HIGHWAY WORK PROPOSAL

Proposal Number: Ø 8

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

COUNTY	STATE PROJECT ID	FEDERAL PROJECT ID	PROJECT DESCRIPTION	HIGHWAY
Milwaukee	1060-35-91		Zoo IC, 2014 TMP Projects, Various Locations	IH-94

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

Proposal Guaranty Required, $ 75,000.00 Payable to: Wisconsin Department of Transportation	Attach Proposal Guaranty on back of this PAGE.
Bid Submittal Due Date: August 12, 2014 Time (Local Time): 9:00 AM	Firm Name, Address, City, State, Zip Code **SAMPLE** **NOT FOR BIDDING PURPOSES**
Contract Completion Time May 31, 2015	
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 Temporary traffic signals, traffic signal upgrades, HMA pavement, concrete curb and gutter, concrete sidewalk, removing pavement marking, pavement marking, signing.	
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)

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

(Signature of Attorney-in-Fact)

NOTARY FOR PRINCIPAL

(Date)

State of Wisconsin)
) ss.
_____ County)

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

(Signature, Notary Public, State of Wisconsin)

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

(Date Commission Expires)

Notary Seal

NOTARY FOR SURETY

(Date)

State of Wisconsin)
) ss.
_____ County)

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

(Signature, Notary Public, State of Wisconsin)

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

(Date Commission Expires)

Notary Seal

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

CERTIFICATE OF ANNUAL BID BOND

Wisconsin Department of Transportation

DT1305 8/2003

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

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

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

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

(Signature of Authorized Contractor Representative) (Date)

March 2010

LIST OF SUBCONTRACTORS

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

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

Name of Subcontractor	Class of Work	Estimated Value

DECEMBER 2000

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

Instructions for Certification

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Special Provisions

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SPECIAL PROVISIONS

1. General.

Perform the work under this construction contract for Project 1060-35-91Zoo IC, 2014 TMP Projects, Various Locations, IH-94, 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, 2014 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 (20130615)

2. Scope of Work.

The work under this contract shall consist of adding temporary traffic signals, traffic signal upgrades, HMA pavement, concrete curb and gutter, concrete sidewalk, removing pavement marking, pavement marking, signing, 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 ten calendar days after the engineer issues a written notice to do so.

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

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

Indicate on the schedule of operations working with a sufficient force and adequate equipment to assure that the work will be completed within the established contract time.

Obtain any noise variance permits to complete work outside of standard hours. Any permits obtained must be provided to the engineer.

Maintain the integrity of the inlet protection throughout the project. Remove and dispose of any debris that may prevent the flow of water.

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

Interim Liquidated Damages
Prior to 12:01 AM, December 30, 2014, complete the work necessary to completely reopen the following locations to traffic:

- S. 68th Street Entrance Ramp at IH-94
- S. 70th Street (between W. Kearney Street and W. O'Connor Street)
- W. Kearney Street (between S. 70th Street and IH-94 Entrance Ramp)
- S. 84th Street and W. National Avenue
- W. Greenfield Avenue and S. 92nd Street
- W. Greenfield Avenue and S. 84th Street
- W. Greenfield Avenue between S. 92nd Street and S. 84th Street
- S. 84th Street and State Fair Gate 5 (W. Schlinger Avenue)
- S. 84th Street and State Fair Gate 4
- STH 100 and W. Theo Trecker Way
- W. Lincoln Avenue and W. Beloit Road
- W. Greenfield Avenue and STH 100

Supplement standard spec 108.11 as follows:

If the contractor fails to complete the work necessary to completely reopen all locations listed above to traffic prior to 12:01 AM, December 30, 2014, the department will assess the contractor $1690 in interim liquidated damages for each calendar day the contract work remains incomplete after 12:01 AM, December 30, 2014. An entire calendar day will be charged for any period of time within a calendar day that the locations listed above remains closed beyond 12:01 AM.

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

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

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

Staging
S. 68th Street Entrance Ramp to IH-94 Eastbound
Stage 1
Complete all removals, base aggregate, HMA pavement, base aggregate, curb and gutter, barrier wall, short radius beam guard, FTMS components, ramp metering, signing, inlet work, sidewalk, restoration items, pavement marking, and signing per plan.

Stage 2

Complete all removals, base aggregate, HMA pavement, curb and gutter, beam guard, adjusting and constructing new inlets, minor earthwork, signing, FTMS components, ramp metering, ramp gate, overhead sign support, lighting, sidewalk, restoration items, pavement marking, and signing per plan.

S. 70th Street between W. Kearney Street and W. O'Connor Street

Complete all removals, base aggregate, new reverse slope curb and gutter, HMA pavement, sidewalk, lights, signals, signing, and pavement marking per plan.

W. Kearney Street between S. 70th Street and S. 68th Street

Complete all pavement marking and signing per plan.

S. 84th Street and W. National Avenue

Construct temporary signals. Complete all saw cuts, removals, base aggregate, traffic signal upgrades, sidewalk replacements, pavement marking, signing, and restoration items per plan.

W. National Avenue and S. 102nd Street

Construct temporary signals. Complete all saw cuts, removals, base aggregate, traffic signal upgrades, sidewalk replacements, signing, and restoration items per plan.

S. 84th Street and State Fair Gate 5 (W. Schlinger Avenue)

Construct temporary signals. Complete all saw cuts, removals, base aggregate, traffic signal upgrades, sidewalk replacements, pavement marking, signing, and restoration items per plan.

S. 84th Street and State Fair Gate 4

Complete all removals, base aggregate, traffic signal upgrades, sidewalk replacements, signing, and restoration items per plan.

W. Greenfield Avenue and S. 84th Street

Construct temporary signals. Complete all removals, base aggregate, concrete pavement, curb and gutter, traffic signal upgrades, sidewalk replacements, signing, and restoration items per plan.

W. Greenfield Avenue and S. 92nd Street

Construct temporary signals. Complete all saw cuts, removals, base aggregate, traffic signal upgrades, sidewalk replacements, signing, and restoration items per plan.

W. Greenfield Avenue between S. 92nd Street and S. 84th Street

Complete all pavement marking and signing per plan.

W. Bluemound Road between N. 103rd Street and N. 99th Street
Complete all removals, base aggregate, HAWK signal installation, installation of modular curb system with vertical panels, sidewalk replacements, pavement marking, signing, and restoration items per plan.

W. Theodore Trecker Way and STH 100
Construct temporary signals. Complete all removals, base aggregate, concrete pavement, curb and gutter, traffic signal upgrades, sidewalk replacements, signing, and restoration items per plan.

STH 100 and W. Greenfield Avenue
Complete all traffic signal upgrades per plan.

STH 100 and W. Orchard Street
Complete all removals, base aggregate, HMA pavement, curb and gutter, signing, pavement marking, and restoration items per plan.

STH 100 and W. Lapham Street
Stage 1
Construct temporary signals. Complete all removals, base aggregate, curb and gutter, signing, pavement marking, sidewalk, sidewalk replacements, traffic signal upgrades, emergency vehicle preemption system, and restoration items per plan.

Stage 2
Complete all removals, base aggregate, curb and gutter, adjusting inlets, HMA pavement, sidewalk, sidewalk replacements, traffic signal upgrades, emergency vehicle preemption system, pavement marking, signing, and restoration items per plan.

W. Lincoln Avenue and I-894 Southbound Exit Ramp
Construct temporary signals. Complete all saw cuts, removals, base aggregate, traffic signal upgrades, sidewalk replacements, signing, and restoration items per plan.

W. National Avenue and W. Lincoln Avenue
Construct temporary signals. Complete all removals, base aggregate, traffic signal upgrades, sidewalk replacements, signing, pavement marking, and restoration items per plan.

W. Lincoln Avenue and S. 98th Street
Complete all removals, base aggregate, curb and gutter, HMA pavement, pavement marking, and restoration items per plan.

W. Lincoln Avenue and W. Beloit Road
Construct temporary signals. Complete all removals, base aggregate, HMA pavement, sidewalk replacements, traffic signal upgrades, pavement marking, signing, emergency vehicle preemption system, and restoration items per plan.

Equipment, vehicles, or materials shall be parked or stored only at work sites approved by the engineer.

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

Definitions
The following definitions apply to this contract:

Freeway and Ramp work restrictions:
No lane closures or direct impact to USH 45 traffic shall be allowed during Weekday or Weekend Peak Hours. Only Night Time lane closures are allowed on USH 45 per the following times:

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

Local street work restrictions:
The following definitions apply to this contract for local street work restrictions:

Peak Hours
- 6:00 AM – 9:00 PM Monday, Tuesday, Wednesday, Thursday
- 6:00 AM – 9:00 PM Friday
- 11:00 AM – 8:00 PM Saturday
- 1:00 PM – 5:00 PM Sunday

Off-Peak Hours
- 9:00 PM – 6:00 AM Monday PM to Tuesday AM, Tuesday PM to Wednesday AM, Wednesday PM to Thursday AM, Thursday PM to Friday AM
- 9:00 PM – 11:00 AM Friday PM to Saturday AM
- 8:00 PM – 1:00 PM Saturday PM to Sunday PM
- 5:00 PM – 6:00 AM Sunday PM to Monday AM

At least two lanes shall be available to traffic during the Peak Hours unless approved by the engineer. One lane may be available to traffic during Off-Peak Hours only.

Comply with all local ordinances that apply to local street work operations, including those pertaining to working during night time hours. Furnish any ordinance variance issued by the municipality or required permits to the engineer in writing 3 days prior to performing such work.

4. Traffic.

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

Submit to the engineer for approval a detailed traffic control plan if different than the traffic control plan provided in the plan set. This plan is to be submitted ten days prior to the preconstruction conference.

S. 68th Street Entrance Ramp to IH-94 Eastbound

Stage 1

Contractor shall close the inside lane for the minimum duration to complete all work per plan. Ramp must remain open at all times during construction. Contractor shall notify the State Operations Center (STOC), Jeremy Iwen, desk (414) 225-3722 or cell (414) 840-9457, five days prior to closing lane for construction. All pavement markings pertaining to the inside lane shall be completed prior to closing the outside lane.

Stage FTMS construction to provide single lane ramp meter operations during the project. Coordinate with the Statewide Traffic Operations Center to determine ramp metering hours. Weekend or nighttime work may be necessary to accomplish the stage switch during non-metering hours.

Stage 2

Contractor shall close the outside lane for the minimum duration to complete all work per plan. Ramp must remain open at all times during construction. Contractor shall notify the State Operations Center (STOC), Jeremy Iwen, desk (414) 225-3722 or cell (414) 840-9457, fivc days prior to closing lane for construction. All pavement markings pertaining to the outside lane shall be completed prior to opening the outside lane.

Stage FTMS construction to provide single lane ramp meter operations during the project. Coordinate with the Statewide Traffic Operations Center to determine ramp metering hours. Weekend or nighttime work may be necessary to accomplish the stage switch during non-metering hours.

S. 70th Street between W. Kearney Street and W. O'Connor Street

Contractor shall maintain one 12' northbound lane on the south side (W. Kearney St.) of the median, one 12' southbound lane for the minimum duration to complete all work per plan. Contractor shall maintain a westbound left turn lane and a northbound through lane for the minimum duration to complete all work per plan. Intersection must remain open at all times during construction. All pavement markings shall be completed prior to opening the lane.

W. Kearney Street between S. 70th Street and S. 68th Street

All pavement markings shall be completed utilizing moving operations during off peak hours.

S. 84th Street and W. National Avenue
Contractor shall construct temporary traffic signals.

Contractor shall not close both sides of pedestrian sidewalks at the same time to complete the traffic signal upgrade work. One side of the intersection must remain open while the other side is under construction. Intersections must remain open at all times during construction. All pavement markings shall be completed utilizing moving operations during off peak hours.

W. National Avenue and S. 102nd Street
Contractor shall construct temporary traffic signals.

Contractor shall not close both sides of pedestrian sidewalks at the same time to complete the traffic signal upgrade work. One side of the intersection must remain open while the other side is under construction. Intersection must remain open at all times during construction.

S. 84th Street and State Fair Gate 5 (W. Schlinger Avenue)
Contractor shall construct temporary traffic signals.

Contractor shall not close both sides of pedestrian sidewalks at the same time to complete the traffic signal upgrade work. One side of the intersection must remain open while the other side is under construction. Intersection must remain open at all times during construction. All pavement markings shall be completed utilizing moving operations during off peak hours.

S. 84th Street and State Fair Gate 4
Contractor shall not close both sides of pedestrian sidewalks at the same time to complete the traffic signal upgrade work. One side of the intersection must remain open while the other side is under construction. Intersection must remain open at all times during construction.

W. Greenfield Avenue and S. 84th Street
Contractor shall construct temporary traffic signals.

Contractor shall close lane 1 (inside lane) northbound/southbound for the minimum duration to complete all removals, base aggregate, concrete pavement, curb and gutter, signing, and restoration items per plan. Contractor must maintain approximately 75 feet for the southbound to eastbound left turn lane that shall be open at all times during construction.

Contractor shall not close both sides of pedestrian sidewalks at the same time to complete the traffic signal upgrade work. One side of the intersection must remain open while the other side is under construction. Intersection must remain open at all times during construction.

W. Greenfield Avenue and S. 92nd Street
Contractor shall construct temporary traffic signals.

Contractor shall not close both sides of pedestrian sidewalks at the same time to complete the traffic signal upgrade work. One side of the intersection must remain open while the other side is under construction. Intersection must remain open at all times during construction.

W. Greenfield Avenue between S. 92nd Street and S. 84th Street
All intersections must remain open at all times during construction. All pavement markings shall be completed utilizing moving operations during off peak hours.

W. Bluemound Road between N. 103rd Street and N. 99th Street
W. Bluemound Road must remain open at all times during construction. Contractor shall not close both sides of pedestrian sidewalks at the same time to complete the HAWK signal work. One sidewalk side must remain open while the other side is under construction.

Contractor shall install the modular curb system with vertical panels during the pedestrian sidewalk replacement.

All pavement markings shall be completed utilizing moving operations during off peak hours.

W. Theodore Trecker Way and STH 100
Contractor shall construct temporary traffic signals.

Contractor shall close lane 1 (inside lane) northbound for the minimum duration to complete all median work per plan. All pavement markings shall be completed prior to opening the left turn lane.

Contractor shall not close both sides of pedestrian sidewalks at the same time to complete the traffic signal upgrade work. One side of the intersection must remain open while the other side is under construction. Intersection must remain open at all times during construction.

STH 100 and W. Orchard Street
Close lane 1 (inside lane) northbound/southbound for the minimum duration to complete all median work per plan. All pavement markings pertaining to the median work shall be completed prior to opening the left turn lane.

All STH 100 and W. Orchard Street work shall be completed after all work on STH 100 and W. Lapham Street has been completed.

STH 100 and W. Lapham Street

Stage 1

Contractor shall construct temporary traffic signals. Temporary traffic signals shall be in flashing mode for five business days prior to full operation mode.

Contractor shall close lane 1 (inside lane) northbound/southbound for the minimum duration to complete all work associated with the southern median work per plan. All pavement markings pertaining to the left turn lane shall be completed prior to opening the left turn lane.

Contractor shall not close both sides of pedestrian sidewalks at the same time to complete the traffic signal upgrade work. One side of the intersection must remain open while the other side is under construction. Intersection must remain open at all times during construction.

Stage 2

Contractor shall close lane 3 (outside lane) northbound and the east side of W. Lapham Street for the minimum duration to complete all removals, mill, base aggregate, HMA pavement, resurfacing, curb and gutter, signing, pavement markings, and restoration items per plan. Two northbound lanes, all southbound lanes, and west side of W. Lapham Street must remain open at all times during construction. All pavement markings shall be completed prior to opening the east side of W. Lapham Street.

Contractor shall not close both sides of pedestrian sidewalks at the same time to complete the traffic signal upgrade work and sidewalk replacement. One side of the intersection must remain open while the other side is under construction.

W. Lincoln Avenue and I-894 Southbound Exit Ramp

Contractor shall construct temporary traffic signals.

Contractor shall not close both sides of pedestrian sidewalks at the same time to complete the traffic signal upgrade work. One side of the intersection must remain open while the other side is under construction. Intersection must remain open at all times during construction.

W. National Avenue and W. Lincoln Avenue

Contractor shall construct temporary traffic signals.

Contractor shall close lane 1 (inside lane) eastbound/westbound of W. Lincoln Avenue for the minimum duration to complete all western median work per plan. All pavement markings for the left turn lane shall be completed prior to opening the left turn lane.

Contractor shall not close both sides of pedestrian sidewalks at the same time to complete the traffic signal upgrade work. One side of the intersection must remain open while the other side is under construction. Intersection must remain open at all times during construction.

All pavement markings shall be completed utilizing moving operations during off peak hours.

W. National Avenue and W. Lincoln Avenue left turn lane extension shall be completed after all work on W. Lincoln Avenue and S. 98th Street work has been completed.

W. Lincoln Avenue and S. 98th Street
Contractor shall close lane 1 (inside lane) eastbound/westbound for the minimum duration to complete all removals, base aggregate, HMA pavement, curb and gutter, signing, and restoration items per plan. All pavement markings shall be completed prior to opening the left turn lane. Contractor must keep access to S. 98th Street open at all times.

W. Lincoln Avenue and S. 98th Street left turn lane construction shall be completed prior to the median closure on W. National Avenue and W. Lincoln Avenue.

W. Lincoln Avenue and W. Beloit Road
Contractor shall construct temporary traffic signals.

Contractor shall close lane 1 (inside lane) northbound/southbound W. Beloit Road for the minimum duration to complete all north side median work per plan. Contractor shall close lane 1 (inside lane) eastbound/westbound W. Lincoln Avenue for the minimum duration to complete all east and west side median work per plan. All pavement markings pertaining to the left turn lanes shall be completed prior to opening the left turn lanes. Otherwise, all other pavement marking shall be completed utilizing moving operations during off peak hours.

Contractor shall not close both sides of pedestrian sidewalks at the same time to complete the traffic signal upgrade work. One side of the intersection must remain open while the other side is under construction.

5. Holiday Work Restrictions.

Do not perform work on, nor haul materials of any kind along or across any portion of the highway carrying S. 68th Street Entrance Ramp to IH-94 Eastbound, S. 70th Street between W. Kearney and W. O'Connor Street, W. Kearney Street between S. 70th Street and S. 68th Street, S. 84th Street and W. National Avenue, W. National Avenue and S. 102nd Street, S. 84th Street and State Fair Gate 5 (W. Schlinger Avenue), S. 84th Street and State Fair Gate 4, W. Greenfield Avenue and S. 84th Street, W. Greenfield Avenue and S. 92nd Street, W. Greenfield Avenue between S. 92nd Street and S. 84th Street, W. Bluemound Road between N. 103rd Street and N. 99th Street, W. Theodore Trecker Way and STH 100, STH 100 and W. Orchard Street, STH 100 and W. Lapham Street, W. Lincoln Avenue and I-894 Southbound Exit Ramp, and W. National Avenue and W. Lincoln Avenue 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 Wednesday, November 26, 2014 to 6:00 AM, Monday, December 1, 2014 for Thanksgiving;
- From noon Tuesday, December 23, 2014 to 6:00 AM Friday, December 26, 2014 for Christmas;
- From noon Tuesday, December 30, 2014 to 6:00 AM Thursday, January 1, 2015 for New Year's Day;
- From noon Friday, May 22, 2015 to 6:00 AM Tuesday, May 26, 2015 for Memorial Day.

107-005 (20050502)

6. Utilities.

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

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

Underground and overhead utility facilities are located within the project limits. Utility adjustments are required for this construction project as noted below. Coordinate construction activities with a call to Diggers Hotline or a direct call to the utilities that have facilities in the area as required per state statute. Use caution to ensure the integrity of underground facilities and maintain code clearances from overhead facilities at all times.

Some utility work, as described below, is dependent on prior work being performed by the contractor at a specific site. Provide the engineer and the affected utility a good faith notice of when the utility is to start work at the site. Notice shall be given 14 to 16 calendar days in advance of when the site will be available to the utility. Follow up with a confirmation notice to the engineer and the utility not less than 3 working days before the site will be ready for the utility to begin its work.

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

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

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

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

Known utilities in the projects are as follows:

10100 West Bluemound Road (St. Camillus Assisted Living Facility)

AT&T Wisconsin has an existing underground communications line beginning beyond the easterly project limits and running westerly in the westbound lanes of Bluemound Road to beyond the westerly project limits. This line will remain in place without adjustment.

Contact Jay Bulanek (414-535-7407 office) of AT&T Wisconsin 7 days in advance to coordinate locations and any excavation near their facilities.

Time Warner Cable has an underground communication line beginning beyond the easterly project limits and running westerly along the south right-of-way of Bluemound Road to beyond the westerly project limits. This line will remain in place without adjustment.

Contact Steve Cramer (414-277-4045) of Time Warner Cable 7 days in advance to coordinate locations and any excavation near their facilities.

Milwaukee, City of - Lighting has underground and overhead lighting facilities within the project limits.
These facilities will remain in place without adjustment.

Contact Dennis Miller (414-286-5942 office/ 414-708-4251 cell) or George Berdine (414-708-4245) of the City of Milwaukee - Lighting 7 days in advance to coordinate locations and any excavation near their facilities.

Milwaukee, City of - Water has an underground water main beginning beyond the easterly project limits and running westerly along the south side of Bluemound Road to beyond the westerly project limits. This line will remain in place without adjustment.

Contact Dave Goldapp (414-286-6301) of City of Milwaukee - Water 7 days in advance to coordinate locations and any excavation near their facilities.

Wauwatosa, City of – Sewer has an underground sanitary sewer line beginning beyond the easterly project limits and running westerly along the north side of Bluemound Road to a manhole at Station 183+90, 68’ LT. This line will remain in place without adjustment.

Contact Mike Maki (414-479-8991) of City of Wauwatosa - Sewer 7 days in advance to coordinate locations and any excavation near their facilities.

Wauwatosa, City of – Signals has existing signal facilities within the project area. Abandon, remove, leave in place, and reconstruct the signal equipment as shown in the plans.

Contact Bill Wehrley (414-479-8929) of City of Wauwatosa - Signals 7 days in advance to coordinate locations and any excavation near their facilities.

Wauwatosa, City of - Water has an underground water main beginning beyond the easterly project limits and running westerly in the westbound lanes of Bluemound Road to beyond the westerly project limits. This line will remain in place without adjustment.

Contact Jim Wojcehowicz (414-479-8965) of the Wauwatosa Water Utility 7 days in advance to coordinate locations and any excavation near their facilities.

We Energies - Electric has an overhead electric line beginning beyond the southerly project limits and running northerly, crossing Bluemound Road at Station 185+30, to beyond the northerly project limits. We Energies will remove this line prior to construction.

Contact Jason Chapin (414-944-5575 office / 414-587-0655 cell) of We Energies 7 days in advance to coordinate locations and any excavation near their facilities.

We Energies - Gas has an existing underground gas line beginning beyond the easterly project limits and running westerly along the north right-of-way of Bluemound Road to beyond the westerly project limits. This line will remain in place without adjustment.

Contact Amy Plato (414-944-5585 office / 414-335-7543 cell) of We Energies - Gas 7 days in advance to coordinate locations and any excavation near their facilities.

WisDOT - STOC has existing underground communications line beginning beyond the easterly project limits and running westerly along the median of Bluemound Road to beyond the westerly project limits. This line will remain in place without adjustment.

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

N. 68th Street and Bluemound Road

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

- An underground communications facility beginning beyond the northerly project limits and running southerly in the northbound lanes of N. 68th Street to a manhole located at Station 9+77, 10’ RT and continuing south to beyond the southerly project limits. This line will remain in place without adjustment.

- An underground communications facility beginning at a manhole located at Station 9+77, 10' RT where it runs easterly to beyond the easterly project limits. This line will remain in place without adjustment.

Contact Jay Bulanek (414-535-7407 office) of AT&T Wisconsin 7 days in advance to coordinate locations and any excavation near their facilities.

Milwaukee, City of - Signals has no existing signals facilities within the project area. The City of Milwaukee will become the owner of signal facilities being reconstructed at this intersection. Construct these signals as shown in the plans.

Contact Dennis Miller (414-286-5942 office/ 414-708-4251 cell) of the City of Milwaukee - Signals 7 days in advance to coordinate construction activities.

TDS Metrocom has underground communication facilities within the project limits in the following locations:

- An underground communications facility beginning beyond the northerly project limits and running southerly under the western sidewalk of 68th Street to a manhole located at Station 9+11, 30' LT and continuing south to beyond the southerly project limits. This line will remain in place without adjustment.
- An underground communications facility beginning at a manhole located at Station 9+11, 30' LT where it runs easterly, crossing 68th Street at Station 9+20, and continuing easterly and running along the southern sidewalk of Bluemound Road to beyond the easterly project limits. This line will remain in place without adjustment.

