analysis of fine and coarse aggregate	AASHTO T27[1]
Aggregate moisture	AASHTO T255[1]
Sampling freshly mixed concrete	AASHTO R60
Air content of fresh concrete	AASHTO T152[2]
Concrete slump	AASHTO T119[2]
Concrete temperature	ASTM C1064
Concrete compressive strength	AASHTO T22
Making and curing concrete cylinders	AASHTO T23
Standard moist curing for concrete cylinders	AASHTO M201

[1] As modified in CMM 8-60.

[2] As modified in CMM 8-70.

ADDITIONAL SPECIAL PROVISION 7

A. Reporting 1st Tier and DBE Payments During Construction

1. Comply with reporting requirements specified in the department's Civil Rights Compliance, Contractor's User Manual, Sublets and Payments.
2. Report payments to all DBE firms within 10 calendar days of receipt of a progress payment by the department or a contractor for work performed, materials furnished, or materials stockpiled by a DBE firm. Report the payment as specified in A(1) for all work satisfactorily performed and for all materials furnished or stockpiled.
3. Report payments to all first tier subcontractor relationships within 10 calendar days of receipt of a progress payment by the department for work performed. Report the payment as specified in A(1) for all work satisfactorily performed.
4. All tiers shall report payments as necessary to comply with the DBE payment requirement as specified in A(2).
5. Require all first tier relationships, DBE firms and all other tier relationships necessary to comply with the DBE payment requirement in receipt of a progress payment by contractor to acknowledge receipt of payment as specified in A(1), (2), (3) and (4).
6. All agreements made by a contractor shall include the provisions in A(1), (2), (3), (4) and (5), and shall be binding on all first tier subcontractor relationships and all contractors and subcontractors utilizing DBE firms on the project.

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

ADDITIONAL SPECIAL PROVISION 9
Electronic Certified Payroll Submittal

(1) Use the department's Civil Rights Compliance System (CRCS) to submit certified payrolls electronically. Details are available online through the department's highway construction contractor information (HCCI) site on the Labor, Wages, and EEO Information page at: http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm

(2) Ensure that all tiers of subcontractors, as well as all trucking firms, submit their weekly certified payrolls electronically through CRCS. These payrolls are due within seven calendar days following the close of the payroll period. Every firm providing physical labor towards completing the project is a subcontractor under this special provision.

(3) Upon receipt of contract execution, promptly make all affected firms aware of the requirements under this special provision and arrange for them to receive CRCS training as they are about to begin payrolls. The department will provide training either in a classroom setting at one of our regional offices or by telephone. Contact Tess Mulrooney at 608-267-4489 to schedule the training.

(4) The department will reject all paper submittals of forms DT-1816 and DT-1929 for information required under this special provision. All costs for conforming to this special provision are incidental to the contract.

(5) Firms wishing to export payroll data from their computer system into CRCS should have their payroll coordinator send several sample electronic files to Tess two months before a payroll needs to be submitted. Not every contractor's payroll system is capable of producing export files. For details, see 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

Effective with September 2004 Letting

WISCONSIN DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS AND TRANSPORTATION FACILITIES

SUPPLEMENTAL REQUIRED CONTRACT PROVISIONS

I. WAGE RATES, HOURS OF LABOR AND PAYMENT OF WAGES

The schedule of "Minimum Wage Rates" attached hereto and made a part hereof furnishes the prevailing wage rates that have been determined pursuant to Section 103.50 of the Wisconsin Statutes. These wage rates are the minimum required to be paid to the various laborers, workers, mechanics and truck drivers employed by contractors and subcontractors on the construction work embraced by the contract and subject to prevailing hours and wages under Section 103.50, Stats. If necessary to employ laborers, workers, mechanics or truck drivers whose classification is not listed on the schedule, they shall be paid at rates conformable to those listed for similar classifications. Apprentices shall be paid at rates not less than those prescribed in their state indenture contacts.

While the wage rates shown are the minimum rates required by the contract to be paid during its life, this in not a representation that labor can be obtained at these rates. It is the responsibility of bidders to inform themselves as to the local labor conditions and prospective changes or adjustments of wage rates. No increase in the contract price shall be allowed or authorized on account of the payment of wage rates in excess of those listed herein.

Pursuant to Section 103.50 of the Wisconsin Statutes, the prevailing hours of labor have been determined to be up to 10 hours per day and 40 hours per calendar week Monday through Friday. If any laborer, worker, mechanic or truck driver is permitted or required to work more than the prevailing number of hours per day or per calendar week on this contract, they shall be paid for all hours in excess of the prevailing hours at a rate of at least one and one-half (1 1/2) times their hourly rate of pay. All work on Saturday, Sunday and the following holidays is to be paid at time and a half: (1) January 1, (2) the last Monday in May, (3) July 4, (4) the first Monday in September, (5) the fourth Thursday in November, (6) December 25, (7) the day before if January 1, July 4 or December 25 falls on a Saturday and (8) the day following if January 1, July 4 or December 25 falls on a Sunday.

All laborers, workers, mechanics and truck drivers shall be paid unconditionally not less often than once a week. Persons who own and operate their own trucks must receive the prevailing truck driver rate for the applicable type of truck (i.e. 2 axle, 3 or more axle, articulated, eculid or dumptor) he or she operates, plus an agreed upon amount for the use of his or her truck. Every owner-operator MUST be paid separately for their driving and for the use of their truck.

For those projects subject to the requirements of the Davis-Bacon Act, the Secretary of Labor will also have determined "Minimum Wage Rates" for work to be performed under the contract. These rates are, for all or most of the labor, worker, mechanic or truck driver classifications, identical to those established under Section 103.50 of the Wisconsin Statutes. In the event the rates are not identical, the higher of the two rates will govern.

II. PAYROLL REQUIREMENTS

All contractors and subcontractors must submit weekly Certified Payrolls and Compliance Statement verifying that all laborers, workers, mechanics and truck drivers working on the project have been paid the prevailing wage rates for all work performed under the contract required by Section 103.50 of the Wisconsin Statutes.

III. POSTINGS AT THE SITE OF THE WORK

In addition to the required postings furnished by the Department, the contractor shall post the following in at least one conspicuous place at the site of work:

a. "NOTICE TO EMPLOYEES," which provides information required to be posted by the provisions of Section 103.50 of the Wisconsin Statutes.

b. A copy of the State of Wisconsin Minimum Wages Rates. (Four pages.)

c. A copy of the contractor's Equal Employment Opportunity Policy.

d. On any project involving federal aid, in addition to the furnished postings, the contractor shall post a copy of the "Davis-Bacon Act, Minimum Wage Rates". (Three pages.)

IV. WAGE RATE REDISTRIBUTION

The amount specified as the hourly basic rate of pay and the amount(s) specified as the fringe benefit contribution(s), for all classes of laborers, workers, mechanics or truck drivers may be redistributed, when necessary, to conform to those specified in any applicable collective bargaining agreement, provided that both parties to such agreement

request and receive the approval for any such redistribution from both the Department of Transportation and the Department of Workforce Development prior to the implementation of such redistribution.

V. ADDITIONAL CLASSIFICATIONS

Any unlisted laborer or mechanic classification that is needed to perform work on this project, and is not included within the scope of any of the classifications listed in the application prevailing wage rate determination, may be added after award only if all of the following criteria have been met:

1. The affected employer(s) must make a written request to WisDOT Central Office to utilize the unlisted classification on this project.

2. The request must indicate the scope of the work to be performed by the unlisted classification and must indicate the proposed wage/fringe benefit package that the unlisted classification is to receive.

3. The work to be performed by the unlisted classification must not be performed by a classification that is included in the applicable prevailing wage rate determination.

4. The unlisted classification must be commonly employed in the area where the project is located.

5. The proposed wage/fringe benefit package must bear a reasonable relationship to those set forth in the applicable prevailing wage rate determination.

6. The request should be made prior to the actual performance of the work by the unlisted classification.

7. DWD must approve the use of the unlisted classification and the proposed wage/fringe benefit package. USDOL also must approve the use of the unlisted classification and the proposed wage/fringe benefit package on federal aid projects.

8. WisDOT and DWD may amend the proposed wage/fringe benefit package, as deemed necessary, and may set forth specific employment ratios and scope of work requirements in the approval document.

The approved wage/fringe benefit package shall be paid to all laborers, workers, mechanics or truck drivers performing work within the scope of that performed by the unlisted classification, from the first day on which such work is performed. In the event that work is performed by the unlisted classification prior to approval, the wage/fringe benefit package to be paid for such work must be in conformance with the wage/fringe

benefit package approved for such work. Under this arrangement a retroactive adjustment in wages and/or fringe benefits may be required to be made to the affected laborers, workers, mechanics or truck drivers by the affected employer(s).

ANNUAL PREVAILING WAGE RATE DETERMINATION
FOR ALL STATE HIGHWAY PROJECTS
MILWAUKEE COUNTY

Compiled by the State of Wisconsin - Department of Workforce Development
for the Department of Transportation
Pursuant to s. 103.50, Stats.
Issued on April 1, 2012

CLASSIFICATION: Contractors are required to call the Department of Workforce Development if there are any questions reqarding the proper trade or classification to be used for any worker on a public works project.

OVERTIME: Time and one-half must be paid for all hours worked over 10 hours per day and 40 hours per calendar week and for all hours worked on Saturday, Sunday and the following six (6) holidays: January 1; the last Monday in May; July 4; the 1st Monday in September; the 4th Thursday in November; December 25; the day before if January 1, July 4 or December 25 falls on a Saturday; the day following if January 1, July 4 or December 25 falls on a Sunday.

FUTURE INCREASE: If indicated for a specific trade or occupation, the full amount of such increase MUST be added to the "TOTAL" indicated for such trade or occupation on the date(s) such increase(s) becomes effective.

PREMIUM PAY: If indicated for a specific trade or occupation, the full amount of such pay MUST be added to the "HOURLY BASIC RATE OF PAY" indicated for such trade or occupation, whenever such pay is applicable.

SUBJOURNEY: Wage rates may be available for some of the classifications indicated below. Any employer that desires to use any subjourney classification on a project MUST request the applicable wage rate from the Department of Workforce Development PRIOR to the date such classification is used on such project. Form ERD-10880 is available for this purpose and can be obtained by writing to the Department of Workforce Development, Equal Rights Division, P.O. Box 8928, Madison, WI 53708.

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Bricklayer, Blocklayer or Stonemason	32.66	15.92	48.58
Carpenter	33.43	19.31	52.74
Premium Pay: DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Cement Finisher	29.33	17.03	46.36
Future Increase(s): Add $1.86 on 6/1/12; Add $1.87 on 6/1/13; Add $1.87 on 6/1/14; Add $1.87 on 6/1/15; Add $1.75 on 6/ 1/ 16.			
Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.40/hr when the Wisconsin Department of Transportation or responsible governing agency requires that work be performed at night under artificial illumination with traffic control and the work is completed after sunset and before sunrise.			
Electrician	31.64	23.78	55.42
Fence Erector	35.62	0.00	35.62
Ironworker	31.31	21.54	52.85
Line Constructor (Electrical)	35.97	18.08	54.05
Painter	27.87	14.39	42.26
Pavement Marking Operator	27.87	14.39	42.26
Piledriver	29.56	24.96	54.52
Premium Pay: Add $.65/hr for Piledriver Loftsman; Add $.75/hr for Sheet Piling Loftsman. DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Roofer or Waterproofer	28.85	14.60	43.45
Teledata Technician or Installer	24.65	15.17	39.82
Tuckpointer, Caulker or Cleaner	34.30	15.47	49.77
Underwater Diver (Except on Great Lakes)	36.20	18.81	55.01