Contact Michael Johnson (262-754-3052 office/ 262-939-6355 cell) of TDS MetroCom 7 days in advance to coordinate locations and any excavation near their facilities.

Wauwatosa, City of – Lighting has underground and overhead lighting facilities within the project limits. These facilities will remain in place without adjustment.

Contact Bill Wehrley (414-479-8929) of City of Wauwatosa - Lighting 7 days in advance to coordinate locations and any excavation near their facilities.

Wauwatosa, City of – Signals has existing signal facilities within the project area. The City of Milwaukee will become the owner of signal facilities being reconstructed at this intersection. Abandon, remove, leave in place, and reconstruct the signal facilities as shown in the plans.

Contact Bill Wehrley (414-479-8929) of City of Wauwatosa - Signals 7 days in advance to coordinate locations and any excavation near their facilities.

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

- An underground sanitary sewer beginning beyond the easterly project limits and running westerly in the westbound lanes of Bluemound Road to beyond the westerly project limits. This line will remain in place without adjustment.
- An underground sanitary sewer beginning beyond the southerly project limits and running northerly in the middle lane of 68th Street to beyond the northerly project limits. This line will remain in place without adjustment.

Contact Mike Maki (414-479-8991) of City of Wauwatosa - Sewer 7 days in advance to coordinate locations and any excavation near their facilities.

Wauwatosa, City of - Water has existing underground water facilities within the project limits in the following locations:

- An underground water main beginning beyond the easterly project limits and running westerly in the westbound lanes of Bluemound Road to beyond the westerly project limits. This line will remain in place without adjustment.
- An underground water main beginning beyond the southerly project limits and running northerly in the northbound lanes of 68th Street to beyond the northerly project limits. This line will remain in place without adjustment.

Contact Jim Wojcehowicz (414-479-8965) of the Wauwatosa Water Utility 7 days in advance to coordinate locations and any excavation near their facilities.

We Energies - Electric has an underground electric line beginning beyond the easterly project limits and running westerly along the north sidewalk of Bluemound Road, crossing 68th Street at Station 10+02, to a meter located at Station 10+10, 38' LT. This line will remain in place without adjustment.

Contact Jason Chapin (414-944-5575 office / 414-587-0655 cell) of We Energies 7 days in advance to coordinate locations and any excavation near their facilities.

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

- An underground gas line beginning beyond the westerly project limits and running easterly along the south curb line of Bluemound Road to beyond the easterly project limits. This line will remain in place without adjustment.
- An underground gas line beginning beyond the easterly project limits and running westerly along the north sidewalk of Bluemound Road where it turns north and runs northerly along the east sidewalk to beyond the northerly project limits. This line will remain in place without adjustment.

Contact Amy Plato (414-944-5585 office / 414-335-7543 cell) of We Energies - Gas 7 days in advance to coordinate locations and any excavation near their facilities.

S. 68th Street On-Ramp to IH 94

AT&T Corporation has an abandoned underground communications line beginning beyond the easterly project limits and running westerly along the south right-of-way of IH 94 to beyond the westerly project limits.

Contact Ken Nine (574-904-6336 cell) of JMC Engineers & Associates, Inc. 7 days in advance to coordinate locations and any excavation near their facilities.

Milwaukee, City of - Lighting has underground and overhead lighting facilities within the project limits.
The City of Milwaukee – Lighting will remove the existing street lighting facilities within the project limits and relocate these facilities prior to and during construction.

Contact Dennis Miller (414-286-5942 office/ 414-708-4251 cell) or George Berdine (414-708-4245) of the City of Milwaukee - Lighting 7 days in advance to coordinate abandonment and removal of the existing lighting facilities and installation of new lighting facilities.

Milwaukee, City of - Signals has underground and overhead signal facilities within the project limits.
City of Milwaukee – Signals will remove the existing signal facilities within the project limits and install interim stage signals prior to construction. City of Milwaukee – Signals will require 5 days to complete all work. City of Milwaukee – Signals will also install permanent signals during construction.

Contact Dennis Miller (414-286-5942 office/ 414-708-4251 cell) of the City of Milwaukee - Signals 14 days in advance to coordinate abandonment and removal of the existing signal facilities and installation new signal facilities.

Milwaukee, City of - Water has an underground water main beginning beyond the northerly project limits and running southerly in the northbound lanes of S. 68th Street. This line will remain in place without adjustment.

Contact Dave Goldapp (414-286-6301) of City of Milwaukee - Water 7 days in advance to coordinate locations and any excavation near their facilities.

WisDOT - Lighting has existing lighting facilities within the project area. Abandon, remove, leave in place, and reconstruct these facilities as shown in the plans.

Contact Eric Perea (262-574-5422 office/414-750-0935 cell) of WisDOT - Lighting 7 days in advance to coordinate locations and any excavation near their facilities.

WisDOT - STOC has existing communications facilities within the project limits. Abandon, remove, leave in place, and reconstruct these facilities as shown in the plans.

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

S. 70th Street Crossing IH 94

ATC has an underground electric transmission line beginning beyond the northerly project limits and running southerly along the median of S. 70th Street to beyond the southerly project limits. This line will remain in place without adjustment. When excavating near underground electric transmission line, comply with the ATC Construction Specification (SN2500). Contact Patricia Ellifson (262-506-6773) of American Transmission Company 3 days prior to excavation near their facilities to coordinate an ATC representative being on site during excavation activities.

Contact Jim Briggs (414-651-1830) of American Transmission Company 7 days in advance to coordinate locations and any excavation near their facilities.

AT&T Corporation has an abandoned underground communications line beginning beyond the easterly project limits and running westerly along the south right-of-way of IH 94 to beyond the westerly project limits.

Contact Ken Nine (574-904-6336 cell) of JMC Engineers & Associates, Inc. 7 days in advance to coordinate locations and any excavation near their facilities.

Milwaukee, City of - Lighting has underground and overhead lighting facilities within the project limits.
The City of Milwaukee – Lighting will remove the existing street lighting facilities within the project limits and relocate these facilities prior to and during construction.

Contact Dennis Miller (414-286-5942 office/ 414-708-4251 cell) or George Berdine (414-708-4245) of the City of Milwaukee - Lighting 7 days in advance to coordinate abandonment and removal of the existing lighting facilities and installation of new lighting facilities.

Milwaukee, City of - Signals has underground and overhead signal facilities within the project limits.
City of Milwaukee – Signals will remove the existing signal facilities within the project limits and install interim stage signals prior to construction. City of Milwaukee – Signals will require 5 days to complete all work. City of Milwaukee – Signals will also install permanent signals during construction.

Contact Dennis Miller (414-286-5942 office/ 414-708-4251 cell) of the City of Milwaukee - Signals 14 days in advance to coordinate abandonment and removal of the existing signal facilities and installation of new signal facilities.

WisDOT - STOC has existing underground communications line beginning beyond the easterly project limits and running westerly along the southern edge of IH 94 to beyond the westerly project limits. This line will remain in place without adjustment.

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

S. 84th Street and Schlinger Avenue (State Fair Gate #5)

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

- An underground communications line beginning beyond the northerly project limits and running southerly in the northbound lanes of S. 84th Street to beyond the southerly project limits. This line will remain in place without adjustment.
- An underground communicaitons line beginning beyond the northerly project limits and running southerly along the west side of S. 84th Street to a manhole at Station 251+17, 68' LT where it turns and runs westerly to beyond the westerly project limits. This line will remain in place without adjustment.

Contact Jay Bulanek (414-535-7407 office) of AT&T Wisconsin 7 days in advance to coordinate locations and any excavation near their facilities.

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

- An underground MIS sanitary sewer beginning beyond the northerly project limits and running southerly in the southbound lanes of S. 84th Street to beyond the southerly project limits. This line will remain in place without adjustment.
- An underground 96" MIS sanitary sewer beginning beyond the northerly project limits and running southerly along the east side of S. 84th Street to beyond the southerly project limits. This line will remain in place without adjustment.

Contact Debra Jensen (414-225-2143) of MMSD 7 days in advance to coordinate locations and any excavation near their facilities.

Milwaukee, City of - Sewers has an underground sanitary sewer beginning beyond the westerly project limits and running easterly in the westbound lanes of Schlinger Avenue to beyond the easterly project limits. This line will remain in place without adjustment.

Contact Jason Barman (414-286-3267 office) of the City of Milwaukee - Sewers 7 days in advance to coordinate locations and any excavation near their facilities.

Milwaukee, City of - Water has an underground water main beginning beyond the northerly project limits and running southerly in the southbound lanes of S. 84th Street to Station 251+07, 17' LT where it turns and runs westerly in the westbound lanes of Schlinger Avenue to beyond the westerly project limits. This line will remain in place without adjustment.

Contact Dave Goldapp (414-286-6301) of City of Milwaukee - Water 7 days in advance to coordinate locations and any excavation near their facilities.

We Energies - Electric has an underground electric line beginning beyond the northerly project limits and running southerly in the center of S. 84th Street to beyond the southerly project limits. This line will remain in place without adjustment.

Contact Jason Chapin (414-944-5575 office / 414-587-0655 cell) of We Energies 7 days in advance to coordinate locations and any excavation near their facilities.

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

- An underground gas line beginning beyond the northerly project limits and running southerly in the southbound lanes of S. 84th Street to beyond the southerly project limits. This line will remain in place without adjustment.
- An underground gas line beginning at Station 251+12, 21' LT and running westerly along the north side of Schlinger Avenue to beyond the westerly project limits. This line will remain in place without adjustment.

Contact Amy Plato (414-944-5585 office / 414-335-7543 cell) of We Energies - Gas 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of – Lighting has underground and overhead lighting facilities within the project limits. WisDOT will become the owner of the lighting facilities being reconstructed at this intersection. Abandon, remove, leave in place, and reconstruct the lighting facilities as shown in the plans.

Contact Peter Daniels (414-302-8374 office) of City of West Allis - Lighting 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of – Signals has existing signal facilities within the project area. WisDOT will become the owner of the signal facilities being reconstructed at this intersection. Abandon, remove, leave in place, and reconstruct the signal facilities as shown in the plans.

Contact Peter Daniels (414-302-8374 office) of City of West Allis - Signals 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of - Water has an underground water main beginning beyond the southerly project limits and running northerly in the southbound lanes of S. 84th Street to Station 251+67, 17' LT where it turns and runs westerly in the eastbound lanes of Schlinger Avenue to beyond the westerly project limits. This line will remain in place without adjustment.

Contact Joe Burtch (414-302-8379 office) of City of West Allis – Water 7 days in advance to coordinate locations and any excavation near their facilities.

WisDOT - Lighting has no existing lighting facilities within the project area. WisDOT will become the owner of the lighting facilities being reconstructed at this intersection. Construct these new facilities as shown in the plans.

Contact Eric Perea (262-574-5422 office/414-750-0935 cell) of WisDOT - Lighting 7 days in advance to coordinate locations and any excavation near their facilities.

WisDOT - Signals has no existing signals facilities within the project area. WisDOT will become the owner of the signal facilities being reconstructed at this intersection. Construct these new facilities as shown in the plans.

Contact WisDOT Traffic Signal Operations (414-750-2605) 7 days in advance to coordinate construction activities.

S. 84th Street at State Fair Gate #4

AT&T Wisconsin has existing underground communications facilities beginning beyond the northerly project limits and running southerly in the outside northbound lane of S. 84th Street to beyond the southerly project limits. This line will remain in place without adjustment.

Contact Jay Bulanek (414-535-7407 office) of AT&T Wisconsin 7 days in advance to coordinate locations and any excavation near their facilities.

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

- An underground MIS sanitary sewer beginning beyond the northerly project limits and running southerly in the southbound lanes of S. 84th Street to beyond the southerly project limits. This line will remain in place without adjustment.
- An underground 96" MIS sanitary sewer beginning beyond the northerly project limits and running southerly east of the east right-of-way of S. 84th Street to beyond the southerly project limits. This line will remain in place without adjustment.

Contact Debra Jensen (414-225-2143) of MMSD 7 days in advance to coordinate locations and any excavation near their facilities.

We Energies - Electric has an underground electric line beginning beyond the northerly project limits and running southerly down the middle of S. 84th Street to beyond the southerly project limits. This line will remain in place without adjustment.

Contact Jason Chapin (414-944-5575 office / 414-587-0655 cell) of We Energies 7 days in advance to coordinate locations and any excavation near their facilities.

We Energies - Gas has an underground gas line beginning beyond the northerly project limits and running southerly along the west side of S. 84th Street to beyond the southerly project limits. This line will remain in place without adjustment.

Contact Amy Plato (414-944-5585 office / 414-335-7543 cell) of We Energies - Gas 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of – Lighting has underground and overhead lighting facilities within the project limits. WisDOT will become the owner of the lighting facilities being reconstructed at this intersection. Abandon, remove, leave in place, and reconstruct the lighting facilities as shown in the plans.

Contact Peter Daniels (414-302-8374 office) of City of West Allis - Lighting 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of – Signals has existing signal facilities within the project area. WisDOT will become the owner of the signal facilities being reconstructed at this intersection. Abandon, remove, leave in place, and reconstruct the signal facilities as shown in the plans.

Contact Peter Daniels (414-302-8374 office) of City of West Allis - Signals 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of - Sewer has existing underground sanitary sewer facilities beginning at a manhole at Station 233+40, 16’ LT and running northerly in the southbound lanes of S. 84th Street to beyond the northerly project limits. This line will remain in place without adjustment.

Contact Joe Burtch (414-302-8379 office) of City of West Allis – Sewer 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of - Water has existing underground water facilities beginning beyond the northerly project limits and running southerly in the southbound lanes of S. 84th Street to beyond the southerly project limits. This line will remain in place without adjustment

Contact Joe Burtch (414-302-8379 office) of City of West Allis – Water 7 days in advance to coordinate locations and any excavation near their facilities.

WisDOT - Lighting has no existing lighting facilities within the project area. WisDOT will become the owner of the lighting facilities being reconstructed at this intersection. Construct these new facilities as shown in the plans.

Contact Eric Perea (262-574-5422 office/414-750-0935 cell) of WisDOT - Lighting 7 days in advance to coordinate locations and any excavation near their facilities.

WisDOT - Signals has no existing signals facilities within the project area. WisDOT will become the owner of the signal facilities being reconstructed at this intersection. Construct these new facilities as shown in the plans.

Contact WisDOT Traffic Signal Operations (414-750-2605) 7 days in advance to coordinate construction activities.

Greenfield Avenue and S. 84th Street

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

- An underground communications line beginning beyond the easterly project limits and running westerly in the westbound lanes of Greenfield Avenue to beyond the westerly project limits. This line will remain in place without adjustment.
- An underground communications line beginning at a manhole at Station 568+05, 14' LT and running easterly to Station 568+73, 4' RT where it turns and runs southerly to the south side of Greenfield and continues to beyond the southerly project limits. This line will remain in place without adjustment.

Contact Jay Bulanek (414-535-7407 office) of AT&T Wisconsin 7 days in advance to coordinate locations and any excavation near their facilities.

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

- An existing underground 27-inch sanitary sewer line beginning beyond the southerly project limits and running northerly in the median of S. 84th Street to beyond the southerly project limits. This line will remain in place without adjustment.
- An existing underground 96-inch sanitary sewer line beginning beyond the northerly project limits and running southerly in the median of S. 84th Street to beyond the southerly project limits. This line will remain in place without adjustment.

Contact Debra Jensen (414-225-2143) of MMSD 7 days in advance to coordinate locations and any excavation near their facilities.

We Energies - Electric has an existing underground electric line beginning beyond the northerly project limits and running southerly in the median of S. 84th Street to beyond the southerly project limits. This line will remain in place without adjustment.

Contact Jason Chapin (414-944-5575 office / 414-587-0655 cell) of We Energies 7 days in advance to coordinate locations and any excavation near their facilities.

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

- An underground gas line beginning beyond the northerly project limits and running southerly along the west side of S. 84th Street to beyond the southerly project limits. This line will remain in place without adjustment.
- An underground gas line beginning beyond the easterly project limits and running westerly in the westbound lanes of Greenfield Avenue to beyond the westerly project limits. This line will remain in place without adjustment.
- An underground gas line beginning beyond the westerly project limits and running easterly in the eastbound lanes of Greenfield Avenue to Station 567+71, 17' RT where it tees into the existing north-south main. This line will remain in place without adjustment.

Contact Amy Plato (414-944-5585 office / 414-335-7543 cell) of We Energies - Gas 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of – Lighting has underground and overhead lighting facilities within the project limits. WisDOT will become the owner of the lighting facilities being reconstructed at this intersection. Abandon, remove, leave in place, and reconstruct the lighting facilities as shown in the plans.

Contact Peter Daniels (414-302-8374 office) of City of West Allis - Lighting 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of – Signals has existing signal facilities within the project area. WisDOT will become the owner of the signal facilities being reconstructed at this intersection. Abandon, remove, leave in place, and reconstruct the signal facilities as shown in the plans.

Contact Peter Daniels (414-302-8374 office) of City of West Allis - Signals 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of - Sewer has existing underground sanitary sewer facilities within the project limits in the following locations:

- An underground sanitary sewer beginning beyond the westerly project limits and running easterly in the median of Greenfield Avenue to a manhole at Station 568+12,

1’ LT where it turns and runs northeasterly to a manhole at Station 568+31, 21’ LT. This line will remain in place without adjustment.
- An underground sanitary sewer beginning beyond the easterly project limits and running westerly under the south sidewalk of Greenfield Avenue to a manhole at Station 568+92, 29’ RT where it turns and runs northwesterly to a manhole at Station 568+31, 21’ LT. This line will remain in place without adjustment.

Contact Joe Burtch (414-302-8379 office) of City of West Allis – Water 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of - Water has existing underground water facilities within the project limits in the following locations:

- An underground water main beginning beyond the northerly project limits and running southerly in the southbound lanes of S. 84th Street to Station 224+81, 9’ LT where it turns and runs southeasterly to Station 224+45 28’ RT where it turns and runs southerly in the northbound lanes to beyond the southerly project limits. This line will remain in place without adjustment.
- An underground water main beginning beyond the easterly project limits and running westerly in the eastbound lanes to beyond the westerly limits. This line will remain in place without adjustment.

Contact Joe Burtch (414-302-8379 office) of City of West Allis – Water 7 days in advance to coordinate locations and any excavation near their facilities.

WisDOT - Lighting has no existing lighting facilities within the project area. WisDOT will become the owner of the lighting facilities being reconstructed at this intersection. Construct these new facilities as shown in the plans.

Contact Eric Perea (262-574-5422 office/414-750-0935 cell) of WisDOT - Lighting 7 days in advance to coordinate locations and any excavation near their facilities.

WisDOT - Signals has no existing signals facilities within the project area. WisDOT will become the owner of the signal facilities being reconstructed at this intersection. Construct these new facilities as shown in the plans.

Contact WisDOT Traffic Signal Operations (414-750-2605) 7 days in advance to coordinate construction activities.

Greenfield Avenue and S. 92nd Street

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

- An underground communications line beginning beyond the easterly project limits and running westerly in the westbound lanes of Greenfield Avenue to beyond the westerly project limits. This line will remain in place without adjustment.
- An underground communications line beginning at a manhole at Station 541+39, 16' LT and running easterly to Station 542+10, 6' RT where it turns and runs southerly to the south side of Greenfield and continues to beyond the southerly project limits. This line will remain in place without adjustment.

Contact Jay Bulanek (414-535-7407 office) of AT&T Wisconsin 7 days in advance to coordinate locations and any excavation near their facilities.

MMSD has an existing underground sanitary sewer line beginning beyond the northerly project limits and running southerly in the median of S. 92nd Street to beyond the southerly project limits. This line will remain in place without adjustment.

Contact Debra Jensen (414-225-2143) of MMSD 7 days in advance to coordinate locations and any excavation near their facilities.

We Energies - Electric has an existing underground electric line beginning beyond the northerly project limits and running southerly in the northbound lanes of S. 92nd Street to beyond the southerly project limits. This line will remain in place without adjustment.

Contact Jason Chapin (414-944-5575 office / 414-587-0655 cell) of We Energies 7 days in advance to coordinate locations and any excavation near their facilities.

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

- An underground gas line beginning beyond the northerly project limits and running southerly along the east side of S. 92nd Street to beyond the southerly project limits. This line will remain in place without adjustment.
- An underground gas line beginning at Station 541+32, 26' LT and running westerly in the westbound lanes of Greenfield Avenue to Station 40+26, 81' LT where it turns and runs northwesterly to beyond the westerly project limits. This line will remain in place without adjustment.
- An underground gas line beginning beyond the easterly project limits and running westerly in the westbound lanes of Greenfield Avenue to Station 40+10, 6' LT where it turns and runs northerly to Station 40+72, 9' LT. From there it turns and runs westerly to the west side of S. 92nd Street where it turns and runs northerly along the west side of S. 92nd Street to beyond the northerly project limits. This line will remain in place without adjustment.
- An underground gas line beginning at Station 40+10, 17' RT and running southerly in the median of S. 92nd Street to beyond the southerly project limits. This line will remain in place without adjustment.

Contact Amy Plato (414-944-5585 office / 414-335-7543 cell) of We Energies - Gas 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of – Lighting has underground and overhead lighting facilities within the project limits. WisDOT will become the owner of the lighting facilities being reconstructed at this intersection. Abandon, remove, leave in place, and reconstruct the lighting facilities as shown in the plans.

Contact Peter Daniels (414-302-8374 office) of City of West Allis - Lighting 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of – Signals has existing signal facilities within the project area. WisDOT will become the owner of the signal facilities being reconstructed at this intersection. Abandon, remove, leave in place, and reconstruct the signal facilities as shown in the plans.

Contact Peter Daniels (414-302-8374 office) of City of West Allis - Signals 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of - Sewer has existing underground sanitary sewer facilities within the project limits in the following locations:

- An underground sanitary sewer beginning beyond the westerly project limits and running easterly in the median of Greenfield Avenue to a manhole at Station 40+00, 87’ LT where it turns and runs northeasterly to a manhole at Station 40+43, 9’ LT. This line will remain in place without adjustment.
- An underground sanitary sewer beginning beyond the westerly project limits and running easterly in the westbound lanes of Greenfield Avenue to a manhole at Station 40+20, 37’ LT. This line will remain in place without adjustment.

Contact Joe Burtch (414-302-8379 office) of City of West Allis – Water 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of - Water has existing underground water facilities within the project limits in the following locations:

- An underground water main beginning beyond the northerly project limits and running southerly in the median of S. 92nd Street to Station 40+31, 2’ RT where it turns and runs westerly in the westbound lanes of Greenfield Avenue to beyond the westerly project limits. This line will remain in place without adjustment.
- An underground water main beginning beyond the easterly project limits and running westerly in the eastbound lanes of Greenfield Avenue to Station 39+86, 65’ LT where it turns and runs northerly to Station 40+31, 29’ LT. This line will remain in place without adjustment.

- An underground water main beginning beyond the southerly project limits and running northerly in the northbound lanes of S. 92nd Street to Station 39+86, 13' RT. This line will remain in place without adjustment.

Contact Joe Burtch (414-302-8379 office) of City of West Allis – Water 7 days in advance to coordinate locations and any excavation near their facilities.

WisDOT - Lighting has no existing lighting facilities within the project area. WisDOT will become the owner of the lighting facilities being reconstructed at this intersection. Construct these new facilities as shown in the plans.

Contact Eric Perea (262-574-5422 office/414-750-0935 cell) of WisDOT - Lighting 7 days in advance to coordinate locations and any excavation near their facilities.

WisDOT - Signals has no existing signals facilities within the project area. WisDOT will become the owner of the signal facilities being reconstructed at this intersection. Construct these new facilities as shown in the plans.

Contact WisDOT Traffic Signal Operations (414-750-2605) 7 days in advance to coordinate construction activities.

S. 84th Street and National Avenue

MMSD has an existing underground sanitary sewer line beginning beyond the southerly project limits and running northerly along the southbound lanes of 84th Street to beyond the northerly project limits. This line will remain in place without adjustment.

Contact Debra Jensen (414-225-2143) of MMSD 7 days in advance to coordinate locations and any excavation near their facilities.

TCA has an existing underground communications line beginning beyond the easterly project limits and running westerly, crossing 84th Street at Station 199+95, to beyond the westerly project limits. This line will remain in place without adjustment.

Contact Debbie Saddler (414-459-3572 office/ 414-651-0036 cell) of Northwind Technical Services 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of - Lighting has existing lighting facilities within the project area. Abandon, remove, leave in place, and reconstruct these facilities as shown in the plans.

Contact Peter Daniels (414-302-8374 office) of City of West Allis - Lighting 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of – Signals has existing signal facilities within the project area. Abandon, remove, leave in place, and reconstruct the signal facilities as shown in the plans.

Contact Peter Daniels (414-302-8374 office) of City of West Allis - Signals 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of - Sewer has existing underground sanitary sewer facilities within the project limits in the following locations:

- An underground sewer line beginning beyond the westerly project limits and running easterly down the median of National Avenue to Burnham Street and beyond the easterly project limits. This line will remain in place without adjustment.
- An underground sewer line beginning beyond the southerly project limits and running northerly down the southbound lanes of 84th Street to beyond the northerly project limits. This line will remain in place without adjustment.
- An underground sewer line beginning beyond the westerly project limits and running easterly down the median of Maple Street to where it connects into the sanitary sewer in 84th Street. This line will remain in place without adjustment.
- An underground sewer line beginning beyond the westerly project limits and running easterly down the north sidewalk of Maple Street to where it connects into the sanitary sewer in 84th Street. This line will remain in place without adjustment.

Contact Joe Burtch (414-302-8379 office) of City of West Allis – Sewer 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of - Water has existing underground water facilities within the project limits in the following locations:

- An underground water main beginning beyond the westerly project limits and running easterly down the westbound lanes of National Avenue to Burnham Street and beyond the easterly project limits. This line will remain in place without adjustment.
- An underground water main beginning beyond the southerly project limits and running northerly down the southbound lanes of 84th Street to beyond the northerly project limits. This line will remain in place without adjustment.
- An underground water main beginning beyond the westerly project limits and running easterly down the westbound lanes of Maple Street to where it connects into the water main in 84th Street. This line will remain in place without adjustment.
- An underground water main beginning beyond the easterly project limits and running westerly down the median of National Avenue to where it connects into the water main in 84th Street. This line will remain in place without adjustment.

Contact Joe Burtch (414-302-8379 office) of City of West Allis – Water 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis – West Milwaukee School District an existing underground communications line beginning beyond the westerly project limits and running easterly along south sidewalk of National Avenue where it turns northerly and running along the west sidewalk of 84th Street to beyond the northerly project limits. This line will remain in place without adjustment.

Contact Bruce Rowell (920-826-4600 office, 920-819-2269 cell) of West Allis - West Milwaukee School District 7 days in advance to coordinate locations and any excavation near their facilities.

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

- An underground electric line beginning beyond the southerly project limits and running northerly down the southbound lanes of 84th Street to beyond the northerly project limits. This line will remain in place without adjustment.
- An underground electric line beginning beyond the southerly project limits and running northerly down the southbound lanes of 84th Street where it jogs northeasterly at National Avenue and then turns northerly down the northbound lanes of 84th Street to beyond the northerly project limits. This line will remain in place without adjustment.
- An overhead electric line beginning beyond the easterly project limits and running westerly, crossing 84th Street at Station 199+70, to beyond the westerly project limits. This line will remain in place without adjustment.
- An overhead electric line beginning beyond the southerly project limits and running northerly down the west right-of-way of 84th Street where it connects into a pole located at Station 199+70, 47’ LT. This line will remain in place without adjustment.

Contact Jason Chapin (414-944-5575 office / 414-587-0655 cell) of We Energies 7 days in advance to coordinate locations and any excavation near their facilities.

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

- An underground gas line beginning beyond the southerly project limits and running northerly down the east sidewalk of 84th Street where it jogs northwesterly at Station 201+75, 48’ RT and then turns northerly down the southbound lanes of 84th Street to beyond the northerly project limits. This line will remain in place without adjustment.
- An underground gas line beginning beyond the westerly project limits and running easterly down the south sidewalk of Maple Street to where it connects into the gas main in 84th Street. This line will remain in place without adjustment.
- An underground gas line beginning beyond the westerly project limits and running easterly along south sidewalk of National Avenue to where it connects into the gas main in 84th Street. This line will remain in place without adjustment.

Contact Amy Plato (414-944-5585 office / 414-335-7543 cell) of We Energies - Gas 7 days in advance to coordinate locations and any excavation near their facilities.

Lincoln Avenue and Beloit Road

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

- An underground communications line beginning beyond the northeasterly project limits and running southwesterly along the southbound lanes of Beloit Avenue to beyond the southwesterly project limits. This line will remain in place without adjustment.
- An underground communications line beginning beyond the easterly project limits and running westerly along the westbound lanes of Lincoln Avenue to beyond the westerly project limits. This line will remain in place without adjustment.

Contact Jay Bulanek (414-535-7407 office) of AT&T Wisconsin 7 days in advance to coordinate locations and any excavation near their facilities.

MMSD has an existing underground sanitary sewer line beginning beyond the easterly project limits and running westerly along the median of Lincoln Avenue to beyond the westerly project limits. This line will remain in place without adjustment.

Contact Debra Jensen (414-225-2143) of MMSD 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of - Lighting has existing lighting facilities within the project area. Abandon, remove, leave in place, and reconstruct these facilities as shown in the plans.

Contact Peter Daniels (414-302-8374 office) of City of West Allis - Lighting 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of – Signals has existing signal facilities within the project area. Abandon, remove, leave in place, and reconstruct the signal facilities as shown in the plans.

Contact Peter Daniels (414-302-8374 office) of City of West Allis - Signals 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of - Sewer has existing underground sanitary sewer facilities within the project limits in the following locations:

- An underground sewer line beginning beyond the easterly project limits and running westerly down the westbound lanes of Lincoln Avenue to beyond the westerly project limits. This line will remain in place without adjustment.

- An underground sewer line beginning beyond the northeasterly project limits and running southwesterly down the southbound lanes of Beloit Avenue to a manhole located at Station 56+10, 22' LT. This line will remain in place without adjustment.
- An underground sewer line beginning beyond the southwesterly project limits and running northeasterly down the northbound lanes of Beloit Avenue to a manhole located at Station 133+49, 17' RT where it turns easterly to a manhole located at 133+64, 77' RT and turns southerly down the median of 68th Street to beyond the southerly project limits. This line will remain in place without adjustment.

Contact Joe Burtch (414-302-8379 office) of City of West Allis – Sewer 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of - Water has existing underground water facilities within the project limits in the following locations:

- An underground water main beginning beyond the easterly project limits and running westerly along the eastbound lanes of Lincoln Avenue to beyond the westerly project limits. This line will remain in place without adjustment.
- An underground water main beginning beyond the southeasterly project limits and running northwesterly along the southbound lanes Beloit Avenue to where it turns northerly and connects into the water main in Lincoln Avenue. This line will remain in place without adjustment.
- An underground water main beginning beyond the northeasterly project limits and running southwesterly along the southbound lanes Beloit Avenue to where it turns and runs westerly in the westbound lanes of Lincoln Avenue to beyond the westerly project limits. This line will remain in place without adjustment.
- An underground water main beginning beyond the southerly project limits and running north in the median of 68th Street to where it connects into the water main in Lincoln Avenue. This line will remain in place without adjustment.

Contact Joe Burtch (414-302-8379 office) of City of West Allis – Water 7 days in advance to coordinate locations and any excavation near their facilities.

We Energies - Electric has existing underground electric facilities within the project limits in the following locations:

- An underground electric line beginning beyond the northeasterly project limits and running southwesterly along the southbound lanes of Beloit Avenue where it turns and runs southerly along the northbound lanes of 68th Street to beyond the southerly project limits. This line will remain in place without adjustment.
- An underground electric line beginning beyond the easterly project limits and running westerly down the median of Lincoln Avenue to beyond the westerly project limits. This line will remain in place without adjustment.

Contact Jason Chapin (414-944-5575 office / 414-587-0655 cell) of We Energies 7 days in advance to coordinate locations and any excavation near their facilities.

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

- An underground gas line beginning beyond the westerly project limits and running easterly along the north sidewalk of Lincoln Avenue to the northwest corner of Beloit Avenue and Lincoln Avenue. This line will remain in place without adjustment.
- An underground gas line beginning beyond the westerly project limits and running easterly along the westbound lanes of Lincoln Avenue to the northwest corner of Beloit Avenue and Lincoln Avenue. This line will remain in place without adjustment.
- An underground gas line beginning beyond the easterly project limits and running westerly along the south sidewalk of Lincoln Avenue to beyond the westerly project limits. This line will remain in place without adjustment.
- An underground gas line beginning beyond the southerly project limits and running northerly down the southbound lanes of 68th Street to where it connects into the gas main in Lincoln Avenue. This line will remain in place without adjustment.
- An underground gas line beginning beyond the southwesterly project limits and running northeasterly down the east sidewalk of Beloit Avenue to where it connects into the gas main in 68th Street. This line will remain in place without adjustment.

Contact Amy Plato (414-944-5585 office / 414-335-7543 cell) of We Energies - Gas 7 days in advance to coordinate locations and any excavation near their facilities.

Lincoln Avenue and National Avenue

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

- An underground communications line beginning beyond the northeasterly project limits and running southwesterly along the median and southbound lanes of National Avenue to beyond the southwesterly project limits. This line will remain in place without adjustment.
- Two separate underground communications lines beginning beyond the easterly project limits and running westerly along the median and westbound lanes of Lincoln Avenue to beyond the westerly project limits. These lines will remain in place without adjustment.

Contact Jay Bulanek (414-535-7407 office) of AT&T Wisconsin 7 days in advance to coordinate locations and any excavation near their facilities.

TDS Metrocom has an underground communications facility beginning beyond the southwesterly project limits and running northeasterly along the east sidewalk of National Avenue where it turns easterly and running along the southern sidewalk of Lincoln Avenue to beyond the easterly project limits.

TDS Metrocom's line conflicts with the proposed signal base (SB1) located in the southeast corner of the intersection. Upon removal of the sidewalk in the area, TDS Metrocom will expose their cable and shift it south of the proposed pole base. TDS Metrocom will require 3 days to complete their work.

Contact Michael Johnson (262-754-3052 office/ 262-939-6355 cell) of TDS MetroCom 7 days in advance to coordinate the moving of their existing facility.

West Allis, City of - Lighting has existing lighting facilities within the project area. Abandon, remove, leave in place, and reconstruct these facilities as shown in the plans.

Contact Peter Daniels (414-302-8374 office) of City of West Allis - Lighting 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of – Signals has existing signal facilities within the project area. Abandon, remove, leave in place, and reconstruct the signal facilities as shown in the plans.

Contact Peter Daniels (414-302-8374 office) of City of West Allis - Signals 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of - Sewer has an existing underground sanitary sewer line beginning beyond the northeasterly project limits and running southwesterly down the southbound lanes of National Avenue to a manhole located at Station 65+48, 22' LT where it turns and runs westerly to beyond the westerly project limits. This line will remain in place without adjustment.

Contact Joe Burtch (414-302-8379 office) of City of West Allis – Sewer 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of - Water has existing underground water facilities within the project limits in the following locations:

- An underground water main beginning beyond the easterly project limits and running westerly along the north sidewalk of Lincoln Avenue to beyond the westerly project limits. This line will remain in place without adjustment.
- An underground water main beginning beyond the southeasterly project limits and running northwesterly along the southbound lanes National Avenue to where it turns northerly and connects into the water main in Lincoln Avenue. This line will remain in place without adjustment.
- An underground water main beginning beyond the northeasterly project limits and running southwesterly along the southbound lanes National Avenue to where it connects into the water main in Lincoln Avenue. This line will remain in place without adjustment.
- An underground water main beginning beyond the northeasterly project limits and running east sidewalk of National Avenue to where it turns southerly and runs down

the median of 95th Street to beyond the southerly project limits. This line will remain in place without adjustment.

Contact Joe Burtch (414-302-8379 office) of City of West Allis – Water 7 days in advance to coordinate locations and any excavation near their facilities.

We Energies - Electric has existing underground electric line beginning beyond the northeasterly project limits and running along the northbound lanes of National Avenue to where it turns southerly and runs down the northbound lanes of 95th Street to beyond the southerly project limits. This line will remain in place without adjustment.

Contact Jason Chapin (414-944-5575 office / 414-587-0655 cell) of We Energies 7 days in advance to coordinate locations and any excavation near their facilities.

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

- Two separate underground gas lines beginning beyond the easterly project limits and running westerly along the eastbound lanes to beyond the westerly project limits. These lines will remain in place without adjustment.
- An underground gas line beginning beyond the southeasterly project limits and running northwesterly along the southbound lanes National Avenue to where it turns northerly and connects into the gas main in Lincoln Avenue. This line will remain in place without adjustment.
- An underground gas line beginning beyond the northerly project limits and running southerly down the southbound lanes of 95th Street to beyond the southerly project limits. This line will remain in place without adjustment.

Contact Amy Plato (414-944-5585 office / 414-335-7543 cell) of We Energies - Gas 7 days in advance to coordinate locations and any excavation near their facilities.

Lincoln Avenue and IH 894 SB Exit Ramp

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

- An underground communications line beginning beyond the easterly project limits and running westerly in the median of Lincoln Avenue to beyond the westerly project limits. This line will remain in place without adjustment.
- An overhead communications line on We Energies poles beginning beyond the northerly project limits and running southerly to Station 44+62, 109’ LT where it turns and runs southeasterly, crossing Lincoln Avenue, to a pole at Station 45+00, 57’ RT. From there it turns into an underground facility and runs southerly to beyond the southerly project limits. This line will remain in place without adjustment.

Contact Jay Bulanek (414-535-7407 office) of AT&T Wisconsin 7 days in advance to coordinate locations and any excavation near their facilities.

Time Warner Cable has An underground communications line beginning beyond the northerly project limits and running southerly along the west right-of-way of IH 894 and continues southerly, crossing Lincoln Avenue near Station 44+64, to beyond the southerly project limits. This line will remain in place without adjustment.

Contact Lukas LaCrosse (414-908-4766 office/ 414-430-9321 cell) of Time Warner Cable 7 days in advance to coordinate locations and any excavation near their facilities.

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

- An underground electric line beginning beyond the easterly project limits and running westerly in the westbound lanes of Lincoln Avenue to a manhole at Station 44+67, 18' LT where it turns and runs northerly, crossing Lincoln Avenue, to beyond the northerly project limits. This line will remain in place without adjustment.
- An overhead electric line beginning beyond the northerly project limits and running southerly to Station 44+62, 109' LT where it turns and runs southeasterly, crossing Lincoln Avenue, to a pole at Station 45+00, 57' RT. From there it turns into an underground facility and runs southerly to beyond the southerly project limits. This line will remain in place without adjustment.

Contact Jason Chapin (414-944-5575 office / 414-587-0655 cell) of We Energies 7 days in advance to coordinate locations and any excavation near their facilities.

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

- An underground gas line beginning beyond the easterly project limits and running westerly to Station 45+48, 67' RT where it turns and runs northwesterly to Station 45+02, 19' RT. From there it turns and runs westerly in the eastbound lanes of Lincoln Avenue to beyond the westerly project limits. This line will remain in place without adjustment.
- An underground gas line beginning beyond the westerly project limits and running easterly along the south side of Lincoln Avenue to Station 44+75, 50' RT. This line will remain in place without adjustment.

Contact Amy Plato (414-944-5585 office / 414-335-7543 cell) of We Energies - Gas 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of - Lighting has existing lighting facilities within the project area. WisDOT will become the owner of the lighting facilities being reconstructed at this intersection. Abandon, remove, leave in place, and reconstruct these facilities as shown in the plans.

Contact Peter Daniels (414-302-8374 office) of City of West Allis - Lighting 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of - Sewer has an existing underground sanitary sewer beginning beyond the westerly project limits and running easterly along the south side of Lincoln Avenue to a manhole at Station 44+78, 46' RT. This line will remain in place without adjustment.

Contact Joe Burtch (414-302-8379 office) of City of West Allis – Sewer 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of - Water has an existing underground water main beginning beyond the easterly project limits and running westerly to Station 45+66, 61' LT where it turns and runs southwesterly to Station 45+41, 31' LT. From there it turns and runs westerly in the westbound lanes of Lincoln Avenue to beyond the westerly project limits. This line will remain in place without adjustment.

Contact Joe Burtch (414-302-8379 office) of City of West Allis – Water 7 days in advance to coordinate locations and any excavation near their facilities.

WisDOT - Lighting has existing lighting facilities within the project area. WisDOT will become the owner of the lighting facilities being reconstructed at this intersection. Construct these new facilities as shown in the plans.

Contact Eric Perea (262-574-5422 office/414-750-0935 cell) of WisDOT - Lighting 7 days in advance to coordinate locations and any excavation near their facilities.

WisDOT – Signals has existing signal facilities within the project area. Abandon, remove, leave in place, and reconstruct the signal facilities as shown in the plans.

Contact WisDOT Traffic Signal Operations (414-750-2605) 7 days in advance to coordinate locations and any excavation near their facilities.

WisDOT - STOC has existing communications facilities within the project limits. These facilities will remain in place without adjustment.

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

National Avenue and S. 102nd Street

AT&T Wisconsin has existing an underground communications line beginning beyond the northeasterly project limits and running southwesterly along the median of National Avenue where it turns northwesterly at Station 39+33, 5' LT to beyond the northerly project limits. This line will remain in place without adjustment.

Contact Jay Bulanek (414-535-7407 office) of AT&T Wisconsin 7 days in advance to coordinate locations and any excavation near their facilities.

MMSD has an existing underground sanitary sewer line beginning beyond the northeasterly project limits and running southwesterly along the westbound lanes of National Avenue to beyond the southwesterly project limits. This line will remain in place without adjustment.

Contact Debra Jensen (414-225-2143) of MMSD 7 days in advance to coordinate locations and any excavation near their facilities.

TDS Metrocom has existing an underground communications line beginning beyond the northeasterly project limits and running southwesterly along the north sidewalk of National Avenue to beyond the southwesterly project limits. This line will remain in place without adjustment.

Contact Michael Johnson (262-754-3052 office/ 262-939-6355 cell) of TDS MetroCom 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of - Lighting has existing lighting facilities within the project area. Abandon, remove, leave in place, and reconstruct these facilities as shown in the plans.

Contact Peter Daniels (414-302-8374 office) of City of West Allis - Lighting 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of – Signals has existing signal facilities within the project area. Abandon, remove, leave in place, and reconstruct the signal facilities as shown in the plans.

Contact Peter Daniels (414-302-8374 office) of City of West Allis - Signals 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of - Sewer has two separate and parallel existing underground sanitary sewer lines beginning beyond the northeasterly project limits and running southwesterly along the south frontage road of National Avenue to beyond the southwesterly project limits. These lines will remain in place without adjustment.

Contact Joe Burtch (414-302-8379 office) of City of West Allis – Sewer 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of - Water has existing underground water facilities within the project limits in the following locations:

- An underground water main beginning beyond the northeasterly project limits and running southwesterly along the eastbound lanes of National Avenue to beyond the southwesterly project limits. This line will remain in place without adjustment.

- An underground water main beginning beyond the northeasterly project limits and running southwesterly along the north sidewalk of National Avenue to beyond the southwesterly project limits. This line will remain in place without adjustment.

Contact Joe Burtch (414-302-8379 office) of City of West Allis – Water 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis – West Milwaukee School District an existing underground communications line beginning beyond the southerly project limits and running northwesterly along the east sidewalk of 102nd Street to the northeast corner of the intersection and beyond the northerly project limits. This line will remain in place without adjustment.

Contact Bruce Rowell (920-826-4600 office, 920-819-2269 cell) of West Allis - West Milwaukee School District 7 days in advance to coordinate locations and any excavation near their facilities.

We Energies - Electric has existing underground electric facilities within the project limits in the following locations:

- An underground electric line beginning beyond the northeasterly project limits and running southwesterly along the north sidewalk of National Avenue where it turns and runs northerly along the east sidewalk of 102nd Street to beyond the northerly project limits. This line will remain in place without adjustment.
- An underground electric line beginning beyond the southerly project limits and running northwesterly down the median of 102nd Street to the north median where it turns an runs southwesterly to a cabinet located at the northwest corner of the intersection. This line will remain in place without adjustment.

Contact Jason Chapin (414-944-5575 office / 414-587-0655 cell) of We Energies 7 days in advance to coordinate locations and any excavation near their facilities.

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

- An underground gas line beginning beyond the northeasterly project limits and running southwesterly along the south sidewalk of National Avenue to beyond the southwesterly project limits. This line will remain in place without adjustment.
- An underground gas line beginning beyond the southerly project limits and running northwesterly along the east side of 102nd Street to the northeast corner of the intersection and beyond the northerly project limits. This line will remain in place without adjustment.

Contact Amy Plato (414-944-5585 office / 414-335-7543 cell) of We Energies - Gas 7 days in advance to coordinate locations and any excavation near their facilities.

STH 100 and W. Lapham Street

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

- An underground communications package beginning beyond the northerly project limits and running southerly in the northbound lanes of STH 100 and continuing south to beyond the southerly project limits. This line will remain in place without adjustment.

Contact Jay Bulanek (414-535-7407 office) of AT&T Wisconsin 7 days in advance to coordinate locations and any excavation near their facilities.

Time Warner Cable has An underground communications line beginning beyond the northerly project limits and running southerly along the east right-of-way of STH 100 where it turns westerly, crossing STH 100 at Station 513+62, and continues westerly along the north sidewalk of Lapham Street to beyond the westerly project limits. This line will remain in place without adjustment.

Contact Lukas LaCrosse (414-908-4766 office/ 414-430-9321 cell) of Time Warner Cable 7 days in advance to coordinate locations and any excavation near their facilities.

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

- An underground gas line beginning beyond the northerly project limits and running southerly in the western sidewalk of STH 100 to beyond the southerly project limits. This line will remain in place without adjustment.
- An underground gas line beginning at Station 512+17, 58’ RT and running westerly along the south side of Lapham Street to beyond the westerly project limits. This line will remain in place without adjustment.
- An underground gas line beginning beyond the northerly project limits and running southerly in the eastern sidewalk of STH 100 to beyond the southerly project limits. This line will remain in place without adjustment.
- An underground gas line beginning beyond the northerly project limits and running southerly behind the eastern back of curb of STH 100 to beyond the southerly project limits. This line will remain in place without adjustment.

Contact Amy Plato (414-944-5585 office / 414-335-7543 cell) of We Energies - Gas 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of – Lighting has underground and overhead lighting facilities within the project limits. WisDOT will become the owner of the lighting facilities being reconstructed at this intersection. Abandon, remove, leave in place, and reconstruct the lighting facilities as shown in the plans.

Contact Peter Daniels (414-302-8374 office) of City of West Allis - Lighting 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of – Signals has existing signal facilities within the project area. WisDOT will become the owner of the signal facilities being reconstructed at this intersection. Abandon, remove, leave in place, and reconstruct the signal facilities as shown in the plans.

Contact Peter Daniels (414-302-8374 office) of City of West Allis - Signals 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of - Sewer has existing underground sanitary sewer facilities within the project limits in the following locations:

- An underground sanitary sewer beginning beyond the northerly project limits and running southerly in the northbound lanes of STH 100 to beyond the southerly project limits. This line will remain in place without adjustment.
- An underground sanitary sewer beginning at a manhole at Station 513+30, 39’ LT and running westerly in the median of Lapham Street to beyond the westerly project limits. This line will remain in place without adjustment.

Contact Joe Burtch (414-302-8379 office) of City of West Allis – Sewer 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of - Water has existing underground water facilities within the project limits in the following locations:

- An underground water main beginning beyond the northerly project limits and running southerly in the northbound lanes of STH 100 to beyond the southerly project limits. This line will remain in place without adjustment.
- An underground water main beginning at Station 513+37, 32’ LT and running westerly in the median of Lapham Street to beyond the westerly project limits. This line will remain in place without adjustment.
- An underground water main beginning beyond the northerly project limits and running southerly in the southbound lanes of STH 100 to beyond the southerly project limits. This line will remain in place without adjustment.
- An underground water main beginning at Station 513+30, 35’ RT and running easterly to beyond the easterly project limits. This line will remain in place without adjustment.

Contact Joe Burtch (414-302-8379 office) of City of West Allis – Water 7 days in advance to coordinate locations and any excavation near their facilities.

WisDOT - Lighting has no existing lighting facilities within the project area. WisDOT will become the owner of the lighting facilities being reconstructed at this intersection. . Construct these new facilities as shown in the plans.

Contact Eric Perea (262-574-5422 office/414-750-0935 cell) of WisDOT - Lighting 7 days in advance to coordinate locations and any excavation near their facilities.

WisDOT - Signals has no existing signals facilities within the project area. WisDOT will become the owner of the signal facilities being reconstructed at this intersection. Construct these new facilities as shown in the plans.

Contact WisDOT Traffic Signal Operations (414-750-2605) 7 days in advance to coordinate construction activities.

WisDOT - STOC has an existing underground communications line beginning beyond the northerly project limits and running southerly in the median of STH 100 to a pull box located at Station 512+72, 9' LT and continuing south to beyond the southerly project limits. This line will remain in place without adjustment.