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	33.87	16.10	49.97
Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY	29.64	14.64	44.28
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.			
Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	25.18	13.07	38.25
Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	23.38	12.48	35.86
Groundman - ELECTRICAL LINE CONSTRUCTION ONLY	21.30	10.97	32.27
TRUCK DRIVERS			
Single Axle or Two Axle	22.35	16.19	38.54
Future Increase(s): Add $1.75/hr on 6/1/2012; Add $1.85/hr on 6/1/2013.			
Premium Pay: DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Three or More Axle	24.91	15.63	40.54
Articulated, Euclid, Dumptor, Off Road Material Hauler	22.50	16.19	38.69
Future Increase(s): Add $1.75/hr on 6/1/2012; Add $1.85/hr on 6/1/2013.			
Premium Pay: DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Pavement Marking Vehicle	23.84	14.70	38.54
Shadow or Pilot Vehicle	24.76	15.35	40.11
Truck Mechanic	24.91	15.63	40.54
LABORERS			
General Laborer	24.34	17.85	42.19
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 $.15/hr for air tool operator, joint sawer and filler (pavement), vibrator or tamper operator (mechanical hand operated), chain saw operator and demolition burning torch laborer; Add $.35/hr for bituminous worker (raker and luteman), formsetter (curb, sidewalk and pavement) and strike off man; Add $.50/hr for line and grade specialist; Add $.65/hr for blaster and powderman; Add $2.01/hr for topman; Add $2.46/hr for bottomman; Add $3.23/hr for pipelayer. / DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			
Asbestos Abatement Worker	22.00	16.86	38.86
Landscaper	23.71	15.03	38.74
Flagperson or Traffic Control Person	20.83	17.85	38.68
Future Increase(s): Add $1.60/hr on 6/1/2012; Add $1.70/hr on 6/1/2013; Add $1.60/hr on 6/1/2014.			
Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr when the Wisconsin Department of Transportation or responsible governing agency requires that work be performed at night under artificial illumination with traffic control and the work is completed after sunset and before sunrise.			
Fiber Optic Laborer (Outside, Other Than Concrete Encased)	17.09	14.40	31.49
Railroad Track Laborer	17.00	1.06	18.06

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
HEAVY EQUIPMENT OPERATORS			
Crane, Tower Crane, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 176 Ft or Over; Crane, Tower Crane, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of Over 100 Tons, Self-Erecting Tower Crane With a Lifting Capacity Of Over 4,000 Lbs., Crane With Boom Dollies; Traveling Crane (Bridge Type). Future Increase(s): Add $2/hr on 6/1/12; 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 Mfgr.'s Rated Capacity of 130,000 Lbs. or Over; Caisson Rig; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 175 Ft or Under; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of 100 Tons or Under, Self-Erecting Tower Crane With A Lifting Capacity Of 4,000 Lbs., & Under; Dredge (NOT Performing Work on the Great Lakes); Licensed Boat Pilot (NOT Performing Work on the Great Lakes); Pile Driver. Future Increase(s): Add $2/hr on 6/1/12; 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 Mfgr.'s Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. & Under); Bituminous (Asphalt) Plant & Paver, Screed; Boatmen (NOT Performing Work on the Great Lakes); Boring Machine (Directional, Horizontal or Vertical); Bridge (Bidwell) Paver; Bulldozer or Endloader; Concrete Batch Plant, Batch Hopper; Concrete Breaker (Large, Auto, VIbratory/Sonic, Manual or Remote); Concrete Bump Cutter, Grinder, Planing or Grooving Machine; Concrete Conveyor System; Concrete Laser/Screed; Concrete Paver (Slipform); Concrete Pump, Concrete Conveyor (Rotec or Bidwell Type); Concrete Slipform Placer Curb & Gutter Machine; Concrete Spreader & Distributor; Crane (Carry Deck, Mini) or Truck Mounted Hydraulic Crane (10 Tons or Under); Crane WIth a Lifting Capacity of 25 Tons or Under; Forestry Equipment, Timbco, Tree Shear, Tub Grinder, Processor; Gradall (Cruz-Aire Type); Grader or Motor Patrol; Grout Pump; Hydro-Blaster (10,000 PSI or Over); Loading Machine (Conveyor); Material or Stack Hoist; Mechanic or Welder; Milling Machine; Post Hole Digger or Driver; Roller (Over 5 Ton); Scraper (Self Propelled or Tractor Drawn) 5 cu yds or More Capacity; Shoulder Widener; Sideboom; Skid Rig; Stabilizing or Concrete Mixer (Self-Propelled or 14S or Over); Straddle Carrier or Travel Lift; Tractor (Scraper, Dozer, Pusher, Loader); Tractor or Truck Mounted Hydraulic Backhoe; Trencher (Wheel Type or Chain Type); Tube Finisher; Tugger (NOT Performing Work on the Great Lakes); Winches	33.22	18.90	52.12