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

STH 100 and W. Orchard Street

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

- An underground communications package beginning beyond the northerly project limits and running southerly in the northbound lanes of STH 100 and continuing south to beyond the southerly project limits. This line will remain in place without adjustment.

Contact Jay Bulanek (414-535-7407 office) of AT&T Wisconsin 7 days in advance to coordinate locations and any excavation near their facilities.

Midwest Fiber Networks an existing underground communications line beginning beyond the northerly project limits and running southerly in the median of STH 100 to a manhole located at Station 516+02, 18' RT and continuing south to beyond the southerly project limits. This line will remain in place without adjustment.

Contact Richard Trgovec (414-459-3554 office) of Midwest Fiber Network 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of – Signals has an existing flashing signal pole located at Station 517+25, 8' LT related to the EVP signals located at the intersection of STH 100 and Lapham Street. Abandon, remove, leave in place, and reconstruct these facilities as shown in the plans.

Contact Peter Daniels (414-302-8374 office) of City of West Allis - Signal 7 days in advance to coordinate locations and any excavation near their facilities.

WisDOT - STOC has an existing underground communications line beginning beyond the northerly project limits and running southerly in the median of STH 100 to a pull box located at Station 516+70, 2' RT and continuing south to beyond the southerly project limits. This line will remain in place without adjustment.
Contact Jeff Madson (414-225-3723) of WisDOT - STOC 7 days in advance to coordinate locations and any excavation near their facilities.

STH 100 and W. Greenfield Avenue

There is no excavation for proposed signal work at this intersection. All work is occurring above ground and should not affect existing utilities in the area.

WisDOT – Signals has existing signal facilities within the project area. Abandon, remove, leave in place, and reconstruct the signal facilities as shown in the plans.

Contact WisDOT Traffic Signal Operations (414-750-2605) 7 days in advance to coordinate locations and any excavation near their facilities

STH 100 and Theo Trecker Way

AT&T Corporation has an abandoned underground communications line beginning beyond the northerly project limits and running southerly along the west right-of-way of STH 100 to the north side of Theo Trecker Way where it turns and runs westerly along the north side of Theo Trecker Way to beyond the westerly project limits.

Contact Ken Nine (574-904-6336 cell) of JMC Engineers & Associates, Inc. 7 days in advance to coordinate locations and any excavation near their facilities.

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

- An underground communications package beginning beyond the northerly project limits and running southerly in the southbound lanes of STH 100 to beyond the southerly project limits. This line will remain in place without adjustment.
- An underground communicaitons line beginning at a manhole at Station 550+41, 41' LT and running southwesterly to the south side of Theo Trecker Way where it turns and runs westerly along the south side of Theo Treckery Way to beyond the westerly project limits. This line will remain in place without adjustment.

Contact Jay Bulanek (414-535-7407 office) of AT&T Wisconsin 7 days in advance to coordinate locations and any excavation near their facilities.

Time Warner Cable has a communications line on We Energies poles beginning beyond the northerly project limits and running southerly along the east right-of-way of STH 100 to a pole at Station 551+21, 61' RT where it turns and runs southwesterly, crossing STH 100, to a pole at Station 18+77, 33' RT where it turns and runs westerly along the south side of Theo Trecker Way to beyond the westerly project limits. This line will remain in place without adjustment.

Contact Lukas LaCrosse (414-908-4766 office/ 414-430-9321 cell) of Time Warner Cable 7 days in advance to coordinate locations and any excavation near their facilities.

We Energies - Electric has an overhead electric line beginning beyond the northerly project limits and running southerly along the east right-of-way of STH 100 to a pole at Station 551+21, 61' RT where it turns and runs southwesterly, crossing STH 100, to a pole at Station 18+77, 33' RT where it turns and runs westerly along the south side of Theo Trecker Way to beyond the westerly project limits. This line will remain in place without adjustment.

Contact Jason Chapin (414-944-5575 office / 414-587-0655 cell) of We Energies 7 days in advance to coordinate locations and any excavation near their facilities.

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

- An underground gas line beginning beyond the northerly project limits and running southerly in the northbound lanes of STH 100 to beyond the southerly project limits. This line will remain in place without adjustment.
- An underground gas line beginning at Station 550+25, 51' RT and running westerly, crossing STH 100, and continues westerly along the south side of Theo Trecker Way to beyond the westerly project limits. This line will remain in place without adjustment.
- An underground gas line beginning at Station 550+25, 51' RT and running northerly along the east side of STH 100 to beyond the northerly project limits. This line will remain in place without adjustment.
- An underground gas line beginning at Station 550+25, 44' LT and running southerly in the southbound lanes of STH 100 to beyond the southerly project limits. This line will remain in place without adjustment.

Contact Amy Plato (414-944-5585 office / 414-335-7543 cell) of We Energies - Gas 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of – Lighting has underground and overhead lighting facilities within the project limits. WisDOT will become the owner of the lighting facilities being reconstructed at this intersection. Abandon, remove, leave in place, and reconstruct the lighting facilities as shown in the plans.

Contact Peter Daniels (414-302-8374 office) of City of West Allis - Lighting 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of - Sewer has existing underground sanitary sewer facilities within the project limits in the following locations:

- An underground sanitary sewer beginning beyond the northerly project limits and running southerly in the northbound lanes of STH 100 to beyond the southerly project limits. This line will remain in place without adjustment.
- An underground sanitary sewer beginning at a manhole at Station 550+58, 35' RT and running westerly, crossing STH 100, and continues westerly in the median of Theo Trecker Way to beyond the westerly project limits. This line will remain in place without adjustment.
- An underground sanitary sewer beginning at a manhole at Station 550+58, 35' LT and running southerly in the southbound lanes of STH 100 to beyond the southerly project limits. This line will remain in place without adjustment.

Contact Joe Burtch (414-302-8379 office) of City of West Allis – Sewer 7 days in advance to coordinate locations and any excavation near their facilities.

West Allis, City of - Water has existing underground water facilities within the project limits in the following locations:

- An underground water main beginning beyond the northerly project limits and running southerly in the northbound lanes of STH 100 to beyond the southerly project limits. This line will remain in place without adjustment.
- An underground water main beginning at Station 550+46, 28' RT and running westerly, crossing STH 100, and continues westerly in the eastbound lanes of Theo Trecker Way to beyond the westerly project limits. This line will remain in place without adjustment.
- An underground water main beginning beyond the northerly project limits and running southerly along the west side of STH 100 to Station 550+46, 56' LT. This line will remain in place without adjustment.
- An underground water main beginning beyond the southerly project limits and running northerly in the southbound lanes of STH 100 to Station 550+46, 27' LT. This line will remain in place without adjustment.

Contact Joe Burtch (414-302-8379 office) of City of West Allis – Water 7 days in advance to coordinate locations and any excavation near their facilities.

WisDOT - Lighting has no existing lighting facilities within the project area. WisDOT will become the owner of the lighting facilities being reconstructed at this intersection. Construct these new facilities as shown in the plans.

Contact Eric Perea (262-574-5422 office/414-750-0935 cell) of WisDOT - Lighting 7 days in advance to coordinate locations and any excavation near their facilities.

WisDOT – Signals has existing signal facilities within the project area. Abandon, remove, leave in place, and reconstruct the signal facilities as shown in the plans.

Contact WisDOT Traffic Signal Operations (414-750-2605) 7 days in advance to coordinate locations and any excavation near their facilities

WisDOT - STOC has existing underground communications facilities within the project limits in the following locations:

- An underground communications line beginning beyond the northerly project limits and running southerly in the median of STH 100 throughout the project limits. This line will remain in place without adjustment.
- An underground communications line beginning at a manhole at Station 549+75, 8' LT and running northwesterly, crossing STH 100, to a pedestal in the southwest quadrant of STH 100 and Theo Trecker Way. Abandon, remove, leave in place, and reconstruct the WisDOT - STOC facilities as shown in the plans.

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

7. Other Contracts.

Coordinate your work in accordance to standard spec 105.5.

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

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

There will be traffic impacts on nearby routes, such as Wisconsin Avenue, Bluemound Road, Lincoln Avenue, Greenfield Avenue, STH 100, 92nd Street, 84th Street, 70th Street due to diverted traffic and motorists avoiding the work zones. Other major concurrent projects in the corridor and region in 2015 include:

- Wauwatosa Avenue resurfacing from State Street to Harwood Avenue (City of Wauwatosa)
- North Avenue resurfacing from 114th Street to Mayfair Road (City of Wauwatosa)
- Elm Grove Road resurfacing from Greenfield Avenue to Bluemound Road (City of Brookfield)
- USH 41 mill and overlay from IH 94 to Lisbon Avenue
- Underwood Creek and 121st Street bridges reconstruction
- Roosevelt Drive from Burleigh Street to Fond du Lac Avenue resurfacing
- Hoan Bridge (IH 794) project (bridge reconstruction, redecking)
- Valley Bridges (IH 43/94) project (bridge redecking)
- No long term closures; night time lane and full closures for bridge demolition, etc.

Coordinate with the following projects:

1060-33-72: Zoo IC, Watertown Plank Interchange reconstruction from Wisconsin Avenue to Underwood Parkway, Milwaukee County.
WisDOT contact person is Kurt Flierl, (414)750-3085.

1060-33-75: Zoo IC, UPRR and STH 100 Bridge reconstruction over IH 94 and the Hank Aaron State Trail, Milwaukee County.
WisDOT contact person is Michael Burns, (414) 750-1413.

1060-33-78: Zoo IC, S. 76th St. Bridge reconstruction over IH 94 from Kearney Street to O'Connor Street, Milwaukee County.
WisDOT contact person is Michael Burns, (414) 750-1413.

1060-33-80: Zoo IC, Zoo Interchange Phase 1, Lincoln-Bluemound, 121st to 70th, Milwaukee County.
WisDOT contact person is Mark Klipstein, (414) 750-1496.

1060-33-81, Zoo IC, Zoo Interchange Phase 2, Lincoln-Bluemound, 121st to 70th, Milwaukee County.
WisDOT contact person is James Keegan, (414) 750-3311.

1060-33-97, Zoo IC, Integrated Corridors 2 at various intersections in Milwaukee and Waukesha Counties.
WisDOT contact person is Chris Hager, (414) 750-1487.

1060-35-80, Zoo IC, Bluemound Road Watermain across USH 45 south of USH 18, Milwaukee County.
WisDOT contact person is Jeff Bohen, (414) 750-2928.

1090-33-60, Rock Freeway, Hale Interchange B-40-300-305, Milwaukee County.
WisDOT contact person is Ken Kiepczynski, (414) 659-3055.

1100-20-60, Zoo Freeway, Burleigh St to Good Hope Rd, Milwaukee County.
WisDOT contact person is Ken Kiepczynski, (414) 659-3055.

2160-14-70: S. 76th Street, W. Greenfield Ave to W. Pierce St, Milwaukee County.
WisDOT contact person is Kathleen Kramer, (262) 548-8772 or (414) 750-1521.

8. Environmental Protection and Erosion Control.

Supplement standard spec 107.18 with the following:

Blasting of piers or abutments for removal purposes will not be permitted. Removal of debris shall be in accordance to this provision. Disposal of debris shall be in accordance to standard spec 203.3.4.

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

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

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

Do not use fertilizer in areas that are within 10 feet of wetlands or existing waterways.

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

Store all containers (drums of concrete curing agents, pertoleum storage tanks, pressurized gas cylinders, etc.) in secure locations to avoid an attractive nuisance and to prevent vandalism, spills, and unwanted dumping. If abandoned containers are found, notify Kristina Betzold, DNR (414) 263-8517 or the DNR Hotline (24hrs/day) (800) 943-0003 to report the incident.

Supplement standard spec 107.20 with the following:

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

Apply finishing items or temporary seeding to all disturbed grading areas within 7 calendar days after grading work is completed. Topsoil graded areas, as designated by the engineer, immediately after grading has been completed within those areas. Seed and mulch, and fertilize all topsoiled areas within 7 calendar days after placement of topsoil.

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

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

Replace standard spec 107.20(3) with the following:

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

9. Public Convenience and Safety.

Revise standard spec 107.8(6) as follows:

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

10. Notice to Contractor – Traffic Signal Equipment Lead Time.

Lead time for traffic signal equipment specified for this project has been ranging from 12-weeks to 18-weeks. Order equipment as soon as possible to assure the equipment is procured in a timely fashion and, therefore, installed, inspected, and ready for turn-on at the required date.

11. Notice to Contractor – West Allis Lighting.

The City of West Allis has high voltage, underground electric lighting cables throughout the City. This line is typically buried 6"-24" behind the back of the curb and 6"-24" deep. This line is de-energized during daylight hours, but is automatically energized at dusk. This line will remain in place but adjustments will be required.

At several intersections under construction as shown in the plans, place new conduit and electrical cable and provide a work zone at each end of the conduit to the City of West Allis Electrical Department so they can splice the new cable into the existing system. Provide a five (5) business day advance notice to Mr. Terry Meincke of West Allis, (414) 531-5102; tmeincke@westalliswi.gov of when the work zone will be available. After the City has completed their splicing operations, backfill and restore the disturbed areas. Coordinate in advance and plan operations accordingly.

12. Notice to Contractor – West Allis Fire Department.

The City of West Allis Fire Department has a station located on Lapham Street just west of HWY100 on the north side of the road. The existing traffic signal at HWY100 and Lapham has an Emergency Vehicle Preemption (EVP) system that is tied to this station. This system is critical to the Fire Department's safe access onto HWY100 and shall be maintained as much as possible. Limited outages will only be allowed to switch the existing EVP system from the existing signals to the temporary traffic signals and to switch from the existing EVP system on the temporary signals to the new EVP system on the new traffic signals. Provide a five (5) business day advance notice to Mr. Gary Streicher of the West Allis Fire Department, (414) 302-8902; gstreicher@westalliswi.gov of any system outages.

13. Notice to Contractor – City of Milwaukee.

The existing traffic signals at the intersection of USH 18 and 68th Street are owned and operated by the City of Wauwatosa. The proposed traffic signal will be owned and operated by the City of Milwaukee and will assume ownership of the permanent traffic signal upon acceptance of the work.
The City of Milwaukee will provide the precast concrete control cabinet base. Pick up pre-cast concrete control cabinet base from the City of Milwaukee yard located at 1540 W. Canal Street. Contact traffic signal shop dispatch at (414) 286-3687 to coordinate pick up.

The City of Milwaukee will also be performing the installation of the control cabinet and all wiring within the cabinet. Give the control cabinet work zone to the City of Milwaukee so they can install the cabinet and complete the wiring in the cabinet in seven consecutive calendar days. Provide a five business day advance notice to Mr. Al Nichols, Traffic Operations Supervisor (414) 286-3687-office, (414) 708-5148-mobile; of when the work zone will be available. Coordinate in advance and plan operations accordingly.

14. Public Information Meetings.

Participate in department-sponsored public information meetings as the engineer requests. Ensure that representatives of subcontractors also participate in those meetings if the engineer requests.
SEF Rev. 12_0330

15. Traffic Meetings and Traffic Control Scheduling.

Every Wednesday by 10 AM, submit a detailed proposed 2-week look-ahead traffic closure schedule to the engineer. Type the detailed proposed 2-week look-ahead closure schedule into an excel spreadsheet provided by the engineer. Enter information such as closure dates, duration, work causing the closure and detours to be used. Also enter information such as ongoing long-term closures, emergency contacts and general 2-month look-ahead closure information into the excel spreadsheet.

Meet with the engineer between 10:00 AM – 12:00 AM on Wednesdays at the Zoo Interchange project office at 2424 S. 102nd St. in West Allis to discuss and answer questions on the proposed schedule. Edit, delete and add closures to the detailed proposed 2-week look-ahead schedule, as directed by the engineer, so that proposed closures meet specification requirements. Other edits, deletions or additions unrelated to meeting specification requirements may also be agreed upon with the engineer during the 10:00 AM meeting.

Every Wednesday at 10:00 AM, or as scheduled by the engineer, attend a weekly traffic meeting. The meeting will bring local agencies, project stakeholders, owner managers, owner engineers, contractors, document control and construction engineering personnel together to discuss traffic staging, closures and general impacts. Upon obtaining feedback from the meeting attendees, edit, delete and add information to the detailed 2-week look-ahead closure schedule, as needed. Submit the revised 2-week look-ahead to the engineer.

Obtain approval from the engineer for any mid-week changes to the closure schedule. Revise the 2-week look-ahead as required and obtain engineer approval.
SEF Rev. 12_0810

16. Material and Equipment Staging.

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

17. Available Documents.

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

- Design Study Report
- Exceptions to Standards Report
- Interstate Access Justification Report
- Pavement Type Selection Report
- Environmental Impact Statement
- As-Built Drawings
- Preconstruction survey

These documents are available from Chris Hager, PE at 141 NW Barstow Street, Waukesha, WI 53187, (262) 521-4433.

Reproduction costs will be applied to any copies requested.
SEF Rev. 13_1218

18. Geotechnical Investigation Information.

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

Available information relative to subsurface exploration, borings, soundings, water levels, elevations or profiles are available for review at the department's Regions office. Contact Chris Hager, PE at 141 NW Barstow Street, Waukesha, WI 53187, (262) 521-4433.

Additional geotechnical information is available from studies and analyses that have been performed by Forward 45 for the Wisconsin Department of Transportation (WisDOT) for other aspects of this project. Review the available information to determine if it is of use. The use or not of the geotechnical information does not relieve performing the work in accordance to the plans and specifications.
SEF Rev. 12_0813

19. Contractor Notification.

Replace standard spec 104.2.2.2(2) with the following:

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

104.3.2 (Vacant)

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

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

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

Provide the additional information specified in standard spec 104.3.5 as early as possible to assist the engineer in the timely resolution of an identified issue. The engineer will not require, in subsequent submissions, duplication of information already provided.
SEF Rev. 12_0823

20. Contractor Document Submittals.

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

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

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

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

All costs for contractor document submittals are incidental to the contract.
SEF Rev. 14_ 0114

21. Information to Bidders, Use of Recovered Material.

The department encourages the use of waste materials and recovered industrial byproducts as material substitutions (106.2.1), provided they meet standard specification gradation requirements, conform to NR 538 requirements, and/or follow standard engineering practice for their intended use.
SEF Rev. 12_1212

22. Payment Tracking.

A Reporting Payments During Construction
Comply with reporting requirements specified in the department's civil rights and labor compliance management system manual.

Report payments to all first tier relationships including subcontractors, suppliers, and trucking firms within 10 calendar days of receipt of a progress payment by the department or a contractor for work performed, materials furnished, or materials stockpiled by subcontractors, suppliers, and trucking firms. Report the payment as specified in A (1) for all work satisfactorily performed and for all materials furnished or stockpiled.

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

Include the provisions in A (1) and (3) in all agreements. Agreements will be binding on all first tier relationships including subcontractors, suppliers, and trucking firms on the project.

B (Vacant)

C (Vacant)

D (Vacant)

E Payment
Costs for conforming to this special provision are incidental to the contract.
SEF Rev. 12_1108

23. Labor Compliance Reporting – Payroll Requirements.

Submit weekly certified payrolls verifying prevailing wage rates for all work performed under the contract as directed in the civil rights and labor compliance management system manual. Submit weekly certified payrolls within 7 calendar days of the week covered by the weekly certified payroll.
SEF Rev. 12_1008

24. Dust Control Implementation Plan.

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

B (Vacant)

C Construction
C.1 General
Take responsibility for dust control on the project as specified in standard spec 107.18. Minimize dust emissions resulting from land disturbing activities. Do not generate excessive air borne particulate matter (PM) or nuisance dust conditions. Take direct responsibility for controlling dust at all times throughout the duration of the contract, 24 hours per day, 7 days per week, including non-working hours, weekends, and holidays.

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

C.2 Dust Control Implementation Plan Contents
Develop a DCIP tailored to the specific needs of the project. Consider potential impacts to businesses and residences adjacent to the job site. Describe in detail all land disturbing, dust generating activities. Identify strategies to prevent, mitigate, and collect excess dust. Establish clear lines of communication with the engineer to ensure that all dust control issues can be dealt with promptly.

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

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

C.3 Updating the Dust Control Implementation Plan

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

C.4 Dust Control Deficiencies

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

D Measurement

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

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

623.0200	Dust Control Surface Treatment
624.0100	Water
628.7560	Tracking Pads
SPV.0105.0001	Pavement Cleanup

The department will measure work completed under other existing contract bid items if approved as a part of the DCIP. The department will consider new bid items to the contract if proposed under the DCIP. The department will not measure work required under the DCIP that is not included in contract bid items.

E Payment

All costs associated with the development and updating of the DCIP are incidental to the contract. The department will pay separately for the work required to implement the actions approved in the DCIP under the contract bid items approved as a part of the DCIP. All other costs associated with work approved under the DCIP are incidental to the contract.

SEF Rev. 12_1004

25. Project Site Air Quality.

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

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

Portable Concrete Crusher Plants
Portable concrete crusher plants may need a NR 440 Concrete Crusher Plant Air Permit for air emissions. Please contact Mike Griffin, Wisconsin Department of Natural Resources, Air Compliance Engineer (414) 263-8554 to request additional information and permit application materials. Complete permit applications may take three months to process.
SEF Rev. 12_1008

26. Subletting the Contract.

Replace standard spec 108.1.1 (3) with the following:

If proposing to have a party other than a subcontractor perform work, notify the engineer and submit details of this arrangement in writing. The engineer will determine if that arrangement constitutes subcontracting. Submit copies of all other agreements between any parties regarding the performance of work under the contract with the Request to Sublet.
SEF Rev. 13_0225

27. CPM Progress Schedule.

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

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

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

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

With each Monthly CPM Progress Schedule Update also include:

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

SEF Rev. 13_0812

28. Force Account.

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

Include accumulation of wages to date for each employee performing force account work and identify allowable Federal Unemployment Tax (FUTA) and State Unemployment Tax (SUTA) multipliers.
SEF Rev. 13_0228

29. Pavement Breaking Equipment.

Use only hydraulic pavement breaking equipment for breaking pavement within 300 feet of any structure. Do not use guillotine, drop hammer, falling weight, gravity impact breakers or equivalent equipment.
SEF Rev. 13_1127

30. QMP Base Aggregate.

A Description

A.1 General

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

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

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

(4) Provide and maintain a quality control program, defined as all activities related to and documentation of the following:
1. Production and placement control and inspection.
2. Material sampling and testing.

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

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

A.2 Contractor Testing for Small Quantities

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

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

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

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

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

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

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

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

B Materials

B.1 Quality Control Plan

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

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

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

B.2 Personnel

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

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

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

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

B.3 Laboratory

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

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

B.4 Quality Control Documentation

B.4.1 General

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

B.4.2 Records

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

B.4.3 Control Charts

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

(2) Provide control charts to the engineer within 6 hours after obtaining a sample. For 3-inch base, extend this 6-hour limit to 24 hours. Post or distribute charts using a method mutually agreeable to the engineer and contractor. Update control charts daily to include the following:
   1. Contractor individual QC tests.
   2. Department QV tests.
   3. Department IA tests.
   4. Four-point running average of the QC tests.

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

B.5 Contractor Testing

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

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

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

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

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

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

B.6 Test Methods

B.6.1 Gradation

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

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

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

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

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

B.6.2 Fracture

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

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

B.6.3 Liquid Limit and Plasticity

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

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

B.7 Corrective Action

B.7.1 General

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

B.7.2 Placement Corrective Action

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

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

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

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

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

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

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

B.8 Department Testing

B.8.1 General

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

B.8.2 Verification Testing

B.8.2.1 General

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

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

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

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

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

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

B.8.3 Independent Assurance

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

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

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

B.9 Dispute Resolution

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

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

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

C (Vacant)

D (Vacant)

E Payment

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

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

301-010 (20100709)

31. Field Facilities.

Replace standard spec 642 with the following:

The department has procured its own Field Facilities located at 2424 S. 102nd Street; West Allis, WI 53227.
SEF-ZOO IC 12_0723

32. Traffic Control.

The work under this item shall be in accordance to the requirements of standard spec 643, and as shown on the plans, or as approved by the engineer, except as hereinafter set forth.

Place traffic control devices for work in the proper location before operations proceed. Traffic Control is subject to change at the direction of the engineer in the event of an emergency.

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

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

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

Do not use flag persons to direct, control, or stop freeway traffic. Obtain approval from the engineer to use a flag person to direct, control, or stop local street traffic. Adhere to Manual of Uniform Traffic Control Devices chapter 6E standard requirements for flagger control.

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

Place one flashing arrow board in advance of each lane closure taper and one flashing arrow board within each lane closure taper at locations directed by the engineer.
SEF Rev 13_0610

33. Traffic Control Signs Removal.

Supplement standard spec 643.3.8.3 with the following:

Remove all signs on temporary mounts and other potential associated hazards to the traveling public from the right-of-way when not in use.
SEF Rev. 14_0326

34. General Requirements for Electrical Work.

Append standard spec 651.3.3 (3) with the following:

Notify the department's Electrical Field Unit at (414) 266-1170 to coordinate the inspection for state owned traffic signals. The department's Region Electrical personnel will perform the inspection for the state owned and maintained traffic signals.

Notify the City of West Allis Public Works Department at (414) 302-8808 to coordinate the inspection for City of West Allis owned traffic signals. The City of West Allis will perform the inspection for the City of West Allis owned and maintained traffic signals.

Notify the City of Wauwatosa Public Works Department at (414) 471-8422 to coordinate the inspection for City of Wauwatosa owned traffic signals. The City of Wauwatosa will perform the inspection for the City of Wauwatosa owned and maintained traffic signals.

35. Street Lighting Systems for the City of West Allis.

Work under this contract will include the removal, modification and installation of street lighting systems owned and operated by the City of West Allis. Perform all work in accordance to the plans, specifications and as hereinafter noted.

Existing Street Lighting Circuits – Warning – Electrocution Hazard:
The City of West Allis has multiple street lighting circuits along and crossing STH 100, STH 59, STH 181, W. National Avenue, and W. Lincoln Avenue within the project area. Much of the existing street lighting circuits are high voltage series type circuits. By proposing to do the work the electrical subcontractor acknowledges that he is professionally knowledgeable of the hazards inherent in series street lighting and that he will train his staff as to the appropriate safety procedures for working around series wiring and other portions of the system.

The City of West Allis Electrical Division staff contact for purposes of this project shall be Terry Meincke at (414) 302-8876 (cell phone is 414-531-5102).

Carefully read and consistently abide by the following coordination requirements in order to safely work within areas of existing series street lighting circuits:

- Schedule and attend an initial project meeting prior to any work taking place, electrical or otherwise. The City of West Allis will provide contact information for City staff, electrical system maps and other information as needed. The City of West Allis requires a two week advance notice of this meeting.

- New conduit installed shall be in place prior to disrupting any existing lighting circuits. The City will install all wiring and perform all connections using conduit and lighting cable installed under this contract. Coordinate as necessary and provide adequate time to mobilize City forces to complete the work within daylight hours of one work day.

- Coordinate with the City in advance of removing any existing street lights as shown on the plans. The intent is to maintain the existing street lighting in operation as long as possible. Some minor temporary connections and modifications to the existing street lighting system may be made by the City of West Allis if it is determined necessary. One week advance notice is required in advance of removing any existing street lights.

- Coordinate with the City in advance of removing any existing curb and gutter or sidewalk as shown on the plans. The existing electrical wiring is buried at a relatively shallow depth just behind the curb in most locations. The removal of the curb and gutter and sidewalk is likely to result in damage to the existing wiring and potentially exposure to high voltage wiring. The City of West Allis will de-energize any circuit which will be exposed by roadway removal work. One week notice in advance of removing any existing curb and gutter or sidewalk is required.

Work Performed by Others:
The City of West Allis will perform the following tasks in coordination with the proposed street lighting work on the project.

- Inspect all wiring terminations prior to energizing the system.

- Install pole plaques after pole installation is complete.

Modifications to the Standard Specifications
Append standard spec 651 with the following:

The department will allow inspection of street light installations by the City of West Allis.

Append standard spec 651.2 with the following:

Arrange for delivery of removed materials to the City of West Allis Department of Public Works yard at 6300 West McGeoch Avenue.

Append standard spec 655.3.1(1) with the following:

Wet location splices disallowed.

36. Signs Type I and II.

Furnish and install mounting brackets per approved product list for type II signs on overhead sign supports incidental to sign. For type II signs on sign bridges use aluminum vertical support beams noted above incidental to sign.

Modify standard spec 637.2.4 with the following:

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

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

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

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

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

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

Append standard spec 637.3.2.1(3) with the following:

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

Append standard spec 637.3.3.2(2) with the following:

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

Append standard spec 637.3.3.3(3) with the following:

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

37. Overhead Sign Supports.

Append standard spec 641.2.9 with the following:

Submit shop drawings to Traffic Operations for approval 2 weeks after award.

Append standard spec 641.3.4 with the following:

Install overhead sign support by November 15, 2014.

38. Traffic Signals, General.

All work shall be in accordance to the plans, standard specifications, and these special provisions.

State Owned Traffic Signals
Work under this item shall consist of furnishing and installing all materials, except for the traffic signal cabinet, monotube equipment, radar detection system, and emergency vehicle preemption system for the department owned traffic signals at the intersections of STH 100 and W. Lapham Street, STH 100 and Theo Trecker Way, STH 100 and STH 59, and IH 894/USH 45 EB Off Ramp and W. Lincoln Avenue in the City of West Allis, WI. Install the traffic signal cabinet, monotube equipment, radar detection system, and emergency vehicle preemption system furnished by the department.

City of West Allis/State Owned Traffic Signals
The existing traffic signals at the intersections of STH 100 and W. Lapham Street, STH 59 and S. 92nd Street, STH 59 and STH 181, STH 181 and State Fair Gate 4, and STH 181 and W. Schlinger Avenue are owned and operated by the City of West Allis. The proposed traffic signals will be owned and operated by the department.

The City of West Allis will maintain the existing traffic signals at the intersections of STH 59 and S. 92nd Street, STH 59 and STH 181, and STH 181 and W. Schlinger Avenue until the contractor furnished and installed temporary traffic signals are activated. Assume all traffic signal responsibilities after the temporary traffic signals are operational. The state

will assume ownership of the permanent traffic signal upon acceptance of the work. The intersection of STH 181 and State Fair Gate 4 does not require a temporary traffic signal.

Work under this item shall consist of furnishing and installing all materials, except for the traffic signal cabinet, monotube equipment, radar detection system, and emergency vehicle preemption system for the City of West Allis/department owned traffic signals. Install the traffic signal cabinet, monotube equipment, radar detection system, and emergency vehicle preemption system furnished by the department.

City of West Allis Owned Traffic Signals

The existing traffic signals at the intersections of W. National Avenue and S. 102nd Street, W. National Avenue and W. Lincoln Avenue, W. National Avenue and S. 84th, and W. Lincoln Avenue and W. Beloit Road are owned and operated by the City of West Allis. Obtain the necessary electrical permits from the City of West Allis prior to beginning the work. Pay any fines, penalties, damage done to property, etc., billed by the City of West Allis. The installation includes the construction of underground and above ground equipment. Request any necessary electrical service relocations from the power company. Stake the proposed locations of traffic signal items and notify the City of West Allis Public Works Department at (414) 302-8808 at least 10 days prior to starting work so that the locations of the proposed facilities can be approved by the City of West Allis. Any field changes regarding the location of the signal poles, pull boxes, etc. shall be approved by the City of West Allis.

Work under this item shall consist of furnishing and installing all materials, except for the traffic signal cabinet, microwave detection system, and monotube equipment for the City of West Allis owned traffic signals. Install the traffic signal cabinet, microwave detection system, and monotube equipment furnished by the department.

City of Wauwatosa Owned Traffic Signals

The existing traffic signals at the intersections of USH 18 and St. Camillus Driveway and USH 18 and N. 68th Street is owned and operated by the City of Wauwatosa. Obtain the necessary electrical permits from the City of Wauwatosa Building Department prior to beginning the work. Pay any fines, penalties, damage done to property, etc., billed by the City of Wauwatosa. The installation includes the construction of underground and above ground equipment. Stake the proposed locations of traffic signal items and notify the City of Wauwatosa Public Works Department at (414) 471-8422 at least 10 days prior to starting work so that the locations of the proposed facilities can be approved by the City of Wauwatosa. Any field changes regarding the location of the signal poles, pull boxes, etc. shall be approved by the City of Wauwatosa.

Work under this item shall consist of furnishing and installing all materials, except for the traffic signal cabinet, microwave detection system for the City of Wauwatosa owned traffic signals. Install the traffic signal cabinet, microwave detection system, and monotube equipment furnished by the department.

39. Conduit Special.

Append standard spec 652.3.1.3 with the following:

Notify Terry Meincke with the City of West Allis Electrical Division at (414) 302-8876 (office) or (414) 531-5102 (mobile) at least five working days prior to installing conduit for the City of West Allis lighting system.

Restore the ends of the conduit installation after the City of West Allis makes all of their series circuit cable lighting connections to the existing lighting circuits. The City of West Allis will provide notification to the contractor of the completion of all lighting connections to the existing lighting circuits.

40. Poles Type 3.

Append standard spec 657.2.2.1 with the following:

Furnish bronze colored Type 3 poles for the following intersections: W. National Avenue and S. 102nd Street, W. National Avenue and W. Lincoln Avenue, and W. Lincoln Avenue and W. Beloit Road.

The poles shall be designed to accept bolted luminaire mast arms utilizing a stainless steel rivnut connection. Include anchor bolt covers to match the pole finish.

Provide shop drawing detail of the poles for the City of West Allis review and approval.

41. Luminaire Arms Single Member 4-Inch Clamp 6-FT.

Append standard spec 657.2.2.1 with the following:

Furnish bronze colored Luminaire Arms for the following intersections: W. National Avenue and S. 102nd Street, W. National Avenue and W. Lincoln Avenue, and W. Lincoln Avenue and W. Beloit Road.

The luminaire mast arms shall be designed to be directly bolted to the Type 3 pole utilizing a stainless steel rivnut connection. Include anchor bolt covers to match the pole finish.

Provide shop drawing details of the poles for the City of West Allis review and approval.

42. Signal Mounting Hardware.

Append standard spec 658.2.1 with the following:

Furnish black traffic signal mounting hardware for the following City of West Allis intersections: W. National Avenue and S. 102nd Street, W. National Avenue and W. Lincoln Avenue, W. National Avenue and S. 84th Street, and W. Lincoln Avenue and W. Beloit Road.

43. Traffic Signal Faces.

Append standard spec 658.2.2.2 with the following:

Furnish black housings for the following City of West Allis intersections: W. National Avenue and S. 102nd Street, W. National Avenue and W. Lincoln Avenue, W. National Avenue and S. 84th Street, and W. Lincoln Avenue and W. Beloit Road.

Append standard spec 658.3.2 with the following:

Connect all ungrounded conductors with wire nuts in the appropriate sections of the signal heads. Connect the neutral conductors to the terminal strip. Be certain to twist wires prior to installing the wire nuts. All wire nuts must be installed facing up to prevent the entrance of water.

44. Pedestrian Signal Face 12-Inch.

Append standard spec 658.3.4 with the following:

Connect all ungrounded conductors with wire nuts in the appropriate sections of the signal heads. Connect the neutral conductors to the terminal strip. Be certain to twist wires prior to installing the wire nuts. All wire nuts must be installed facing up to prevent the entrance of water.

45. Pedestrian Signal Face 16-Inch.

Append standard spec 658.2.3.2(1) with the following:

Furnish 16 inch LED ready pedestrian signal housing, drilled for top/bottom pipe mount with the ability to rotate 270 degrees on poly mounting bracket.

Furnish black housings for the following City of West Allis intersections: W. National Avenue and S. 102nd Street, W. National Avenue and W. Lincoln Avenue, W. National Avenue and S. 84th Street, andW. Lincoln Avenue and W. Beloit Road.

Append standard spec 658.3.4 with the following:

Connect all ungrounded conductors with wire nuts in the appropriate sections of the signal heads. Connect the neutral conductors to the terminal strip. Be certain to twist wires prior to installing the wire nuts. All wire nuts must be installed facing up to prevent the entrance of water.

46. Pedestrian Push Buttons.

Append standard spec 658.2.5 with the following:

Furnish vandal resistant, pressure activated, pedestrian push buttons, with die cast body type, in unfinished aluminum or yellow. Button constructed shall be constructed of stainless steel, with a Piezo driven solid state switch and beeper that sounds simultaneously with button push.

Furnish low profile, unfinished cast aluminum, vandal resistant, and flush mounting pole mount.

Municipal Traffic Signals (W. National Avenue and S. 102nd Street, W. National Avenue and W. Lincoln Avenue, W. National Avenue and S. 84th Street, USH 18 and N. 68th Street, USH 18 HAWK, W. Lincoln Avenue and W. Beloit Road)
Band a standard R 10-3b or R 10-3e series sign directly above each push button. Include a directional arrow or arrows on the sign as the plans show.

City of West Allis/State Owned Traffic Signals and State Owned Traffic Signals (STH 100 and W. Lapham Street, STH 100 and W. Theo Trecker Way, STH 59 and S. 92nd Street, STH 59 and STH 181, STH 181 and State Fair Park Gate 4, STH 181 and W. Schlinger Avenue, IH 894 EB Off Ramp and W. Lincoln Avenue).
Place a Size 1, Type H reflective (R10-3EL, R, D) sign sticker (per state sign plate), message series – B, directly above each push button. Include a directional arrow or arrows on the sign as the plans show.

47. Luminaires Utility LED Category B.

Append standard spec 659.2 with the following:

The luminaire housing shall be all aluminum with factory finished durable corrosion and UV resistant bronze powder-coated or anodized aluminum finish for the following intersections: W. National Avenue and S. 84th Street.

48. Luminaires Utility LED Category C.

Append standard spec 659.2 with the following:

The luminaire housing shall be all aluminum with factory finished durable corrosion and UV resistant bronze powder-coated or anodized aluminum finish for the following intersections: W. National Avenue and S. 102nd Street, W. National Avenue and W. Lincoln Avenue, and W. Lincoln Avenue and W. Beloit Road.

49. Temporary Traffic Signals for Intersections.

Append standard spec 661.2.1(1) with the following:

(1) Furnish all temporary traffic signal equipment as shown on the plan. The signal controller shall be capable of operating with the video camera detection system and Emergency Vehicle Preemption (EVP) system. All wood poles shall be plumb and level. Provide primary and secondary temporary traffic signal contact names and phone numbers who will be responsible for implementing temporary traffic signal timing changes. The department may request traffic signal timing changes to an approved incident timing plan during the project. Implement any approved incident timing plan immediately upon notification of the change and immediately upon notification of switching the timing plan back to normal operation. Immediately notify the department of implementation of temporary traffic signal timing changes. Record the times of operation of the incident timing and subsequent return to normal operation and provide this information to the department.

Append standard spec 661.2.1(3) with the following:

(3) Use the existing underground electric service and/or meter breaker pedestal for the operation of the Temporary Traffic Signal. The department (if department owned/maintained traffic signal) or municipality (if municipal owned/maintained traffic signal) will pay for all energy costs for the operation of the Temporary Traffic Signal.

Coordinate with the Traffic Control contractor for the installation of temporary stop signs during switch over of the signal service whenever a generator is used. Placement of signs shall be in accordance to the MUTCD, Signing Guidelines Manual and Work Zone Safety Guide.

Append standard spec 661.2.1 with the following:

(5) Furnish a video image detector system consisting of video image detector cameras, mounting brackets and hardware, power cable, video image processor card, and auxiliary equipment to make the video detector system fully operational.

(6) Furnish pedestrian signal faces in accordance to standard spec 658.2.3.

(7) Furnish pedestrian push buttons in accordance to standard spec 658.2.5.

(8) Furnish LED traffic signal faces and backplates in accordance to the pertinent provisions in standard spec 658.2. The traffic signal faces shall be listed on the "*Wisconsin Department of Transportation Qualified Electrical Products"* list. Vehicular signal indications shall be 12-inch LED modules, give an appearance of an incandescent lamp and conform to the latest version of ITE-VTCSH.

(9) Furnish LED luminaires in accordance to the pertinent provisions in standard spec 659.2. The luminaires shall be listed on the "*Wisconsin Department of Transportation Qualified Electrical Products"* list.

Append standard spec 661.3.1 with the following:

(4) Install temporary video detection cameras at the locations shown on the plans and according to the manufacturer's recommendations at a minimum 30-foot mounting height. Install power cable and signal cabinet equipment. Aim the video cameras to provide detection at the location shown on the plans and make the video detector system fully operational.

(5) In the event, at installation or turn on date, a noticeable obstruction is present in line with the video detection zone(s), advise the engineer before setting the zone.

(6) The video camera shall be mounted on a wooden pole. Relocate the video camera to a suitable location if there is impedance on the sensor operation, construction related or otherwise.

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

(8) Install pedestrian signal faces on the wood pole or wood post as the plans show. Maintain the height to the bottom of the pedestrian signal face as indicated in SDD Traffic Signal Standard Poly Bracket Mountings (Typical) 13 FT. or 15 FT.

(9) Install pedestrian push buttons in accordance to standard spec 658.3.5. Mount push buttons so that they are wheelchair accessible from the temporary crossing areas and in accordance to MUTCD Chapter 4.

Replace standard spec 661.3.1.1(2) with the following:

(2) Place the pole in the ground to no less than 1/5 of the pole's length as the plans show. Sawcut existing pavement and concrete curb and gutter as needed to install the wood poles and guy wire anchors. Sawcut existing pavement in accordance to the pertinent provisions in Standard spec 690.3, Construction. Remove pavement and concrete curb and gutter as shown on the plans and if needed to install the wood poles and guy wire anchors. Remove only as much pavement as needed to install the wood poles. Remove pavement and curb and gutter in accordance to the pertinent provisions in Standard spec 204.3, Construction. Hold any wood poles in place and/or move wood poles during construction due to conflicts with proposed work.

Append standard spec 661.3.1.4(1) with the following:

(1) Arrange for every other week inspections with the engineer to check the height of the span wire above the roadways to ensure that the bottom of the traffic signal heads remain within the minimum and maximum heights allowed above the roadway. Make all height adjustments within 1-hour of an inspection indicating that adjustments are required. Notify the engineer in writing upon completion of all necessary adjustments. Maintain a written log to properly document the date of each every other week inspection, the heights above the roadway, the roadway clearance after adjustments have been made and acceptance by the engineer. Provide all documentation related to the every other week span wire height checks as well as all records related to maintenance performed on the temporary traffic signal installations to the engineer.

Append standard spec 661.3.1.4 with the following:

(4) Maintain all temporary vehicle detection zones as the plans show or as the engineer directs. The temporary vehicle detection zones shall be set near the vicinity and within the approximate distance from the stop bar as shown on the plans. Check temporary vehicle detection zones at a minimum every other week and at the opening of each stage of temporary traffic signal operation to ensure that they are working and are aimed properly. Check and/or adjust temporary vehicle detection zones immediately upon notification by the department and/or construction team that the video detection system is not operating correctly. Periodic adjustment of the detection zones and/or moving of the temporary vehicle detection sensors may be required due to changes in traffic control, staging, or other construction operations.

Ensure that the temporary vehicular detection system stays in clean working order. Periodic cleaning of the equipment may be required due to dirt and dust build-up.

Append standard spec 661.3.2.6 with the following:

(6) Remove the video detection system from the temporary traffic signal poles and cabinet.

Replace standard spec 661.5 with the following:

(2) Payment for the Temporary Traffic Signals for Intersections bid item is full compensation for providing, operating, maintaining, and repairing the complete temporary installation; and for removal. Payment also includes the following:

1. Furnishing and installing the replacement equipment.
2. The cost of delivery and pick-up of the cabinet assemblies.
3. Removal of service and site restoration.

Payment is full compensation 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; for checking and/or adjusting the temporary detection zones on an every other week basis; for maintaining and changing the temporary detection zones to match the plans, traffic control, and construction staging; for relocating the temporary detection sensors due to construction activities, if required; for periodically cleaning all temporary vehicle detector equipment; for removing the temporary vehicle detector system; for cleaning up and properly disposing of waste.

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

Standard spec 106.2 – Supply Source and Quality
Supplement standard spec 106.2 with the following:

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

Department-furnished Items
IP Camera
Video Encoder
5.8 GHz Ethernet Bridge
Fiber Optic Cable
Fiber Optic Termination Panels
Fiber Optic Splice Enclosures
Ethernet Switches
Bluetooth Detector
Wireless Modem

Pick-up small department-furnished equipment, such as communications devices, cameras, and controllers, from the department's Statewide Traffic Operations Center (STOC), 433 W. St. Paul Ave., Milwaukee, WI 53203 at a mutually agreed upon time during normal state office hours. Contact the department's STOC at (414) 227-2166 to coordinate pick-up of equipment.

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

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

Standard spec 106.3 – Approval of Materials
Supplement standard spec 106.3 with the following:

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

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

Shop drawings will be required for, but not limited to the following:

- Mounting assemblies for the vehicle speed and classification sensors, including their attachment to the structure.
- Mounting LED warning signs to the sign structure.
- Mounting detail for dynamic message signs.
- Any contractor-designed structure or foundation.

The department will complete its review of the material within 30 days from the date of receipt of the submission, unless otherwise specified. The department will advise the contractor, in writing, as to the acceptability of the material submitted. The department may determine that if no exceptions were taken for the item, it is approved, and no further action is required by the contractor; or the item may be partially or totally rejected, in which case modify and/or amend the submittal as required by the department and resubmit the item within 14 days. At this time, the review and approval cycle described above will begin again.
670-005 (20100709)

51. Intelligent Transportation Systems – General Requirements.

A Description
A.1 General
This contract includes furnishing and installing elements for an Intelligent Transportation System (ITS) in or along the existing roadway as shown on the plans.

Unusual aspects of this project include:

- The project includes working on cables and equipment that are carrying data between roadside equipment and the department's Statewide Traffic Operations Center (STOC). Interruption of this service is not expected to perform this work. If an interruption is determined necessary, it must be done on a weekend, and must be done in a way that minimizes communication outages for the existing equipment. Notify the department's STOC at least 48 hours in advance of the planned interruption.

- The department will furnish some of the equipment to be installed. Make a reasonable effort to discover defects in that equipment prior to installing it.

A.2 Surge Protection

Equip every ungrounded conductor wire entering or leaving any equipment cabinet with a surge protector. For purposes of this section, multiple cabinets on a single pole or foundation are considered a single cabinet.

B Materials

B.1 General

Only furnish equipment and component parts for this work that are new and have high quality workmanship. All controls, indicators, and connectors shall be clearly and permanently labeled in a manner approved by the engineer. All equipment of each type shall be identical.

All electrical equipment shall conform to the standards and requirements of the Wisconsin Electrical Code, the National Electrical Manufacturers Association (NEMA), National Electric Safety Council (NESC), Underwriter's Laboratory Inc. (UL) or the Electronic Industries Association (EIA), when applicable. All materials and workmanship shall conform to the requirements of the National Electrical Code (NEC), Rural Electrification Administration (REA), Standards of the American Society for Testing and Materials (ASTM), American Association of State Highway and Transportation Officials (AASHTO), requirements of the plans these special provisions, the standard specifications, and to any other codes, standards, or ordinances that may apply. All system wiring, conduit, grounding hardware and circuit breakers shall be in conformance with the National Electrical Code. Whenever reference is made to any of the standards mentioned, the reference shall be considered to mean the code, ordinance, or standard that is in effect at the time of the bid advertisement.

B.2 Outdoor Equipment

All conductive connectors, pins (except pins connected by soldering), and socket contacts shall be gold plated. Acrylic conformal coating shall protect each circuit board side that has conductive traces. Except for integrated circuits containing custom firmware, all components shall be soldered to the printed circuit board.

To prevent galvanic corrosion, all connections between dissimilar metals shall incorporate a means of keeping moisture out of the connection. Where the connection need not conduct electricity, interpose a non-absorbing, inert material or washer between the dissimilar metals. Use nonconductive liners and washers to insulate fasteners from dissimilar metals. Where the connection must conduct electricity, use a conductive sealant between the dissimilar metals. Alternatively, use an insulating gasket and a bond wire connecting the two metal parts.

B.3 Custom Equipment

Equipment that is not part of the manufacturer's standard product line, or that is made or modified specifically for this project, shall conform to the following requirements:

Where practical, electronics shall be modular plug-in assemblies to facilitate maintenance. Such assemblies shall be keyed to prevent incorrect insertion of modules into sockets.

All components shall be available from multiple manufacturers as part of the manufacturers' standard product lines. All must be clearly labeled with the value, part number, tolerance, or other information sufficient to enable a technician to order an exact replacement part.

Lamps used for indicator purposes shall be light-emitting diodes.

The printed circuit boards shall be composed of "two-ounce" copper on 1/16-inch thick fiberglass epoxy or equivalent type construction. Holes that carry electrical connections from one side of the boards to the other shall be completely plated through. Multilayer printed circuit boards shall not be used. The name or reference number used for the board in the drawings and maintenance manuals supplied to the department shall be permanently affixed to each board.

All components shall be mounted so that the identifying markings are visible without moving or removing any part, if practical.

B.4 Environmental Conditions

Equipment shall continue to operate as specified under the following ranges of environmental conditions, except as noted in the specifications for individual pieces of equipment.