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
& 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 Sawer (Multiple Blade); Launch (NOT Performing Work on the Great Lakes); Lift Slab Machine; Mechanical Float; Mulcher; Power Subgrader; Robotic Tool Carrier (With or Without Attachments); Roller (Rubber Tire, 5 Ton or Under); Self Propelled Chip Spreader; Shouldering Machine; Skid Steer Loader (With or WIthout Attachments); Telehandler; Tining or Curing Machine. Future Increase(s): Add $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).	32.96	18.90	51.86
Air Compressor (&/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; Augers (Vertical & Horizontal); Automatic Belt Conveyor & Surge Bin; Boiler (Temporary Heat); Concrete Proportioning Plant; Crusher, Screening or Wash Plant; Generator (&/or 150 KW or Over); Heaters (Mechanical); High Pressure Utility Locating Machine (Daylighting Machine); Mudjack; Oiler; Prestress Machine; Pug Mill; Pump (3 Inch or Over) or Well Points; Rock, Stone Breaker; Screed (Milling Machine); Stump Chipper; Tank Car Heaters; Vibratory Hammer or Extractor, Power Pack. Future Increase(s): Add $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).	32.67	18.90	51.57
Fiber Optic Cable Equipment.	24.39	15.45	39.84
Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer.	36.20	18.81	55.01
Work Performed on the Great Lakes Including 70 Ton & Over Tug Operator; Assistant Hydraulic Dredge Engineer; Crane or Backhoe Operator; Hydraulic Dredge Leverman or Diver's Tender; Mechanic or Welder.	36.20	18.81	55.01
Work Performed on the Great Lakes Including Deck Equipment Operator or Machineryman (Maintains Cranes Over 50 Tons or Backhoes 115,000 Lbs. or More); Tug, Launch or Loader, Dozer or Like Equipment When Operated on a Barge, Breakwater Wall, Slip, Dock or Scow, Deck Machinery.	26.80	18.52	45.32
Work Performed on the Great Lakes Including Deck Equipment Operator, Machineryman or Fireman (Operates 4 Units or More or Maintains Cranes 50 Tons or Under or Backhoes 115,000 Lbs. or Under); Deck Hand, Deck Engineer or Assistant Tug Operator; Off Road Trucks-Great Lakes ONLY.	26.80	18.52	45.32

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$

SCHEDULE OF ITEMS REVISED:

CONTRACT: 20130312013

PROJECT(S): 2025-11-71, 2025-16-70

FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
	SECTION 0001 ROADWAY WORK (MILWAUKEE)					
0010	201.0110 CLEARING	1,040.000 SY		.		.
0020	201.0120 CLEARING	686.000 ID		.		.
0030	201.0210 GRUBBING	1,040.000 SY		.		.
0040	201.0220 GRUBBING	686.000 ID		.		.
0050	203.0600.S REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS (STATION) 01. 13+38.55	LUMP	LUMP			.
0060	204.0100 REMOVING PAVEMENT	85,100.000 SY		.		.
0070	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS	1,850.000 SY		.		.
0080	204.0150 REMOVING CURB & GUTTER	2,550.000 LF		.		.
0090	204.0155 REMOVING CONCRETE SIDEWALK	8,290.000 SY		.		.

CONTRACT: 20130312013
PROJECT(S): 2025-11-71, 2025-16-70
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0100	204.0210 REMOVING MANHOLES	12.000 EACH		.		.
0110	204.0220 REMOVING INLETS	65.000 EACH		.		.
0120	204.0250 ABANDONING MANHOLES	34.000 EACH		.		.
0130	204.0260 ABANDONING INLETS	29.000 EACH		.		.
0140	205.0100 EXCAVATION COMMON	51,258.000 CY		.		.
0150	205.0501.S EXCAVATION, HAULING, AND DISPOSAL OF PETROLEUM CONTAMINATED SOIL	400.000 TON		.		.
0160	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 01. B-40-759	LUMP	LUMP			.
0170	210.0100 BACKFILL STRUCTURE	2,699.000 CY		.		.
0180	213.0100 FINISHING ROADWAY (PROJECT) 01. 2025-11-71	1.000 EACH		.		.
0190	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH	30,700.000 TON		.		.

CONTRACT: 20130312013
PROJECT(S): 2025-11-71, 2025-16-70
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0200	320.0125 CONCRETE BASE 6-INCH	300.000 SY		.		.
0210	415.0070 CONCRETE PAVEMENT 7-INCH	1,420.000 SY		.		.
0220	415.0085 CONCRETE PAVEMENT 8 1/2-INCH	77,900.000 SY		.		.
0230	415.0210 CONCRETE PAVEMENT GAPS	13.000 EACH		.		.
0240	415.0410 CONCRETE PAVEMENT APPROACH SLAB	1,060.000 SY		.		.
0250	416.0170 CONCRETE DRIVEWAY 7-INCH	1,680.000 SY		.		.
0260	416.0270 CONCRETE DRIVEWAY HES 7-INCH	40.000 SY		.		.
0270	416.0610 DRILLED TIE BARS	170.000 EACH		.		.
0280	440.4410.S INCENTIVE IRI RIDE	18,000.000 DOL	1.00000		18000.00	
0290	455.0605 TACK COAT	100.000 GAL		.		.
0300	465.0105 ASPHALTIC SURFACE	360.000 TON		.		.

CONTRACT: 20130312013
PROJECT(S): 2025-11-71, 2025-16-70
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0310	465.0110 ASPHALTIC SURFACE PATCHING	50.000 TON		.		.
0320	502.0100 CONCRETE MASONRY BRIDGES	1,039.000 CY		.		.
0330	502.3200 PROTECTIVE SURFACE TREATMENT	9,252.000 SY		.		.
0340	503.0137 PRESTRESSED GIRDER TYPE I 36W-INCH	1,040.000 LF		.		.
0350	505.0405 BAR STEEL REINFORCEMENT HS BRIDGES	52,475.000 LB		.		.
0360	505.0605 BAR STEEL REINFORCEMENT HS COATED BRIDGES	75,614.000 LB		.		.
0370	506.2605 BEARING PADS ELASTOMERIC NON-LAMINATED	26.000 EACH		.		.
0380	506.4000 STEEL DIAPHRAGMS (STRUCTURE) 01. B-40-759	11.000 EACH		.		.
0390	512.1000 PILING STEEL SHEET TEMPORARY	6,965.000 SF		.		.
0400	516.0100 DAMPPROOFING	344.000 SY		.		.
0410	516.0500 RUBBERIZED MEMBRANE WATERPROOFING	66.000 SY		.		.