- **Vibration and Shock:** Vehicle speed and classification sensors and any other equipment mounted atop poles or on structures shall not be impaired by the continuous vibration caused by winds (up to 90 mph with a 30 percent gust factor) and traffic.
- Duty Cycle: Continuous
- **Electromagnetic Radiation:** The equipment shall not be impaired by ambient electrical or magnetic fields, such as those caused by power lines, transformers, and motors. The equipment shall not radiate signals that adversely affect other equipment.
- Electrical Power:
- **Operating power:** The equipment shall operate on 120-volts, 60-Hz, single-phase unless otherwise specified. It shall conform to its specified performance requirements when the input voltage varies from 89 to 135 volts and the frequency varies +3 Hz.
- **High frequency interference:** The equipment operation shall be unaffected by power supply voltage spikes of up to 150 volts in amplitude and 10 microseconds duration.
- **Line voltage transients:** The equipment operation shall be unaffected by voltage transients of plus or minus 20 percent of nominal line voltage for a maximum duration of 50 milliseconds. Equipment in the field shall meet the power service transient requirements of NEMA Standard TS-2 when connected to the surge protectors in the cabinets.

- Temperature and Humidity:
- **Field equipment:** Equipment in the field shall meet the temperature and humidity requirements of NEMA Standard TS-2. Liquid crystal displays shall be undamaged by temperatures as high as 165 degrees F, and shall produce a usable display at temperatures up to 120 degrees F.
- **Equipment in Controlled Environments** shall operate normally at any combination of temperatures between 50 degrees F and 100 degrees F, and humidity's between 5 percent and 90 percent, non-condensing, and with a temperature gradient of 9 degrees F per hour.

B.5 Patch Cables and Wiring

All cables and wiring between devices installed in a single cabinet, or in separate cabinets sharing a single concrete base, will be considered incidental to the installation of the devices and no separate payment will be made for them. It is anticipated that this will include fiber optic patch cables between termination panels and Ethernet switches, 10 / 100 MBPS Ethernet cables, RS-232 cables between individual devices and terminal servers, and power cables between individual devices and power sources within the cabinets.

B.6 Surge Protection

Low-voltage signal pairs, including twisted pair communication cable(s) entering each cabinet shall be protected by two-stage, plug-in surge protectors and shall be installed on both ends of camera control cables. The protectors shall meet or exceed the following minimum requirements:

- The protectors shall suppress a peak surge current of up to 10k amps.
- The protectors shall have a response time less than one nanosecond.
- The protector shall clamp the voltage between the two wires at a voltage that is no more than twice the peak signal voltage, and clamp the voltage between each wire and ground at 50 volts.
- The first stage of protection shall be a three-element gas discharge tube, and the second stage shall consist of silicon clamping devices.
- The protector shall also contain a resettable fuse (PTC) to protect against excessive current.
- There shall be no more than two pairs per protector.
- It shall be possible to replace the protector without using tools.

Cables carrying power to curve signs shall be protected at the cabinet by grounded metal oxide varistors of appropriate voltages. The varistors must be at least 0.8 inch in diameter.

C Construction

C.1 Thread Protection

Provide rust, corrosion, and anti-seize protection at all thread assemblies of metallic parts by coating (non-spray) the mating surfaces with an approved compound. Failure to use an approved compound will result in no payment for the items to which coating was to have been applied.

C.2 Cable Installation

When installing new cables into conduits containing existing cables, remove the existing cables and reinstall the existing cables simultaneously with the new cables. Take every precaution necessary to protect the existing cables. In the event of avoidable damage to the existing cables, replace all damaged cables, in-kind, at no additional expense to the department. When cables are pulled into conduit, use a cable pulling lubricant approved by the cable manufacturer. Submit documentation supporting manufacturer approval of the lubricant to the engineer.

C.3 Wiring

Every conductor, except a conductor contained entirely within a single piece of equipment, must terminate either in a connector or on a terminal block. Provide and install the connectors and terminal blocks where needed, without separate payment. Use approved splice kits instead of connectors and terminal blocks for underground power cable splices.

Permanently label and key connectors to preclude improper connection. Obtain prior engineer approval for the labeling method(s) prior to use.

Terminal blocks must be affixed to panels that permanently identify the block and what wire connects to each terminal. This may be accomplished by silk screening or by installing a laminated printed card under the terminal block, with the labels on portions of the card that extend beyond the block. Installation of terminal blocks by drilling holes in the exterior wall of the cabinet is not acceptable.

Use barriers to protect personnel from accidental contact with all dangerous voltages.

Do not install conductors carrying AC power in the same wiring harness as conductors carrying control or communication signals.

Arrange wiring, including fiber optic pigtails, so that any removable assembly can be removed without disturbing wiring that is not associated with the assembly being removed.

Communication and control cables may not be spliced underground, except where indicated on the plans.

Cables in the Statewide Traffic Operations Center or in communication hubs, which are not contained within a single cabinet, shall have at least 10 feet of slack.

C.4 System Operations

If the contractor's operations unexpectedly interrupt Intelligent Transportation Systems (ITS) service, notify the engineer immediately and restore service within 24 hours. Repair all damaged facilities to the condition existing before the interruption. If service is not restored within 24 hours, the department may restore service to any operating device and deduct restoration costs from payments due the contractor.

C.5 Surge Protection
Arrange the equipment and cabinet wiring to minimize the distance between each conductor's point of entry and its protector. Locate the protector as far as possible from electronic equipment. Ensure that all wiring between the surge protectors and the point of entry is free from sharp bends.

D Measurement
No separate measurement will be made for the work described in this article.

E Payment
No separate payment will be made for the work described in this article. All work described in this article shall be included under the ITS items in the contract.
670-010 (20100709)

52. Overhead Sign Support (S-40-994), Item 641.8100.

A Description
(1) This section describes providing steel sign bridges and steel overhead sign supports and supersedes standard spec 641 requirements for the specified bid items.

B Materials
B.1 High-Strength Bolt/Nut/Washer Assemblies
(1) Furnish zinc-coated bolt/nut/washer assemblies for field tensioning consisting of high-strength type 1 galvanized bolts conforming to ASTM A325, type 1 galvanized grade DH or DH3 nuts conforming to ASTM A563, and galvanized flat washers conforming to ASTM F436. Also conform to the following:
- Use the size, number, type, and configuration of hardened flat washers the DTI manufacturer recommends for bolt diameters greater than 1 1/8 inches.
- Ensure that the supplier pre-assembles each bolt/nut/washer assembly before shipping.
- Ensure that bolt/nut/washer assemblies are accompanied by a certified report of test or analysis giving the results of the supplier's rotational-capacity testing. No field rotational capacity testing is required.
- Ensure that bolt/nut/washer assemblies are shipped in sealed and labeled containers.
- Furnish 3 or more additional bolt/nut/washer assemblies of each rotational-capacity lot for pre-installation testing.
- Submit 2 or more additional bolts and 3 or more additional nuts and washers from each lot and heat for department mechanical testing. The contractor need not submit components from a lot and heat the department previously approved.

(2) Hot-dip zinc-coat according to ASTM A153 supplemented by ASTM F2329 or mechanically zinc-coat according to ASTM B695, class 50. Remove excess hot-dip zinc coating on threads by centrifuging or air blasting immediately after withdrawal. Do not flame-chase. Ensure that the same zinc-coating process is used for bolts and nuts within a bolt/nut/washer assembly.

(3) Ensure that the manufacturer provides identification marks for high-strength bolts and nuts according to ASTM A325.

B.1.1 High-Strength Bolts

(1) The required bolt length is the grip, total thickness of the connected material, plus the tabulated amount for each bolt size as follows:

BOLT SIZE	AMOUNT ADDED TO THE GRIP
5/8-inch	1 1/16 inches
3/4-inch	1 3/16 inches
7/8-inch	1 5/16 inches
1-inch	1 9/16 inches
1 1/8 to 1 1/4-inch	1 13/16 inches
1 3/8 to 1 1/2-inch	2 1/16 inches

(2) The above values are generalized, with allowance for manufacturing tolerances, to provide for a washer and using a heavy nut, with adequate stick-through at the end of the bolt. For each required beveled washer, add 5/16 inch; for any additional washer, add 3/16 inch; and for a load-indicating washer, add 1/8 inch. Adjust the length determined from the above table increment and allowances for additional washers to the next 1/4 inch length increment for bolts up to 5 inches length and to the next ½ inch length increment for lengths over 5 inches.

(3) The full thread may extend into the grip not more than 3/8 inch for lengths of 5 inches or less, and not more than 5/8 inch for lengths over 5 inches.

(4) Ensure that bolts conform to the following:

HARDNESS NUMBER		
BOLT SIZE	BRINELL min / max	ROCKWELL C min / max
1/2 through 1-inch	253 / 319	25 / 33
greater than 1-inch	223 / 286	19 / 30

B.1.2 High-Strength Nuts

(1) Ensure that the supplier lubricates zinc coated nuts with a lubricant containing dye that contrasts with the color of the zinc coating according to ASTM A563 supplementary requirements S1 and S2.

B.1.3 High-Strength Flat Washers

(1) Install bolts with a washer under the nut or bolt head, whichever is turned to tighten. If clearance is necessary, the contractor may clip washers on one side to a point not closer than 7/8 of the bolt diameter from center of washer.

B.1.4 Direct Tension Indicating Washers

(1) Furnish zinc-coated direct tension indicating (DTI) washers conforming to ASTM F959 type 325. Ensure that DTIs have identifying marks applied by the manufacturer.

Provide the engineer with 2 copies of the DTI manufacturer's instructions showing acceptable installation configurations. Provide 3 or more additional DTI washers as required for pre-installation testing. Also provide the engineer with at least two 0.005-inch metal feeler gauges.

B.1.5 Testing and Reporting

(1) Ensure that supplier-performed rotational capacity testing conforms to Report No. FHWA SA-91-031 "High-Strength Bolts for Bridges". Furnish 2 copies of a certified report of test or analysis indicating the results of required manufacturer/supplier tests.

B.2 Anchor Bolts

(1) Furnish anchor bolts conforming to ASTM F1554, grade 55 and Supplementary Specification S4, ASTM A563A heavy hex nuts, and ASTM F436 washers all hot-dip galvanized according to ASTM A153 supplemented by ASTM F2329. Over-tap galvanized nuts according to ASTM F2329.

(2) Use only nuts and anchor bolts manufactured with sufficient clearance to allow the nuts to run freely on the bolts after coating the threads and nuts with a wax-based lubricant.

B.3 Stainless Steel Bolts and Nuts

(1) Provide stainless steel set screws, bolts, nuts, and washers for hardware and U bolts as specified for bolts and nuts in standard spec 513.2.2.5.

B.4 Certification

(1) Submit a certified report of test or analysis to the engineer for columns, truss members, pipes, anchor bolts, high-strength bolts, nuts, and washers, and structural sections. The engineer must approve the material before the contractor may install in the work.

(2) The engineer may retest materials delivered to the job site; furnish the specimens for this testing at no expense to the department.

B.5 Steel Sign Bridges

(1) Furnish materials conforming to the following:

Structural Steel and Miscellaneous Metals 506.2

(2) If using steel pipe for chords and columns for sign bridges, conform to the American Petroleum Institute's Specification for Line Pipe API-5L and the grade the plans show. For all other pipe used for sign bridges, conform to ASTM A53, grade B of type E or S. If using structural steel for columns and in trusses for sign bridges, conform to ASTM A709 grade 36.

(3) Furnish sign bridge trusses, columns, and steel accessories zinc coated according to ASTM A123, the zinc coating must withstand 8 one-minute dips in the Preece test solution, ASTM A239.

B.6 Steel Overhead Sign Supports

(1) Provide commercially fabricated overhead sign supports conforming to AASHTO design and fabrication standards for structural supports for highway signs, luminaires, and traffic signals. Use a design life of 50 years with a wind importance factor of 1.00. Design to withstand a 3 second gust wind speed of 90 mph. Do not use the methods of appendix C of those AASHTO standards.

(2) Design structures, listed as applicable structure types in the AASHTO standards, to the fatigue category criteria as follows:

1. Structures carrying variable message signs:
    - Category I criteria for structures over all roadway types.

2. Structures carrying type II or III signs:
    - Category I criteria for structures used over highways and free flow ramps.
    - Category II criteria for structures with arms greater than 30 feet used over local roads and city streets.
    - Category III criteria for structures with arms 30 feet or less used over local roads and city streets.

(3) Use the posted speed limit of the roadway beneath the structure for truck-induced gusts.

(4) Submit shop drawings identified by structure number, design computations, and material specifications, to the engineer before erecting sign supports. Provide tightening procedures for mast arm or luminaire arm to pole shaft connections on the shop drawings. Have a professional engineer registered in the state of Wisconsin sign, seal, and date the shop drawings and certify that the design conforms to AASHTO standards and the contract.

(5) Provide steel pole shafts and mast arms zinc coated according to ASTM A123. Provide tapered pole and arm shafts with a minimum taper of 0.14 inch per foot for single-member vertical and single-member horizontal structure components.

C Construction

C.1 General

C.1.1 Methods

(1) Use construction methods for this work, including fabrication, inspection, erection, mill test reports, and shop drawings, conforming to standard spec 506.3. Construct concrete footings conforming to standard spec 636. Cure exposed portions of concrete footings as specified in standard spec 502.3.8.1. Wait until the concrete has attained 3500 psi compressive strength or 7 equivalent days as specified in standard spec 502.3.10 before erecting any portion of the structure on the footing.

C.1.2 High-Strength Bolts

C.1.2.1 Handling and Storage

(1) Store bolts/nut/washer assemblies and DTI washers in closed containers in a protected shelter to protect them from dirt and moisture until used. Maintain fastener system

components as nearly as possible in the as-manufactured condition until installed. Remove from storage only as needed and promptly return unused components to storage.

C.1.2.2 Pre-installation Testing

(1) Notify the engineer before performing the required field pre-installation testing.

(2) Lubricate high-strength bolt threads with a wax-based lubricant before testing. Test bolt/nut/washer assemblies with DTI washers in all the configurations used for installation.

(3) Perform pre-installation testing in the field conforming to the procedures enumerated in department form DT2322 for bolt/nut/washer assemblies of each rotational-capacity lot with DTI washers in each installation configuration. Provide the engineer with the test results by submitting 2 copies of department form DT2322.

C.1.2.3 Bolt Installation

(1) Do not begin bolt installation without the engineer's approval.

(2) Lubricate high-strength bolt threads with a wax-based lubricant before installation.

(3) Tension high-strength bolts using direct tension indicating (DTI) washers. Install the DTI on the bolt with the protrusions facing away from the connected materials. Install bolt/nut/washer assemblies with DTI washers in the same configuration used for pre-installation testing.

(4) Tighten conforming to department form DT2322 to provide the correct installation tension. During the operation, ensure no rotation of the part not turned by the wrench. Snug systematically from the most rigid part of the connection to the free edges. Repeat until the full connection is in a snug condition and the faying surfaces are in firm contact. Systematically tighten the connection required number of refusals is achieved. If the gaps on the DTI washer are completely closed, discontinue tightening.

C.1.2.4 Contractor QC Testing

(1) In addition to contractor QC testing the engineer may verify bolt installation by periodically testing with a feeler gauge.

(2) Use a 0.005-inch metal feeler gauge to perform QC testing for each completed bolted connection in the presence of the engineer. Test a minimum of 10 percent of the bolts, but not less than 2 bolts, selected randomly in each connection. After observing at the initial QC testing frequency, the engineer may decide to observe QC testing at a reduced frequency.

(3) If the number of refusals required on department form DT2322 is achieved, the engineer will accept the connection as properly tightened. If for any bolt the required number of refusals is not achieved, tighten all bolts in the connection.

C.1.3 Anchor Assembly

(1) Install structures on anchor bolts conforming to the procedures enumerated in department form DT2321. Complete department form DT2321 for each structure. Indicate the parties responsible for the installation and submit the form to the engineer for inclusion in the permanent project record.

C.1.4 Sign Installation

(1) Install permanent signs as soon as support structures are erected. If permanent signing is not available, install sign-blanks to control vibration. Fasten to the supporting structure conforming to standard spec 637.3.3.3.

(2) For overhead sign supports, ensure that sign-blanks are the same sizes and at the same locations as the permanent signs.

(3) For sign bridges, attach sign-blanks to a minimum of 1/4 the truss length near its center. Use sign-blanks that are at a minimum 24 inches larger than the truss depth and project an equal distance beyond the top and bottom chord members.

(4) Install structure identification plaques on overhead sign supports and sign bridges in the locations the plan details show.

C.2 Steel Sign Bridges

(1) Perform all shop welding for steel sign bridges and supports as the plans show and conforming to AWS D 1.1, Structural Welding Code - Steel.

(2) Do not weld in the field without the engineer's written approval. The engineer will only allow field welding for repairs in noncritical locations and when a department-approved individual competent to perform inspections is present during the welding. Perform field welding using personnel qualified under AWS D 1.5, Bridge Welding Code.

(3) Inspect all welds visually, additionally, if the engineer determines, test all butt welds in main, stress-carrying members subject to tension or stress reversal by radiographic or ultrasonic methods over the entire length of the weld. Test other butt welds in these members by the same methods, except the engineer will determine the length of weld to test. Use either the dye penetrant method, or the magnetic particle method to test the fillet welds connecting columns to bases and main chord members, including the associated flanges, gussets, or main load carrying brackets or members, and on fillet welds connecting flanges to the main truss chord members. Perform the dye penetrant test according to according to ASTM E165, visual dye solvent removable. Perform the magnetic particle method according to the applicable requirements of ASTM E709. Furnish all materials, equipment, and personnel to perform this inspection at no expense to the department.

(4) Blast clean and then zinc coat the fabricated sign bridge trusses, columns, and their steel accessories after completing all cutting, punching, drilling, and welding.

(5) After zinc coating, assemble the individual members making up the truss sections, unless fabricated and zinc coated in one piece in the shop, adjust to the proper shape and alignment, and tighten the high-strength bolts to the required tension. Provide a certificate of compliance certifying that high-strength bolts within truss sections are tensioned conforming to standard spec 506.3.12. Then, assemble the truss sections that make up any one sign bridge in the shop, and adjust to proper alignment and camber as the plans show. Matchmark all truss sections and shims before disassembling for shipment.

(6) Assemble the sections making up the truss, together as a single unit, before attaching to the columns.

(7) Protect zinc coated members from damage to the zinc coating during transportation, storage, and erection. Paint areas of damaged zinc coating with 2 coats of zinc dust/zinc oxide paint. Clean damaged and adjacent areas by sanding, scraping, chipping, or wire brushing. Apply a profile to the bare metal surface using a needle gun before painting. For areas of damage larger than 10 square inches metalize according to AASHTO M36 or, for field repairs, using an engineer-approved high-temperature application of zinc powder and flux in paste or stick form.

C.3 Steel Overhead Sign Supports

(1) Under the Overhead Sign Support bid item, furnish and erect commercially designed sign supports, fabricated from steel, consisting of pole shafts, mast arms, anchor bolts, hardware, concrete supports and all other items necessary to complete the work.

(2) Construct the sign supports according to the manufacturer's instructions.

D Measurement

(1) The department will measure the Sign Bridge Single Pole Sign Support One Sign, Sign Bridge Single Pole Sign Support Two Signs, Sign Bridge Cantilevered, Sign Bridge Structure Mounted, and Sign Bridge bid items as a single lump sum unit for each sign bridge acceptably completed.

(2) The department will measure the Overhead Sign Support bid items as a single lump sum unit for each overhead sign support, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
641.8100	Overhead Sign Support (S-40-994)	LS

(2) Payment for the Sign Bridge Single Pole Sign Support One Sign, Sign Bridge Single Pole Sign Support Two Signs, Sign Bridge Cantilevered, Sign Bridge Structure

Mounted, and Sign Bridge bid items is full compensation for providing all materials; for anchor bolts; for high-strength bolt/nut/washer assemblies and DTI washers including those required for testing; for dampeners if required in the structure plans; for fabricating, including all cutting, preparing, welding, and zinc coating; for transporting and erecting; for structure identification plaques; and for sign blanks if required. Concrete footings are paid for separately as specified in standard spec 636.5. Signs and the sign mounting system are paid for separately as specified in standard spec 637.5.

(3) Payment for the Overhead Sign Support bid items is full compensation for designing the sign support structure; for excavating; for providing all materials, including anchor bolts, pole shafts, mast arms, required reinforcing steel, and concrete; for high-strength bolt/nut/washer assemblies and DTI washers including those required for testing; for fabricating, including all cutting, preparing, welding, and zinc coating; for placing and curing concrete footings; for transporting and erecting; for structure identification plaques; and for sign blanks if required. Sign lighting, when required, is paid for separately as specified in standard spec 659.5. Signs and the sign mounting system are paid for separately as specified in standard spec 637.5.

53. Install Conduit Into Existing Item, Item 652.0700.S.

A Description

This special provision describes installing proposed conduit into an existing manhole, pull box, junction box, communication vault, or other structure.

B Materials

Use nonmetallic conduit, as provided and paid for under other items in this contract. Furnish backfill material, topsoil, fertilizer, seed, and mulch conforming to the requirements of pertinent provisions of the standard specifications.

C Construction

Expose the outside of the existing structure without disturbing existing conduits or cabling. Drill the appropriate sized hole for the entering conduit(s) at a location within the structure without disturbing the existing cabling and without hindering the installation of new cabling within the installed conduit. Fill void area between the drilled hole and conduit with an engineer-approved filling material to protect against conduit movement and entry of fill material into the structure. Tamp backfill into place.

D Measurement

The department will measure Install Conduit Into Existing System by the unit, acceptably installed. Up to five conduits entering a structure per entry point into the existing structure will be considered a single unit. Conduits in excess of five, or conduits entering at significantly different entry points into the existing pull box, manhole, or junction box will constitute multiple units of payment.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
652.0700.S	Install Conduit Into Existing Item	Each

Payment is full compensation for excavating, drilling holes; furnishing and installing all materials, including bricks, coarse aggregate, sand, bedding, and backfill; for excavating and backfilling; and for furnishing and placing topsoil, fertilizer, seed, and mulch in disturbed areas; for properly disposing of surplus materials; and for making inspections.
652-070 (20100709)

54. Electrical Service Meter Breaker Pedestal STH 100 and W. Lapham Street, Item 656.0200.3001; STH 100 and W. Theo Trecker Way, Item 656.0200.3002; STH 59 and S. 92nd Street, Item 656.0200.3004; STH 59 and STH 181, Item 656.0200.3005; STH 181 and State Fair Park Gate 4, Item 656.0200.3006; STH 181 and W. Schlinger Avenue, Item 656.0200.3007; IH 894/USH 45 EB Off Ramp and W. Lincoln Avenue, Item 656.0200.3008.

Append standard spec 656.2.3 with the following:

The department will be responsible for the electric service installation request for any department maintained facility. Notify the maintaining authority if the signal is not state maintained that it is their responsibility to arrange for the electrical service installation.

Electric utility company service installation and energy cost will be billed to and paid for by the maintaining authority.

Append standard spec 656.3.4 with the following:

Install the cabinet base and meter breaker pedestal first, so the electric utility company can install the service lateral. Finish grade the service trench, replace topsoil that is lost or contaminated with other materials, fertilize, seed, and mulch all areas that are disturbed by the electric utility company.

Append standard spec 656.5(3) with the following:

Payment for grading the service trench, replacing topsoil, fertilizer, seed, and mulch will be incidental to this work unless the bid items are in the contract and then they will be paid for at the contract price.

55. Electrical Service Meter Breaker Pedestal W. National Avenue and S. 102nd Street, Item 656.0200.3101; W. National Avenue and W. Lincoln Avenue, Item 656.0200.3102; W. National Avenue and S. 84th Street, Item 656.0200.3103; W. Lincoln Avenue and W. Beloit Road, Item 656.0200.3106.

Append standard spec 656.2.3 with the following:

Arrange the electrical service installation in the name of City of West Allis.

Electric utility company service installation and energy cost will be billed to and paid for by the City of West Allis.

Append standard spec 656.3.4 with the following:

Install the cabinet base and meter breaker pedestal first, so the electric utility company can install the service lateral. Finish grade the service trench, replace topsoil that is lost or contaminated with other materials, fertilize, seed, and mulch all areas that are disturbed by the electric utility company.

Append standard spec 656.5(3) with the following:

Payment for grading the service trench, replacing topsoil, fertilizer, seed, and mulch will be incidental to this work unless the bid items are in the contract and then they will be paid for at the contract price.

56. Electrical Service Meter Breaker Pedestal USH 18 and N. 68th Street, Item 656.0200.3104; USH 18 HAWK, Item 656.0200.3105.

Append standard spec 656.2.3 with the following:

Arrange the electrical service installation in the name of City of Wauwatosa.

Electric utility company service installation and energy cost will be billed to and paid for by the City of Wauwatosa.