CONTRACT: 20130312013
PROJECT(S): 2025-11-71, 2025-16-70
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0420	517.1010.S CONCRETE STAINING (STRUCTURE) 01. B-40-759	2,471.000 SF		.		.
0430	550.0500 PILE POINTS	98.000 EACH		.		.
0440	550.1120 PILING STEEL HP 12-INCH X 53 LB	2,463.000 LF		.		.
0450	601.0322 CONCRETE CURB & GUTTER 22-INCH	730.000 LF		.		.
0460	601.0331 CONCRETE CURB & GUTTER 31-INCH	4,730.000 LF		.		.
0470	601.0452 CONCRETE CURB & GUTTER INTEGRAL 30-INCH TYPE D	28,950.000 LF		.		.
0480	601.0600 CONCRETE CURB PEDESTRIAN	440.000 LF		.		.
0490	602.0410 CONCRETE SIDEWALK 5-INCH	73,650.000 SF		.		.
0500	602.0505 CURB RAMP DETECTABLE WARNING FIELD YELLOW	750.000 SF		.		.
0510	602.1000 CONCRETE LOADING ZONE	1,700.000 SF		.		.

CONTRACT: 20130312013
PROJECT(S): 2025-11-71, 2025-16-70
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0520	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	1,572.000 LF		.		.
0530	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	1,572.000 LF		.		.
0540	606.0300 RIPRAP HEAVY	467.000 CY		.		.
0550	608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	1,761.000 LF		.		.
0560	608.0324 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH	384.000 LF		.		.
0570	608.0330 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 30-INCH	400.000 LF		.		.
0580	608.0418 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 18-INCH	397.000 LF		.		.
0590	608.0436 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 36-INCH	14.000 LF		.		.
0600	608.0512 STORM SEWER PIPE REINFORCED CONCRETE CLASS V 12-INCH	432.000 LF		.		.
0610	608.0515 STORM SEWER PIPE REINFORCED CONCRETE CLASS V 15-INCH	90.000 LF		.		.

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PROJECT(S): 2025-11-71, 2025-16-70
FEDERAL ID(S): N/A, N/A

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0620	608.0521 STORM SEWER PIPE REINFORCED CONCRETE CLASS V 21-INCH	60.000 LF		.		.
0630	611.0420 RECONSTRUCTING MANHOLES	5.000 EACH		.		.
0640	611.0555 MANHOLE COVERS TYPE Q	12.000 EACH		.		.
0650	611.1230 CATCH BASINS 2X3-FT	3.000 EACH		.		.
0660	611.2004 MANHOLES 4-FT DIAMETER	20.000 EACH		.		.
0670	611.2005 MANHOLES 5-FT DIAMETER	1.000 EACH		.		.
0680	611.2006 MANHOLES 6-FT DIAMETER	4.000 EACH		.		.
0690	611.2044 MANHOLES 4X4-FT	11.000 EACH		.		.
0700	611.8110 ADJUSTING MANHOLE COVERS	91.000 EACH		.		.
0710	611.8115 ADJUSTING INLET COVERS	10.000 EACH		.		.
0720	611.9705 SALVAGED MANHOLE COVERS	84.000 EACH		.		.

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PROJECT(S): 2025-11-71, 2025-16-70
FEDERAL ID(S): N/A, N/A

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0730	611.9710 SALVAGED INLET COVERS	9.000 EACH		.		.
0740	612.0104 PIPE UNDERDRAIN 4-INCH	150.000 LF		.		.
0750	612.0106 PIPE UNDERDRAIN 6-INCH	372.000 LF		.		.
0760	612.0206 PIPE UNDERDRAIN UNPERFORATED 6-INCH	8.000 LF		.		.
0770	616.0204 FENCE CHAIN LINK 4-FT	150.000 LF		.		.
0780	619.1000 MOBILIZATION	1.000 EACH		.		.
0790	621.0100 LANDMARK REFERENCE MONUMENTS	2.000 EACH		.		.
0800	623.0200 DUST CONTROL SURFACE TREATMENT	76,060.000 SY		.		.
0810	625.0100 TOPSOIL	25,040.000 SY		.		.
0820	625.0105 TOPSOIL	200.000 CY		.		.
0830	627.0200 MULCHING	100.000 SY		.		.

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PROJECT(S): 2025-11-71, 2025-16-70
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0840	628.1504 SILT FENCE	435.000 LF		.		.
0850	628.1520 SILT FENCE MAINTENANCE	435.000 LF		.		.
0860	628.2023 EROSION MAT CLASS II TYPE B	1,040.000 SY		.		.
0870	628.5505 POLYETHYLENE SHEETING	110.000 SY		.		.
0880	629.0210 FERTILIZER TYPE B	14.000 CWT		.		.
0890	630.0130 SEEDING MIXTURE NO. 30	18.000 LB		.		.
0900	630.0170 SEEDING MIXTURE NO. 70	4.000 LB		.		.
0910	631.1000 SOD LAWN	24,000.000 SY		.		.
0920	632.0101 TREES (SPECIES, ROOT, SIZE) 01. AUTUMN BLAZE MAPLE B&B 3.5" CAL	2.000 EACH		.		.
0930	632.0101 TREES (SPECIES, ROOT, SIZE) 02. REGAL PRINCE OAK B&B 3" CAL	4.000 EACH		.		.

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PROJECT(S): 2025-11-71, 2025-16-70
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0940	632.0101 TREES (SPECIES, ROOT, SIZE) 03. SKYLINE HONEY LOCUST B&B 3" CAL	3.000 EACH		.		.
0950	632.0101 TREES (SPECIES, ROOT, SIZE) 04. ADIRONDACK CRABAPPLE B&B 3" CAL	2.000 EACH		.		.
0960	632.0101 TREES (SPECIES, ROOT, SIZE) 05. CALLERY PEAR B&B 3" CAL	4.000 EACH		.		.
0970	632.0101 TREES (SPECIES, ROOT, SIZE) 06. DANADA CHARM ELM B&B, 3" CAL	5.000 EACH		.		.
0980	632.0101 TREES (SPECIES, ROOT, SIZE) 07. CATAPA B&B 3" CAL	4.000 EACH		.		.
0990	632.0101 TREES (SPECIES, ROOT, SIZE) 08. KENTUCKY COFFEE TREE B&B 3" CAL	2.000 EACH		.		.
1000	632.0101 TREES (SPECIES, ROOT, SIZE) 09. JAPANESE TREE LILAC B&B 2.5" CAL	3.000 EACH		.		.
1010	632.0101 TREES (SPECIES, ROOT, SIZE) 10 ALLEGHANY SERVICEBERRY B&B 8' HT	10.000 EACH		.		.
1020	632.0101 TREES (SPECIES, ROOT, SIZE) 11. MOUNTBATTEN JUNIPERB&B 5' HT	10.000 EACH		.		.

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PROJECT(S): 2025-11-71, 2025-16-70
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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1030	632.0101 TREES (SPECIES, ROOT, SIZE) 12. SWAMP WHITE OAK B&B 2" CAL	15.000 EACH		.		.
1040	632.0201 SHRUBS (SPECIES, ROOT, SIZE) 01. TIGER EYE SUMAC CG 5 GAL	3.000 EACH		.		.
1050	632.0201 SHRUBS (SPECIES, ROOT, SIZE) 02. SUMMAR WINE NINEBARK CG 5 GAL	5.000 EACH		.		.
1060	632.0201 SHRUBS (SPECIES, ROOT, SIZE) 03. RED KNOCKOUT ROSE CG 5 GAL	12.000 EACH		.		.
1070	632.0201 SHRUBS (SPECIES, ROOT, SIZE) 04. ARROWWOOD VIBURNUM CG 5 GAL	19.000 EACH		.		.
1080	632.0201 SHRUBS (SPECIES, ROOT, SIZE) 05. CARDINAL DOGWOODS CG 5 GAL	13.000 EACH		.		.
1090	632.0301 VINES (SPECIES, ROOT, SIZE) 01. CATMINT CG 1 GAL	48.000 EACH		.		.
1100	632.0301 VINES (SPECIES, ROOT, SIZE) 02. DWARF DAYLILIES CG 1 GAL	48.000 EACH		.		.
1110	632.0301 VINES (SPECIES, ROOT, SIZE) 03. SUM N SUBSTANCE HOSTA CG 1 GAL	12.000 EACH		.		.
1120	632.0301 VINES (SPECIES, ROOT, SIZE) 04. ORNAMENTAL GRASS CG 5 GAL	84.000 EACH		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1130	632.0301 VINES (SPECIES, ROOT, SIZE) 05. SHASTA DAISY CG 1 GAL	144.000 EACH		.		.
1140	632.0301 VINES (SPECIES, ROOT, SIZE) 06. RUSSIAN SAGE CG 1 GAL	12.000 EACH		.		.
1150	632.0301 VINES (SPECIES, ROOT, SIZE) 07. BLACK EYES SUSANS CG 1 GAL	264.000 EACH		.		.
1160	632.0301 VINES (SPECIES, ROOT, SIZE) 08. CARAMEL CORLA BELLS CG 1 GAL	96.000 EACH		.		.
1170	632.0301 VINES (SPECIES, ROOT, SIZE) 09. GIANT HYSSOP CG 1 GAL	144.000 EACH		.		.
1180	632.0301 VINES (SPECIES, ROOT, SIZE) 10. PETUNIAS, FLATS	10.000 EACH		.		.
1190	632.0301 VINES (SPECIES, ROOT, SIZE) 11. MARIGOLDS, FLATS	10.000 EACH		.		.
1200	632.0301 VINES (SPECIES, ROOT, SIZE) 12. DAFFODIL BULBS, 3"X3"	1,000.000 EACH		.		.
1210	632.9101 LANDSCAPE PLANTING SURVEILLANCE AND CARE CYCLES	26.000 EACH		.		.
1220	634.0616 POSTS WOOD 4X6-INCH X 16-FT	3.000 EACH		.		.
1230	634.0618 POSTS WOOD 4X6-INCH X 18-FT	2.000 EACH		.		.

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CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1240	634.0816 POSTS TUBULAR STEEL 2X2-INCH X 16-FT	2.000 EACH		.		.
1250	637.0202 SIGNS REFLECTIVE TYPE II	192.500 SF		.		.
1260	638.2602 REMOVING SIGNS TYPE II	11.000 EACH		.		.
1270	638.3000 REMOVING SMALL SIGN SUPPORTS	2.000 EACH		.		.
1280	642.5401 FIELD OFFICE TYPE D	1.000 EACH		.		.
1290	643.0100 TRAFFIC CONTROL (PROJECT) 01. 2025-11-71	1.000 EACH		.		.
1300	643.0300 TRAFFIC CONTROL DRUMS	80,963.000 DAY		.		.
1310	643.0420 TRAFFIC CONTROL BARRICADES TYPE III	72,522.000 DAY		.		.
1320	643.0500 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS	693.000 EACH		.		.
1330	643.0600 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES	693.000 EACH		.		.
1340	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A	145,044.000 DAY		.		.