Append standard spec 656.3.4 with the following:

Install the cabinet base and meter breaker pedestal first, so the electric utility company can install the service lateral. Finish grade the service trench, replace topsoil that is lost or contaminated with other materials, fertilize, seed, and mulch all areas that are disturbed by the electric utility company.

Append standard spec 656.5(3) with the following:

Payment for grading the service trench, replacing topsoil, fertilizer, seed, and mulch will be incidental to this work unless the bid items are in the contract and then they will be paid for at the contract price.

57. Install Poles Type 9, Item 657.1345; Install Poles Type 10, Item 657.1350; Install Poles Type 12, Item 657.1355; Install Poles Type 13, Item 657.1360; Install Monotube Arms 15-FT, Item 657.1515; Install Monotube Arms 20-FT, Item 657.1520; Install Monotube Arms 25-FT, Item 657.1525; Install Monotube Arms 30-FT, Item 657.1530; Install Monotube Arms 35-FT, Item 657.1535; Install Monotube Arms 40-FT, Item 657.1540; Install Monotube Arms 45-FT, Item 657.1545; Install Monotube Arms 50-FT, Item 657.1550; Install Luminaire Arms Steel 8-FT, Item 657.1808; Install Luminaire Arms Steel 15-FT, Item 657.1815.

A Description

(1) This special provision describes installing poles, monotube arms, and steel luminaire arms and supercedes standard spec 657 requirements for the specified bid items.

B Materials

B.1 Department-Furnished Materials

(1) The department will furnish the following:

- Type 9, 10, 12, and 13 poles and associated mounting hardware, hand hole covers, and pole caps.
- Monotube arms.
- Steel luminaire arms and associated connecting bolts. The department will provide tightening procedures for luminaire arm to pole shaft connections.

B.2 Contractor-Furnished Materials

B.2.1 High-Stength Bolt/Nut/Washer Assemblies

(1) Furnish zinc-coated bolt/nut/washer assemblies consisting of high-strength type 1 galvanized bolts conforming to ASTM A325, type 1 galvanized grade DH or DH3 nuts conforming to ASTM A563, and galvanized flat washers conforming to ASTM F436. Also conform to the following:

- Furnish 2 flat washers with each bolt/nut/washer assembly. Use the size, number, type, and configuration of hardened flat washers the DTI manufacturer recommends for bolt diameters greater than 1 1/8 inches.
- Ensure that the supplier pre-assembles each bolt/nut/washer assembly before shipping.
- Ensure that all bolt/nut/washer assemblies of a given size come from the same rotational-capacity lot, are shipped in sealed and labeled containers, and are accompanied by a certified report of test or analysis giving the results of the supplier's rotational-capacity testing. No field rotational capacity testing is required.
- Furnish 3 or more additional bolt/nut/washer assemblies of each size for pre-installation testing.
- Submit 2 or more additional bolts and 3 or more additional nuts and washers of each size for department mechanical testing. The contractor need not submit components from a lot and heat the department previously approved.

(2) Hot-dip zinc-coat according to ASTM A153 supplemented by ASTM F2329 or mechanically zinc-coat according to ASTM B695, class 50. Remove excess hot-dip zinc coating on threads by centrifuging or air blasting immediately after withdrawal. Do not flame-chase. Ensure that the same zinc-coating process is used for bolts and nuts within a bolt/nut/washer assembly.

(3) Ensure that the manufacturer provides identification marks for high-strength bolts and nuts according to ASTM A325.

(4) Ensure that supplier-performed rotational capacity testing conforms to Report No. FHWA SA-91-031 "High-Strength Bolts for Bridges". Furnish 2 copies of a certified report of test or analysis indicating the results of required manufacturer/supplier tests.

B.2.1.1 High-Stength Bolts

(1) Provide 1-inch diameter by 6-inch long bolts for type 9 and 10 poles. Provide 1 1/2-inch diameter by 7 1/2-inch long bolts for type 12 and 13 poles. The full thread may extend into the grip not more than 5/8 inch.

(2) Ensure that bolts conform to the following:

HARDNESS NUMBER		
BOLT SIZE	BRINELL min / max	ROCKWELL C min / max
1/2 through 1-inch	253 / 319	25 / 33
greater than 1-inch	223 / 286	19 / 30

B.2.1.2 High-Stength Nuts

(1) Ensure that the supplier lubricates zinc coated nuts with a lubricant containing dye that contrasts with the color of the zinc coating according to ASTM A563 supplementary requirements S1 and S2.

B.2.1.3 High-Stength Flat Washers

(1) If clearance is necessary, the contractor may clip washers on one side to a point not closer than 7/8 of the bolt diameter from center of washer.

B.2.2 Direct Tension Indicating Washers

(1) Furnish zinc-coated direct tension indicating (DTI) washers conforming to ASTM F959 type 325. Ensure that DTIs have identifying marks applied by the manufacturer. Provide the engineer with 2 copies of the DTI manufacturer's instructions showing acceptable installation configurations. Provide 3 or more additional DTI washers as required for pre-installation testing. Also provide the engineer with at least two 0.005-inch metal feeler gauges.

B.2.3 Testing and Reporting

(1) Ensure that supplier-performed rotational capacity testing conforms to Report No. FHWA SA-91-031 "High-Strength Bolts for Bridges". Furnish 2 copies of a certified report of test or analysis indicating the results of required manufacturer/supplier tests.

C Construction

C.1 General

(1) Install the department-furnished components indicated in the bid item names. Also provide high-strength bolts and DTI washers, fittings, either aluminum or galvanized steel shims, hardware, and other components the department does not furnish but that are required to complete the installation as the plans show.

(2) Install a grounding lug either inside the base or pole as required to connect equipment grounding conductors.

C.2 Poles

(1) Clean each pole before installation.

(2) Secure type 9, 10, 12, and 13 structures to anchor assemblies conforming to the procedures enumerated in department form DT2321. Complete department form DT2321 for each structure. Indicate the parties responsible for the installation and submit the form to the engineer for inclusion in the permanent project record.

(3) After completing erection using normal pole shaft raking techniques, ensure that the centerline of the shaft is vertical.

(4) Install identification plaques as the plans show.

C.3 Arms

C.3.1 General

(1) Install monotube and steel luminaire arms to supporting structures at the height and alignment the plans show.

C.3.1 High-Strength Bolts for Monotube Arms

C.3.1.1 Handling and Storage

(1) Store bolts/nut/washer assemblies and DTI washers in closed containers in a protected shelter to protect them from dirt and moisture until used. Maintain fastener system components as nearly as possible in the as-manufactured condition until installed. Remove from storage only as needed and promptly return unused components to storage.

C.3.1.2 Pre-installation Testing

(1) Notify the engineer before performing the required field pre-installation testing.

(2) Lubricate high-strength bolt threads with a wax-based lubricant before testing. Test bolt/nut/washer assemblies with the DTI washer between the bolt head and a flat washer with the DTI protrusions against the bolt head..

(3) Perform pre-installation testing in the field conforming to the procedures enumerated in department form DT2322 for each bolt/nut/washer/DTI size installed. Provide the engineer with the test results by submitting 2 copies of department form DT2322.

C.3.1.3 Bolt Installation

(1) Do not begin bolt installation without the engineer's approval.

(2) Lubricate high-strength bolt threads with a wax-based lubricant before installation.

(3) Tension high-strength bolts using direct tension indicating (DTI) washers. Install bolt/nut/washer assemblies with DTI washers in the same configuration used for pre-installation testing.

(4) Tighten conforming to department form DT2322 to provide the correct installation tension. During the operation, ensure no rotation of the part not turned by the wrench. Snug systematically from the most rigid part of the connection to the free edges. Repeat until the full connection is in a snug condition and the faying surfaces are in firm contact. Systematically tighten the connection required number of refusals is achieved. If the gaps on the DTI washer are completely closed, discontinue tightening.

C.3.1.3 Contractor QC Testing

(1) Notify the engineer before performing the required pre-installation testing. Do not begin bolt installation without the engineer's approval. The engineer may verify bolt installation by periodically testing with a feeler gauge.

(2) Use a 0.005-inch metal feeler gauge to perform QC testing for each completed bolted connection in the presence of the engineer. Test a minimum of 10 percent of the bolts, but not less than 2 bolts, selected randomly in each connection.

(3) If the number of refusals required on department form DT2322 is achieved, the engineer will accept the connection as properly tightened. If for any bolt the required number of refusals is not achieved, tighten all bolts in the connection.

D Measurement

(1) The department will measure the bid items under this section as each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
657.1345	Install Poles Type 9	Each
657.1350	Install Poles Type 10	Each
657.1355	Install Poles Type 12	Each
657.1360	Install Poles Type 13	Each
657.1515	Install Monotube Arms 15-FT	Each
657.1520	Install Monotube Arms 20-FT	Each
657.1525	Install Monotube Arms 25-FT	Each
657.1530	Install Monotube Arms 30-FT	Each
657.1535	Install Monotube Arms 35-FT	Each
657.1540	Install Monotube Arms 40-FT	Each
657.1545	Install Monotube Arms 45-FT	Each
657.1550	Install Monotube Arms 50-FT	Each
657.1808	Install Luminaire Arms Steel 8-FT	Each
657.1815	Install Luminaire Arms Steel 15-FT	Each

(2) Payment for the Install Poles bid items is full compensation for installing department-furnished poles and for providing grounding lugs, fittings, shims, hardware, and other required components the department does not furnish.

(3) Payment for the Install Monotube Arms and Install Luminaire Arms Steel bid items is full compensation for installing department-furnished arms; for providing high-strength bolt/nut/washer assemblies and DTI washers including those required for testing; and for providing related mounting hardware, leveling shims, and other required components the department does not furnish.

(4) The department will pay separately for concrete foundations under the Concrete Bases bid items and provide anchor assemblies for monotube bases under standard spec 654.

58. Ramp Closure Gates Hardwired 40-FT, Item 662.1040.S.

A Description

This special provision describes providing hardwired freeway on-ramp closure gates on type 5 steel luminaire poles. This special provision also describes furnishing and delivering spare gate arms and flashers.

B Materials

B.1 General

Provide five user manuals and a listing of vendors and contact information for each manufactured component including flasher electrical components.

The engineer may allow alternates equal to specified manufactured components. The engineer may require plan detail modifications to accommodate alternates. The engineer may accept alternate arms or mounting adaptors only if the contractor can demonstrate that the department can easily remove and replace the arms.

B.2 Components

Furnish type 5 steel poles designed to carry twin 15-foot luminaire arms and conforming to standard spec standard spec 657 and with dimensions for acceptable installation of the ramp gate hardware as shown on the detail. Ensure a contiguous pole by eliminating the hand hole near base of pole, thus allowing uninhibited mounting of the gate pivot assembly.

Furnish galvanized steel nuts and bolts conforming to ASTM A307 except where designated as high strength (HS), conform to ASTM A325. For the ramp closure gate locking mechanism, furnish a handle nut to fit on a 3/4-inch.

Furnish grade A36 steel for the gate supports, gate pivot assembly, and associated hardware galvanized after fabrication by either a mechanical or hot-dip process. Grind welded connections, rough edges, and burrs smooth before galvanizing to ensure a finished appearance. Ensure that the galvanized coating conforms to ASTM A 153.

Provide aluminum/fiberglass gate arms of the nominal length the bid item indicates and conforming to plan dimensions. Cover gate arms on two sides with alternating red and white shop-applied type H reflective from the department's approved products list. Also provide a shear pin base that is the manufacturer’s “permanent pivot” style. Obtain components from:

B&B Roadway
15191 Hwy 243
Russellville, AL 35654
Tel: (888) 560-2060

Gate arm: model MU605

Furnish a worm gear winch with a single line vertical lift capacity of 2000 lbs. Ensure that the winch has hardened steel gears, a handgrip, permanently lubricated bearings, a reinforced arc-welded reel assembly, and mounting plate. Ensure that the winch can be mounted to the winch mount plate shown on the construction details and the handgrip can be operated without conflict with the pole or ramp gate assembly. Furnish a 2-inch outdoor rated, rot resistant polyester strap for the connection between the worm gear winch and the gate arm pivot assembly.

Furnish hardwire power system and connections conforming to the following:

1. Cabinet
   Furnish cabinet assemblies, power wire terminal strips, and power supplies for the on-ramp closure gate systems.

The cabinet shall be the following dimensions: 9-inches wide, 15-inches high, and 5-inches deep.

Minimum wall thickness of the aluminum castings shall be 3/16-inch.

Cabinet body shall have a cast rain hood over the top of the door opening.

Hinges shall consist of 3/6-inch diameter pins in cast hinge bosses that allow door to swing no less than 180º when open.

Cabinet shall be capable of being field prepared for top, bottom, or rear mounting and wire entrance holes.

Set screws shall be stainless steel.

Assembly shall be water resistant by the door flange in full contact with and compressing a neoprene gasket held by an adhesive to a groove cast into the cabinet body.

The cabinets shall consist of a cabinet body, door, and latch cast from aluminum alloy 319 or approved equivalent The door lock shall be a standard police lock reinforced with a steel plat which is keyed the same as the standard traffic control cabinets. The cast shall be free of voids, pits, dents, molding sand, and excessive foundry grinding marks. All radii shall be smooth and intact. Exterior and interior surfaces shall be smooth and cosmetically acceptable, free of molding fins, cracks, and other blemishes.

The aluminum shall meet the following minimum requirements:

- Yield Strength – 18 ksi
- Tensile Strength – 27 ksi
- Brinell Hardness – 70
- Elongation (% in 2 inches) – 2

The assembly shall have an alodine conversion coating to provide corrosion resistance and a proper base for paint adhesion.

Furnish a stainless steel or anodized steel mounting adapter plate to mount the cabinet to a pole with stainless steel banding straps.

2. Power Converter
   Furnish the cabinet with a 120 VAC to 12 VDC power converter.

   Furnish the cabinet with a 10 position terminal block for the 12 VDC power distribution. Power wire terminal strips 10 position feed-through terminal blocks

UL recognized for No. 22 AWG wire through No. 16 AWG wire and UL rated for 15 amps. The terminals shall be tin-plated brass with brass clips and clamps.

Furnish gate flasher assemblies conforming to the following:

- A 2-conductor connector, rated 12 volts at 5 amps minimum.
- A 2-amp weather resistant in-line fuse and fuse holder.
- Wiring harness made from 6-conductor 14 AWG stranded insulated control cable.
- A 12 V flasher controller, capable of providing LED flashers with 5% to 100% duty cycle at a one-second pulse repetition rate.
- A 4-conductor male/female electrical connector pair, 10 amp capacity for each connection, weather resistant, and mounted to allow rapid gate arm replacement.
- A 5-amp mercury switch with less than 3 ohms "on" resistance and a 20 to 30 degree activation angle. Mount the switch on the gate arm to activate the flashers when the gate arm is lowered more than 45 degrees from vertical.
- Furnish red LED flashers meeting the requirements of the MUTCD and/or AREMA standards for hue and brightness.

Power consumption	0.45 amp @ 10.5 V
Life expectancy	100,000 hrs
Directionality	0-degree cone orthogonal to face of flasher
Compliance temperature	-40° C to +70° C

Furnish electrical wires with jackets conforming to the following color scheme throughout the ramp closure gate system:

- Hot = Black or Red
- Neutral = White
- Ground = Green

Furnish a weatherproof hardened steel padlock with a minimum 2 1/4-inch shackle height and user programmable 4-digit combination.

C Construction

C.1 Ramp Closure Gates

Under the Ramp Closure Gates bid items, provide ramp closure gate at the locations the plans show. Apply marine grade anti seize compound compound to all bolt threads and to the interface between the aluminum base and steel pole. The engineer may direct

adjustment of the gate arm assembly to ensure the correct vertical and angular orientation of the completed closure gate.

Install cabinet with power supply, flasher controller, and other components. Connect the 120 VAC to 12 VDC power supply to the circuit breaker in the breaker disconnect box. Connect the 120 VAC to 12 VDC power supply to the 10-position terminal block and connect the 12 VDC components to the terminal block.

Connect the 12 VDC terminal strip to the wiring harness through the female side of a 2-terminal polarized electrical connector. Connect male side of this connector to the flasher controller and the female side of a weatherproof polarized 4-conductor electrical connector.

Attach the male side of the 4 conductor electrical connector, mercury switch, wiring harness, and the three LED flasher units to the portion of the flasher assembly mounted on the breakaway portion of the gate arm. Adjust mercury switch so that as the gate arm is lowered to a maximum of 45 degrees from the vertical, the gate flasher assembly is energized, and the LEDs begin to flash. Ensure that when the gate arm is raised to a minimum of 15 degrees from vertical, the mercury switches the gate flasher assembly off.

Install structure identification plaques in the location the plan details show.

Contact Bill Wondrachek, (262) 548-5669, with questions regarding identification numbers.

D Measurement

The department will measure the Ramp Closure Gates Hardwired bid items as each individual installation 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
662.1040.S	Ramp Closure Gates Hardwired 40-FT	Each

Payment for the Ramp Closure Gate Hardwired bid items is full compensation for providing ramp closure gates including support poles; for gate arm assemblies including guides, collars, and gate arms;for cabinets, wiring, and power converters; for structure identification plaques; and for gate flashers.

59. Install Ethernet Switch, Item 675.0400.S.

A Description

This special provision describes installing an Ethernet switch, and providing all necessary associated wiring.

B Materials
The department will furnish the Ethernet switch. Provide all necessary cables between the Ethernet switch and terminal server or other device.

C Construction
Install the Ethernet switch in a new or existing field cabinet. Connect it to devices as shown on the plans, or as directed by the engineer.

D Measurement
The department will measure Install Ethernet Switch by the unit, installed according to the contract, tested, and accepted.

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

ITEM NUMBER	DESCRIPTION	UNIT
675.0400.S	Install Ethernet Switch	Each

Payment is full compensation for installing an Ethernet switch; furnishing all necessary incidental hardware; and making all necessary connections.
675-040 (20100630)

60. Removing Advance Flasher Assemblies Type 2, Item 676.9002.S.

A Description
Remove advance flasher assemblies at the locations shown on the plan. Rewire and disconnect all wiring in the control cabinet as necessary and properly dispose of materials, according to the pertinent provisions of standard spec 204 and as hereinafter provided.

B Materials
Dispose of all materials resulting from removing the Advance Flasher Assemblies including but not limited to poles, break-a-way bases, signal assemblies, bulbs, and wire off the job site.

C Construction
Do not remove existing advance flasher assemblies until proper disconnects and wiring changes in the controller cabinet have been made.

Where an existing advance flasher assembly is mounted to a light pole, remove all signal hardware including wire, conduit, signal assemblies and mounts. Where existing conduit has been installed under concrete sidewalk or roadway, do not remove buried conduit unless directed otherwise by the engineer or unless it is not possible to install new wire through the existing conduit.

D Measurement
The department will measure Removing Advance Flasher Assemblies (Type) by the unit, acceptably removed.

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

ITEM NUMBER	DESCRIPTION	UNIT
676.9002.S	Removing Advance Flasher Assemblies, Type 2	Each

Payment is full compensation for removing advanced flasher assemblies; for rewiring, as necessary; for disconnecting wiring as necessary in the controller cabinet; and for properly disposing of all materials.

Removal of concrete bases and signs associated with this item will be measured and paid for separately.
676-900 (20100630)

61. Install Video Encoder, Item 677.0300.S.

A Description
This special provision describes installing a state-furnished video encoder in a pole mounted cabinet or field cabinet as shown on the plans and as hereinafter provided.

B Materials
Provide Category 5 or better Ethernet cable to connect the Ethernet video encoder to the Ethernet switch. The department will furnish the video encoder or it will be an existing and salvaged encoder.

C Construction
Make the necessary electrical and communication network connections to the video encoder. Mount the video encoder in the cabinet or field cabinet. Program the video encoder according to the manufacturer's instructions.

D Measurement
The department will measure Install Video Encoder by each individual assembly, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
677.0300.S	Install Video Encoder	Each

Payment is full compensation for installing the video encoder in a pole mounted cabinet or field cabinet; for making all connections; and for all programming.
677-030 (20100630)

62. Removing 50-Foot Camera Pole, Item 677.9051.S.

A Description
This special provision describes removing an existing camera pole.

B (Vacant)

C Construction
Disconnect all cables, wiring and equipment that are mounted on or in the poles, and remove the pole from the concrete footing. The department will pick up any antennae, cameras, or other equipment mounted on the pole; contact maintenance staff at (414) 227-2166 at the department's Statewide Traffic Operations Center, when the material is ready to be picked up. Properly dispose of the pole, conduit, cabling, and wiring away from the project site.

D Measurement
The department will measure Removing 50-Foot Camera Pole by the unit, acceptably removed.

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

ITEM NUMBER	DESCRIPTION	UNIT
677.9051.S	Removing 50-Foot Camera Pole	Each

Payment is full compensation for removing and disposing of the existing camera pole; disconnecting any necessary wiring; removing the equipment mounted on the poles; disposing of cabling and wiring; and transportation.
677-901 (20100630)

63. Removing CCTV Camera, Item 677.9200.S.

A Description
This special provision describes removing an existing CCTV camera from an existing camera pole as described in the plan.

B (Vacant)

C Construction
Disconnect all wiring at the control cabinet and at the top of the camera pole. Remove all fastening hardware and remove the existing camera and pan, tilt, and zoom mechanisms from the top of the pole. Salvage and store the cameras for pick up by the department; contact maintenance staff at (414) 227-2166 at the department's Statewide Traffic Operations Center to coordinate when the materials will be picked up.

The contractor may request a meeting with the engineer to assess the condition and operability of the camera prior to beginning work on removing the camera. Any damage or improper operation not noted at the meeting, or prior to the contractor starting work on the removal, will be assumed to be the fault of the contractor; repair or replace the camera at no additional cost to the department. Store the camera until the department picks up the camera.

D Measurement
The department will measure Removing CCTV Camera by the unit, acceptably and completely removed.

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

ITEM NUMBER	DESCRIPTION	UNIT
677.9200.S	Removing CCTV Camera	Each

Payment is full compensation for removing an existing CCTV camera; for disconnecting all necessary cables and wiring; and properly storing the materials.
677-902 (20100630)

64. Traffic Control Local Road Lane Closures, Item SPV.0060.0001.

A Description
Furnish the labor and equipment required for closing and subsequently opening a local road lane or lanes in accordance to standard spec 643, the plans, and as directed by the engineer. Drums, barricades and signs may remain along the roadway when the local road is open to traffic. Make signs invisible to traffic when the local road is open. Drums, barricades, lights, arrow boards and signs will be paid for separately under the various traffic control items.

B (Vacant)

C (Vacant)

D Measurement
The department will measure Traffic Control Local Road Lane Closures by each individual local road lane or two-lane closure that is set up and subsequently removed in each traffic direction within a 24 hour time period, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.0001	Traffic Control Local Road Lane Closures	Each

Payment is full compensation for closing and subsequently opening a local road lane or lanes; and for furnishing all labor, equipment.

65. Exposing Existing Utility Unpaved Area, Item SPV.0060.0002.

A Description

This work includes exposing existing utilities which are in direct conflict with proposed facilities. The location of existing utilities not in direct conflict with proposed construction is not included and shall be addressed using standard utility location procedures. The work includes exposing existing utilities under unpaved surfaces more than 6 feet outside a paved surface, and providing both lateral and depth measurements for use in determining potential utility conflict solutions.

B Materials

B.1 Granular Backfill

Furnish granular backfill that conforms to standard spec 209.

C Construction

C.1 General

Obtain engineer approval prior to performing the work, submitting all requests for exposing existing utilities in writing. Coordinate utility exposures with the engineer and notify the utility owner or their agents of this work 2 working days in advance so that they may be present when the work commences.

C.2 Excavation

Remove all unpaved surfaces at locations where the existing utility is being exposed. Maintain drainage at all times in accordance to standard spec 205.3.3. Take precautions, including temporary shoring, in order to prevent any undermining of the existing roadway. Perform work in accordance to all applicable laws, ordinances, rules, regulations, and OSHA standards.

Expose all utility locations within a given location to a minimum depth of 18-inches below the bottom of each utility. Excavate in a manner that protects the integrity of the utilities and prevents any damage to wrappings or protective coatings such as by any mechanical method or hand digging. Notify the utility owner promptly if damage or interruption of service occurs. Repair all damage caused to such utilities resulting from negligence or carelessness at own expense.

Take all lateral and depth measurements in US feet and tenths thereof. Identify horizontal locations of each exposed utility with a coordinate northing and easting referenced to the Wisconsin County Coordinate System (WCCS), Milwaukee County, NAD 83 (97). Provide vertical elevations for each exposed utility and reference to NAVD 88 (91).