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PROJECT(S): 2025-11-71, 2025-16-70
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1350	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C	80,963.000 DAY		.		.
1360	643.0900 TRAFFIC CONTROL SIGNS	35,859.000 DAY		.		.
1370	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE	390.000 SF		.		.
1380	645.0111 GEOTEXTILE FABRIC TYPE DF SCHEDULE A	372.000 SY		.		.
1390	645.0120 GEOTEXTILE FABRIC TYPE HR	705.000 SY		.		.
1400	646.0106 PAVEMENT MARKING EPOXY 4-INCH	12,236.000 LF		.		.
1410	646.0116 PAVEMENT MARKING EPOXY 6-INCH	7,820.000 LF		.		.
1420	646.0126 PAVEMENT MARKING EPOXY 8-INCH	2,090.000 LF		.		.
1430	647.0166 PAVEMENT MARKING ARROWS EPOXY TYPE 2	8.000 EACH		.		.
1440	647.0176 PAVEMENT MARKING ARROWS EPOXY TYPE 3	1.000 EACH		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1450	647.0206 PAVEMENT MARKING ARROWS BIKE LANE EPOXY	45.000 EACH		.		.
1460	647.0306 PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY	45.000 EACH		.		.
1470	647.0356 PAVEMENT MARKING WORDS EPOXY	8.000 EACH		.		.
1480	647.0576 PAVEMENT MARKING STOP LINE EPOXY 24-INCH	336.000 LF		.		.
1490	647.0776 PAVEMENT MARKING CROSSWALK EPOXY 12-INCH	3,624.000 LF		.		.
1500	649.0200 TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH	24,518.000 LF		.		.
1510	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	38,156.000 LF		.		.
1520	649.0701 TEMPORARY PAVEMENT MARKING 8-INCH	644.000 LF		.		.
1530	649.0801 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH	1,130.000 LF		.		.
1540	649.1300 TEMPORARY PAVEMENT MARKING STOP LINE 24-INCH	122.000 LF		.		.

CONTRACT: 20130312013
PROJECT(S): 2025-11-71, 2025-16-70
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1550	649.1400 TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 24-INCH	164.000 LF		.		.
1560	649.1700 TEMPORARY PAVEMENT MARKING ARROWS	11.000 EACH		.		.
1570	649.1800 TEMPORARY PAVEMENT MARKING ARROWS REMOVABLE TAPE	14.000 EACH		.		.
1580	649.1900 TEMPORARY PAVEMENT MARKING WORDS	12.000 EACH		.		.
1590	649.2000 TEMPORARY PAVEMENT MARKING WORDS REMOVABLE TAPE	14.000 EACH		.		.
1600	650.4000 CONSTRUCTION STAKING STORM SEWER	232.000 EACH		.		.
1610	650.4500 CONSTRUCTION STAKING SUBGRADE	18,450.000 LF		.		.
1620	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	5,460.000 LF		.		.
1630	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) (B-40-759)	LUMP	LUMP			.
1640	650.7000 CONSTRUCTION STAKING CONCRETE PAVEMENT	18,450.000 LF		.		.

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CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1650	650.8500 CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (PROJECT) 01. 2025-11-71	LUMP	LUMP			.
1660	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 2025-11-71	LUMP	LUMP			.
1670	652.0220 CONDUIT RIGID NONMETALLIC SCHEDULE 40 1 1/2-INCH	40.000 LF		.		.
1680	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	643.000 LF		.		.
1690	652.0230 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2 1/2-INCH	22,380.000 LF		.		.
1700	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	4,450.000 LF		.		.
1710	652.0800 CONDUIT LOOP DETECTOR	129.000 LF		.		.
1720	653.0135 PULL BOXES STEEL 24X36-INCH	2.000 EACH		.		.
1730	653.0905 REMOVING PULL BOXES	3.000 EACH		.		.
1740	654.0110 CONCRETE BASES TYPE 10	7.000 EACH		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1750	655.0700 LOOP DETECTOR LEAD IN CABLE	337.000 LF		.		.
1760	655.0800 LOOP DETECTOR WIRE	414.000 LF		.		.
1770	661.0200 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 01. STH 190 & STH 100	LUMP	LUMP			.
1780	690.0150 SAWING ASPHALT	1,550.000 LF		.		.
1790	690.0250 SAWING CONCRETE	410.000 LF		.		.
1800	715.0415 INCENTIVE STRENGTH CONCRETE PAVEMENT	23,370.000 DOL	1.00000		23370.00	
1810	SPV.0060 SPECIAL 01. INLET COVERS, TYPE 57	77.000 EACH		.		.
1820	SPV.0060 SPECIAL 02. INLET COVERS, TYPE 55	26.000 EACH		.		.
1830	SPV.0060 SPECIAL 03. MANHOLE COVERS, TYPE 58A	8.000 EACH		.		.
1840	SPV.0060 SPECIAL 04. INLET TYPE 45A	87.000 EACH		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1850	SPV.0060 SPECIAL 05. INLET SCREENS TYPE M	147.000 EACH		.		.
1860	SPV.0060 SPECIAL 06. INLET SCREENS TYPE R	102.000 EACH		.		.
1870	SPV.0060 SPECIAL 07. INTERNAL SANITARY MANHOLE SEALS	39.000 EACH		.		.
1880	SPV.0060 SPECIAL 08. ADJUSTING TES MANHOLES	25.000 EACH		.		.
1890	SPV.0060 SPECIAL 09. ADJUSTING WATER BOXES	201.000 EACH		.		.
1900	SPV.0060 SPECIAL 10. ADJUSTING WATER MANHOLES	2.000 EACH		.		.
1910	SPV.0060 SPECIAL 11. RECTANGULAR VAULT 13" X 24" X 18"	37.000 EACH		.		.
1920	SPV.0060 SPECIAL 12. RECTANGULAR VAULT 17" X 30" X 18"	29.000 EACH		.		.
1930	SPV.0060 SPECIAL 13. CONCRETE BASE TYPE 10 SPECIAL	1.000 EACH		.		.
1940	SPV.0060 SPECIAL 15. POLES TYPE 10	6.000 EACH		.		.
1950	SPV.0060 SPECIAL 17. POLES TYPE 13 SPECIAL	1.000 EACH		.		.

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1960	SPV.0060 SPECIAL 18. PRE-CAST TRAFFIC SIGNAL BASES	11.000 EACH		.		.
1970	SPV.0060 SPECIAL 19. MONOTUBE ARMS 20-FT SPECIAL	3.000 EACH		.		.
1980	SPV.0060 SPECIAL 20. MONOTUBE ARMS 25-FT SPECIAL	2.000 EACH		.		.
1990	SPV.0060 SPECIAL 21. MONOTUBE ARMS 30-FT SPECIAL	2.000 EACH		.		.
2000	SPV.0060 SPECIAL 22. MONOTUBE ARMS 35-FT SPECIAL	1.000 EACH		.		.
2010	SPV.0060 SPECIAL 23. MONOTUBE ARMS 40-FT SPECIAL	1.000 EACH		.		.
2020	SPV.0060 SPECIAL 26. 4 FOOT DIAMETER TES MANHOLE	21.000 EACH		.		.
2030	SPV.0060 SPECIAL 27. 5' DIAMETER TES MANHOLE	3.000 EACH		.		.
2040	SPV.0060 SPECIAL 28. CONDUIT INTO EXISTING MANHOLE	2.000 EACH		.		.
2050	SPV.0060 SPECIAL 29. CONCRETE COLLAR SPECIAL	5.000 EACH		.		.

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2060	SPV.0060 SPECIAL 30. MIS MANHOLE RISER EXTENSION	1.000 EACH		.		.
2070	SPV.0060 SPECIAL 31. SAWING CONCRETE-ENCASED DUCT PACKAGE	2.000 EACH		.		.
2080	SPV.0090 SPECIAL 01. CONSTRUCTION STAKING CONCRETE SIDEWALK	6,610.000 LF		.		.
2090	SPV.0090 SPECIAL 02. STORM SEWER PIPE 8-INCH PVC	64.000 LF		.		.
2100	SPV.0090 SPECIAL 03. 1 - DUCT CONDUIT CEMENT ENCASED 4-INCH CONDUIT DB-60	268.000 LF		.		.
2110	SPV.0090 SPECIAL 04. 2 - DUCT CONDUIT CEMENT ENCASED DB-6	919.000 LF		.		.
2120	SPV.0090 SPECIAL 05. 3 - DUCT CONDUIT CEMENT ENCASED DB-6	28.000 LF		.		.
2130	SPV.0090 SPECIAL 06. 4 - DUCT CONDUIT CEMENT ENCASED DB-6	2,518.000 LF		.		.
2140	SPV.0090 SPECIAL 07. 5 - DUCT CONDUIT CEMENT ENCASED DB-6	50.000 LF		.		.
2150	SPV.0090 SPECIAL 08. 6 - DUCT CONDUIT CEMENT ENCASED DB-6	1,955.000 LF		.		.

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2160	SPV.0090 SPECIAL 09. 7 - DUCT CONDUIT CEMENT ENCASED DB-6	61.000 LF		.		.
2170	SPV.0090 SPECIAL 10/ 8 - DUCT CONDUIT CEMENT ENCASED DB-60	1,611.000 LF		.		.
2180	SPV.0090 SPECIAL 11. 10 - DUCT CONDUIT CEMENT ENCASED DB-60	820.000 LF		.		.
2190	SPV.0090 SPECIAL 12. 12 - DUCT CONDUIT CEMENT ENCASED DB-60	892.000 LF		.		.
2200	SPV.0090 SPECIAL 13. DUCTILE IRON WATER MAIN 12-INCH	55.000 LF		.		.
2210	SPV.0090 SPECIAL 14. STEEL CASING PIPE 24-INCH	20.000 LF		.		.
2220	SPV.0105 SPECIAL 01. CUSTOM STEEL DIAPHRAGM (B-40-759)	LUMP	LUMP			.
2230	SPV.0105 SPECIAL 02. EAST ABUTMENT ELECTRICAL WORK	LUMP	LUMP			.
2240	SPV.0105 SPECIAL 04. REMOVE LOOP DETECTOR WIRE AND LEAD -IN CABLE, INTERSEC OF STH 190 & STH 100	LUMP	LUMP			.
2250	SPV.0105 SPECIAL 05. INFRARED EVP SYSTEM FOR TEMPORARY SIGNALS, INTERSEC OF STH 190 & STH 100	LUMP	LUMP			.

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2260	SPV.0105 SPECIAL 06. 12-INCH CAST IRON WATER MAIN CONCRETE ENCASEMENT	LUMP	LUMP			.
2270	SPV.0105 SPECIAL 07. RAILING STEEL TYPE C2 GALVANIZED B-40-759	LUMP	LUMP			.
2280	SPV.0165 SPECIAL 01. ARCHITECTURAL SURFACE TREATMENT	3,409.000 SF		.		.
2290	SPV.0165 SPECIAL 02. WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH LRFD	940.000 SF		.		.
2300	SPV.0180 SPECIAL 01. JOINT SEALING	77,900.000 SY		.		.
2310	SPV.0195 SPECIAL 01. GRANITE BOULDERS	10.000 TON		.		.
2320	SPV.0195 SPECIAL 02. RECLAIMED GRANITE PAVERS 5"X5"X8.5"	10.000 TON		.		.
2330	SPV.0195 SPECIAL 03. 6" SNAPPED-WIDTH WALL STONE	10.000 TON		.		.
2340	SPV.0195 SPECIAL 04. CRUSHED STONE, MOUNTAIN SHADOWS	20.000 TON		.		.
	SECTION 0001 TOTAL					.
	TOTAL BID					.

PLEASE ATTACH SCHEDULE OF ITEMS HERE