The utility location shall remain exposed and available for visual inspection until the completion of all work in a given location. If the utility shall remain exposed overnight or for prolonged periods of time, protect the location with traffic-rated steel plating, safety barriers, and all necessary traffic control devices that may be required under applicable standards or as directed by the engineer.

C.3 Backfilling

Upon completion of the utility exposure, restore the location in kind to its original condition. Use granular backfill, conforming to standard spec 209, to backfill the exposed utility locations to the subgrade elevation except for areas located within local streets. All granular material placed to an elevation of 18-inches above each exposed utility shall consist substantially of sand with all particles retained on a one-inch (25.0 mm) sieve removed. The remaining granular material shall conform to the specifications for backfill for trench excavation. In grassy areas, place 6-inches of topsoil, sod or seed and mulch, and fertilizer. Alternate restoration methods may be used upon written approval from the engineer.

C.4 Documentation

Provide documentation to the engineer and include the coordinates, elevations, and sketches of the utility locations tied to known features in the plans. Reference each utility to a proposed alignment with a station and offset. Where near a ramp, reference the ramp alignment. Document the size and/or diameter, composition, and a description of each utility and the location of the elevation with respect to each utility noted. Supply digital photographs of the uncovered utility to the engineer in .jpeg format for future reference.

D Measurement

The department will measure Exposing Existing Utility, Unpaved Area as a unit for each location, acceptably completed. A location may have multiple utilities located within the same exposure area. An exposure area will include all utilities within 6 lateral feet of each other, and payment will only be made for one unit regardless of the number of utilities exposed. If the distance from the existing ground elevation, located above the existing utility, to a point 18 inches below the exposed utility is between 0 and 6 feet, the department will measure each location as a single unit of work. If the distance from the existing ground elevation, located above the existing utility, to a point 18 inches below the exposed utility is greater than 6 feet and less than 12 feet, the department will pay for the item as two units of work. Exposures in depth greater than 12 feet are not covered under this item.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.0002	Exposing Existing Utility Unpaved Area	Each

Payment is full compensation for all excavation; for disposing of all materials; for locating all utilities within each respective location; for providing documentation and photographs of utility locations to the engineer; for all surveying associated with exposing existing utilities; for all maintenance of the location during construction; for all traffic control, safety barriers, and steel plating required; for temporary shoring.
SEF Rev. 13_0926

66. Exposing Existing Utility Paved Area, Item SPV.0060.0003.

A Description
This work includes exposing existing utilities which are in direct conflict with proposed facilities. The location of existing utilities not in direct conflict with proposed construction is not included and shall be addressed using standard utility location procedures. The work includes exposing existing utilities under paved surfaces or within 6 feet of a paved surface, and providing both lateral and depth measurements for use in determining potential utility conflict solutions.

B Materials
B.1 Backfill Slurry
Use aggregates that conform to standard spec 501 for grade A concrete. Weigh aggregates at a batch plant suitable for batching concrete masonry. Mix and deliver to the project site using a truck mixer. Add enough water to enable the mixture to flow readily.

C Construction
C.1 General
Obtain engineer approval prior to performing the work, submitting all requests for exposing existing utilities in writing. Coordinate utility exposures with the engineer and notify the utility owner or their agents of this work 2 working days in advance so that they may be present when the work commences.

C.2 Excavation
Remove all paved surfaces at locations where the existing utility is being exposed. Saw or remove concrete and asphaltic pavements to the nearest joint. Remove all pavement surfaces in such a way that all existing edges consist of a true line having a perpendicular edge with no unraveling. Maintain drainage at all times in accordance to standard spec 205.3.3. Take precautions, including temporary shoring, in order to prevent any undermining of the existing roadway. Perform work in accordance to all applicable laws, ordinances, rules, regulations, and OSHA standards.

Expose all utility locations within a given location to a minimum depth of 18-inches below the bottom of each utility. Excavate in a manner that protects the integrity of the utilities and prevents any damage to wrappings or protective coatings such as by any mechanical method or hand digging. Notify the utility owner promptly if damage or interruption of service occurs. Repair all damage caused to such utilities resulting from negligence or carelessness at own expense.

Take all lateral and depth measurements in US feet and tenths thereof. Identify horizontal locations of each exposed utility with a coordinate northing and easting referenced to the Wisconsin County Coordinate System (WCCS), Milwaukee County, NAD 83 (97). Provide vertical elevations for each exposed utility and reference to NAVD 88 (91).

The utility location shall remain exposed and available for visual inspection until the completion of all work in a given location. If the utility shall remain exposed overnight or for prolonged periods of time, protect the location with traffic-rated steel plating, safety barriers, and all necessary traffic control devices that may be required under applicable standards or as directed by the engineer.

C.3 Backfilling

Upon completion of the utility exposure, restore the location in kind to its original condition. When exposed utility locations fall within local streets or city right-of-way, use slurry backfill to fill the entire location to the subgrade elevation.

Restore concrete pavement and concrete base course to the depth found in the existing roadway. Replace all locations that fall within live lanes of any roadway or pedestrian traffic with a high early-strength concrete pavement mix design having a depth equivalent to the existing pavement structure unless directed otherwise by the engineer. Locations that are closed to through traffic may use an approved concrete pavement mix conforming to standard spec 501. If directed by the engineer, tie concrete pavement and/or dowel it to the existing pavement according to the standard detail drawing for concrete pavement. All locations requiring asphaltic pavement shall consist of HMA Pavement Type E-3 unless otherwise directed by the engineer. Place the HMA pavement in lifts to a depth as directed by the engineer. Apply tack coat to composite pavement structures and between lifts.

Place base aggregate dense between the subgrade surface and the bottom of the pavement.

C.4 Documentation

Provide documentation to the engineer and include the coordinates, elevations, and sketches of the utility locations tied to known features in the plans. Reference each utility to a proposed alignment with a station and offset. Where near a ramp, reference the ramp alignment. Document the size and/or diameter, composition, and a description of each utility and the location of the elevation with respect to each utility noted. Supply digital photographs of the uncovered utility to the engineer in .jpeg format for future reference.

D Measurement

The department will measure Exposing Existing Utility, Paved Area as a unit for each location, acceptably completed. A location may have multiple utilities located within the same exposure area. An exposure area will include all utilities within 6 lateral feet of each other and payment will only be made for one unit regardless of the number of utilities exposed. If the distance from the existing ground elevation, located above the existing utility, to a point 18 inches below the exposed utility is between 0 and 6 feet, the department will measure each location as a single unit of work. If the distance from the existing ground elevation, located above the existing utility, to a point 18 inches below the

exposed utility is greater than 6 feet and less than 12 feet, the department will pay for the item as two units of work. Exposures in depth greater than 12 feet are not covered under this item.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.0003	Exposing Existing Utility Paved Area	Each

Payment is full compensation for all excavation; for disposing of all materials; for locating all utilities within each respective location; for providing documentation and photographs of utility locations to the engineer; for all surveying associated with exposing existing utilities; for all maintenance of the location during construction; for all traffic control, safety barriers, and steel plating required; for temporary shoring, and all finishing items including, but not limited to, base aggregate dense, concrete pavement, HMA pavement, curb and gutter, and sidewalk located above the subgrade elevation.
SEF Rev. 13_0926

67. Install Wireless Modem, Item SPV.0060.2001.

A Description
This special provision describes installing a wireless cellular modem and antenna and providing all necessary associated wiring.

B Materials
The department will furnish the wireless cellular modem and antenna. Provide all necessary cables between the wireless modem and device to be connected to it.

C Construction
Drill a hole in the new or existing cabinet to install the wireless modem antenna cable through. Mount the antenna on top of the cabinet and seal the hole with purpose-made waterproof sealing device such as a grommet or gasket.

Install the wireless modem in a new or existing field cabinet. Connect it to the antenna and to devices as shown on the plans, or as directed by the engineer.

D Measurement
The department will measure Install Wireless Modem 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.0060.2001	Install Wireless Modem	Each

Payment is full compensation for installing a wireless modem; furnishing all necessary incidental hardware; making all necessary connections; and for testing.

68. Install Bluetooth Detector, Item SPV.0060.2002.

A Description

This special provision describes installing a state-furnished Bluetooth chip detector to track the chips to generate traffic data. Provide mounting hardware, stainless steel bands, a Category 5 or better network cable between the reader and the associated Ethernet switch, and other incidentals necessary to complete the work.

B Materials

Bluetooth chip detector, range extension antenna, and mounting bracket as provided by the state.

Stainless steel bands to attach mounting bracket to pole.

Furnish Category 5 or better network cable, with RJ-45 connectors, of sufficient length to reach from the reader to the associated Ethernet switch as shown on the plans.

C Construction

Prior to beginning any work related to installing the Bluetooth chip detector, coordinate IP addresses and other network integration efforts with department staff at the Statewide Traffic Operations Center.

Install the Bluetooth chip reader per the manufacturer's recommendations for mounting heights to maximize effective range of the reader, and for all other mounting considerations.

Use existing or shared access holes in poles or sign structures to install the associate network cable in the pole or sign structure. Where necessary, drill a new hole for the cable and seal the hole using an appropriately sized grommet.

Install the network cable between the reader and the Ethernet switch and following the manufacturer's set-up instructions and the network settings information from the department to integrate the readers into the network and to make them functional.

D Measurement

The department will measure Install Bluetooth Detector as each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.2002	Install Bluetooth Detector	Each

Payment is full compensation for testing and installing the Bluetooth chip detector, cable and connections; for network and integration setup and coordination; mounting hardware; and transportation.

69. Salvage Wireless Traffic Sensor Repeater, Item SPV.0060.2003.

A Description
This special provision describes salvaging an existing wireless traffic sensor repeater.

B Materials
Salvage the Wireless Traffic Sensor Repeater mounted as shown on the plans.

C Construction
Take every precaution to ensure that the repeater is not damaged during removal or storage. If the repeater is not being reused with the project contact Jeff Madson at (414) 225-3723 to coordinate delivery of the repeater to the department.

Reuse or properly dispose of all mounting hardware.

D Measurement
The department will measure Salvage Wireless Traffic Sensor Repeater 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.0060.2003	Salvage Wireless Traffic Sensor Repeater	Each

Payment for Salvage Wireless Traffic Sensor Repeater is full compensation for furnishing all labor and materials necessary to salvage the repeater and for delivery to the department.

70. Install Wireless Traffic Sensor Repeater, SPV.0060.2004.

A Description
This item describes installing a state furnished or salvaged repeater to extend the range of coverage between the sensor nodes and access point.

B Materials
Install the Wireless Traffic Sensor Repeater as shown on the plans. Integrate the repeater device with the wireless sensor node and the access point box.

C Construction
Install salvaged repeater at locations shown on the plans as manufacturer instructions indicate.

The contractor or field system integrator shall furnish all equipment, appliances, and labor necessary to test the installed repeater.

Make all communications connections between the wireless sensor mode, access point and repeater, as required to provide a fully operational detection system.

After the repeater has been installed, and all other sensor equipment has been installed, the FTMS field system integrator shall successfully perform a field test at the sensor location to verify the sensor is detecting vehicles and accurately relaying the information to the access point.

Following successful completion of the test, activate the entire detection system and leave it on for 30 consecutive days. During this period, ensure that all materials and components of the sensor system furnished and installed operate as specified and without any failure.

In the event that any contractor-provided component of the sensor system malfunctions or operates below the level specified, the department will terminate the test period, and will require the FTMS field system integrator to determine and correct the problems, including repair or replacement of equipment, at no cost to the department. Upon correction of the problems, the engineer will start a new 30-day test period. If a malfunction is the result of equipment not installed by the contractor, the engineer will suspend the acceptance test period until the responsible party corrects these problems.

D Measurement

The department will measure Install Wireless Traffic Sensor Repeater 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.0060.2004	Install Wireless Traffic Sensor Repeater	Each

Payment for Install Wireless Traffic Sensor Repeater is full compensation for installing all materials necessary to completely install the sensor repeater, and for all required testing.

71. Salvage and Install Wireless Traffic Sensor Access Point, Item SPV.0060.2005.

A Description

This special provision describes salvaging and installing a wireless traffic sensor access point, and outdoor rated Ethernet cable between the access point and the respective controller cabinet, on poles or other structures to maintain wireless communications to all sensors and repeaters assigned to it and relay the data to a roadside traffic controller or remote server.

B Materials
The contractor shall salvage the access point, mounting hardware, and outdoor rated Ethernet cable.

C Construction
Install salvaged access point at locations the plans show.

Install access point box as manufacturer instructions show.

Take every precaution to ensure that the access point box is not damaged during removal, storage or installation.

The contractor or field system integrator shall furnish all equipment, appliances, and labor necessary to test the installed access point box. Successfully perform the following tests before acceptance.

Make all communications connections between the wireless sensor mode, access point and repeater, as required to provide a fully operational detection system.

After the access point box has been installed, and all other sensor equipment has been installed, the ATMS field system integrator shall successfully perform a field test at the sensor location to verify the sensor is detecting vehicles and accurately relaying the information to the access point.

Following successful completion of the test, activate the entire detection system and leave it on for 30 consecutive days. During this period, ensure that all materials and components of the sensor system furnished and installed operate as specified and without any failure.

In the event that any contractor-provided component of the sensor system malfunctions or operates below the level specified, the department will terminate the test period, and will require the ATMS field system integrator to determine and correct the problems, including repair or replacement of equipment, at no cost to the department. Upon correction of the problems, the engineer will start a new 30-day test period. If a malfunction is the result of equipment not installed by the contractor, the engineer will suspend the acceptance test period until the responsible party corrects these problems.

D Measurement
The department will measure Salvage and Install Wireless Traffic Sensor Access Point as each individual unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.2005	Salvage and Install Wireless Traffic Sensor Access Point	Each

Payment for Salvage and Install Wireless Traffic Sensor Access Point is full compensation for installing all materials necessary to completely install the access point; and for all required testing.

72. Wireless Traffic Sensor, Item SPV.0060.2006.

A Description

This special provision describes furnishing and installing flush-mount wireless sensors in pavement to detect and monitor vehicles.

B Materials

For the wireless sensor, use a device that mounts flush to pavement, has 16 frequency channels available with 128 Hz sampling rate, auto-calibration, and 2-way radio communications.

Integrate the wireless sensor node with the access point box and repeater device.

C Construction

Install contractor-furnished wireless sensors at locations the plans show.

Core or drill hole in pavement and vacuum or brush the hole clear of dust and debris.

Apply epoxy to the bottom of the hole to a depth approximately 1/3 of hole's total depth.

Install sensor in pavement at least 4" (10 cm) in diameter and 2 ¼" (5.7 cm) deep using a hammer or core drill.

Fill the hole with epoxy, completely covering the sensor and its shell.

Take every precaution to ensure that the sensor node is not damaged during storage or installation.

The contractor or field system integrator shall furnish all equipment, appliances, and labor necessary to test the installed sensor node.

Make all communications connections between the wireless sensor mode, access point and repeater, as required to provide a fully operational detection system.

After the wireless sensor node has been installed, and all other sensor equipment has been installed, the ATMS field system integrator shall successfully perform a field test at the sensor location to verify the sensor is detecting vehicles and accurately relaying the information to the access point.

Furnish all test equipment.

Following successful completion of the test, activate the entire detection system and leave it on for 30 consecutive days. During this period, ensure that all materials and components of the sensor system furnished and installed operate as specified and without any failure.

In the event that any contractor-provided component of the sensor system malfunctions or operates below the level specified, the department will terminate the test period, and will require the ATMS field system integrator to determine and correct the problems, including repair or replacement of equipment, at no cost to the department. Upon correction of the problems, the engineer will start a new 30-day test period. If a malfunction is the result of equipment not installed by the contractor, the engineer will suspend the acceptance test period until the responsible party corrects these problems.

D Measurement

The department will measure Wireless Traffic Sensor 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.0060.2006	Wireless Traffic Sensor	Each

Payment for Wireless Traffic Sensor is full compensation for furnishing and installing all materials, necessary to completely install the sensor node; and for all required testing.

73. Removing Ramp Control Signal Assembly Sidemount, Item SPV.0060.2007.

A Description

This special provision describes removing or salvaging an existing sidemount ramp control signal assembly.

B Materials

Materials included in sidemount ramp control signal assemblies are:

1. Traffic signal standards.
2. Pedestal bases for traffic signal use.
3. Vehicular traffic signal heads.
4. Signal mounting brackets.
5. Sign mounting brackets.
6. Enforcement signal displays.

C Construction

Remove or salvage sidemount ramp control signal assemblies at the locations shown in the plans, or as directed by the engineer. Salvage the signal assemblies for the department to pick up, or dispose of them properly as directed by the engineer.

All work shall be in accordance to the applicable requirements of standard specs 655, 656, 657, and 658, the Wisconsin Electrical Code, these special provisions, and the details shown in the plans.

Salvage and store all removed materials for pickup by the department or reuse as shown on the plans. Coordinate with the engineer on a schedule to have the removed items picked up. Maintain all materials in a condition suitable for reutilization. Replace all items damaged during construction operations.

Electrical work under this item shall be completed by a journeyman electrician or be completed under the supervision of a journeyman electrician. Legal status or standing as a journeyman electrician shall be certified or otherwise documented to the engineer before any electrical work may begin.

D Measurement

The department will measure Removing Ramp Control Signal Assembly Sidemount 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.0060.2007	Removing Ramp Control Signal Assembly Sidemount	Each

Payment is full compensation for removal and storage of the ramp control signal assembly; disconnecting all wiring connections; removing all conduit connections; for any necessary restoration, including backfill, topsoil, and seeding.

74. Install Salvaged Ramp Control Signal Assembly Sidemount, Item SPV.0060.2008.

A Description

This special provision describes installing a salvaged sidemount ramp control signal assembly.

B Materials

Materials included in the salvaged sidemount ramp control signal assemblies are:

1. Traffic signal standards.
2. Pedestal bases for traffic signal use.
3. Vehicular traffic signal heads.
4. Signal mounting brackets.
5. Sign mounting brackets.
6. Enforcement signal displays.

C Construction
Install the ramp control signal assembly in accordance to standard spec 676, the Wisconsin Electrical Code, these special provisions, and the details shown in the plans.

Electrical work under this item shall be completed by a journeyman electrician or be completed under the supervision of a journeyman electrician. Legal status or standing as a journeyman electrician shall be certified or otherwise documented to the engineer before any electrical work may begin.

D Measurement
The department will measure Install Salvaged Ramp Control Signal Assembly Sidemount 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.0060.2008	Install Salvaged Ramp Control Signal Assembly Sidemount	Each

Payment is full compensation for installation of the ramp control signal assembly; all wiring connections; all conduit connections; for any necessary restoration, including backfill, topsoil, and seeding.

75. Install 5.8 GHz Ethernet Bridge, Item SPV.0060.2009.

A Description
This special provision describes installing a state-furnished, or salvaged, 5.8 GHz Ethernet bridge access point or subscriber unit at a new or existing cabinet or new or existing pole.

B Materials
Materials will include state-furnished materials and contractor furnished materials.

State-furnished or salvaged, materials include the following:
- One 5.8 GHz Ethernet bridge with integral antenna.
- One 5.8 GHz Ethernet bridge power converter.
- One 5.8 GHz Ethernet bridge mounting bracket.

Contractor-furnished materials include the following:
- Mounting hardware.
- Outdoor rated Category 6 communications cable.
- Inline network cable surge suppressor.

C Construction
Bond the surge suppressor to the cabinet grounding system.

Install the 5.8 GHz Ethernet bridge in a point-to-point or point-to-multipoint configuration as shown on the plans and as directed by the engineer.

Use the manufacturer's set-up software to configure the Ethernet bridge radio for its intended use. Use the signal strength indicator on the radio to find the optimum position. Also perform a frequency analysis to determine the optimal hop pattern of the radios and test the continuity of the link by polling the radios using the software provided. The position of the radio and the hop pattern shall be adjusted until the polls show at least 200 consecutive polling intervals have been successfully transmitted and received. Demonstrate to the engineer that the hop pattern selected corresponds to the optimal noise free frequencies identified in the frequency analysis. Deliver 3 copies of the final test results for signal strength, frequency analysis, and test polling.

D Measurement
The department will measure Install 5.8 GHz Ethernet Bridge as each individual unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.2009	Install 5.8 GHz Ethernet Bridge	EACH

Payment is full compensation for installing, setting up, configuring, and testing the 5.8 GHz Ethernet bridge radio, surge suppressor, cables, and connections.

76. Removing On- Ramp Closure Gate, Item SPV.0060.2010.

A Description
This special provision describes removing and salvaging an existing on-ramp closure gate, delivering salvaged material to the department and disposing of materials appropriately off the project site.

B Materials
Existing pole, transformer base, concrete base, gate arm, winch assembly, LED flashers, wiring, and other components of the existing on-ramp closure gate assembly.

C Construction
Prior to beginning work on removing the on-ramp closure gate, turn off the power to the gate at the adjacent cabinet that supplies the power, and disconnect the power conductors.

Once the power has been turned off and the conductors disconnected, it is the contractor's decision regarding whether to remove the gate arm, winch, and other hardware from the pole prior to removal, or to remove as one assembly.

Salvage and store all removed materials until delivered to the department. Coordinate with Bill Wondrachek, (262) 548-5669 on a schedule to have the removed items delivered.

Maintain all materials in a condition suitable for reutilization. Replace all items damaged during construction operations.

Once the above ground portions of the on-ramp closure gate assembly are removed, remove the below ground concrete base and dispose of all materials appropriately off the project site.

D Measurement
The department will measure Removing On-Ramp Closure Gate as each individual unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.2010	Removing On-Ramp Closure Gate	Each

Payment is full compensation for disconnecting any necessary wiring; removing the poles and equipment mounted on the poles and delivering to the department; for removing the concrete base; and for disposal of material.

77. Salvage City of West Allis Camera Assembly, Item SPV.0060.2011.

A Description
This special provision describes salvaging a city-owned camera assembly from a pole as shown on the plans and as hereinafter provided.

B Materials
Existing camera assembly, mounting hardware, antenna, cables, and all camera equipment.

C Construction
Do not remove the existing camera assembly until it is in conflict with necessary work.

Coordinate removal of the camera with the City of West Allis two business days in advance of desired removal date. Contact Jim Jandovitz at (414) 302-8330 to coordinate removal and delivery of the camera assembly and equipment. Deliver the camera to the West Allis City Hall, Ground Floor Information Technology, in West Allis, WI

Take every precaution to ensure that the camera assembly is not damaged during removal, storage or delivery. Replace any damaged equipment.

D Measurement
The department will measure Salvage City of West Allis Camera Assembly by each individual assembly, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.2011	Salvage City of West Allis Camera Assembly	Each

Payment is full compensation for salvaging the camera assembly from a pole, coordination and delivery to the city.

78. Install City of West Allis Camera Assembly, Item SPV.0060.2012.

A Description
This special provision describes installing a city-furnished camera assembly on a pole as shown on the plans and as hereinafter provided.

B Materials
The City of West Allis will furnish an Arecont Model AV20365DN camera assembly.

Furnish all Category 5 cable or better necessary to make the camera connections.

Furnish all mounting hardware necessary to mount the camera assembly to a traffic signal pole.

C Construction
Coordinate installation of the camera with the City of West Allis five business days in advance of desired installation date. Contact Jim Jandovitz at (414) 302-8330 to coordinate pick up of the camera assembly. Pick up the camera assembly from West Allis City Hall, Ground Floor Information Technology, in West Allis, WI

Install the camera assembly in accordance to the manufacturer's recommendations and standard spec 677.

Make the necessary electrical and communication network connections to the camera assembly.

D Measurement
The department will measure Install City of West Allis Camera Assembly by each individual assembly, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.2012	Install City of West Allis Camera Assembly	Each

Payment is full compensation for installing the camera assembly on a pole, furnishing all cable and mounting hardware, for making all connections, and for all labor and tools necessary to complete the work.

79. Install Portable Video Surveillance System, Item SPV.0060.2013.

A Description

This special provision describes deploying a portable trailer-mounted video surveillance system as shown in the plans to provide continuous video surveillance of the project area during permanent CCTV sites downtime.

B Materials

Materials will be state-furnished and will be an all inclusive unit consisting of a cable erected pole with a direct IP CCTV camera, a solar power system, a wireless Ethernet bridge, and stability outriggers, all mounted on a trailer.

C Construction

Pick up the state-furnished video surveillance system at a location in Milwaukee or Waukesha County as directed by the engineer.

Deploy the surveillance system in the initial location as shown on the plans and as directed by the engineer following all recommended procedures by the manufacturer.

Integrate the surveillance system with the new and existing communications system through the wireless Ethernet bridge. Installation of the backhaul end of the wireless Ethernet bridge will be compensated for with other pay items in this contract.

D Measurement

The department will measure Install Portable Video Surveillance System as each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.2013	Install Portable Video Surveillance System	Each

Payment is full compensation for picking up the surveillance system in Waukesha; for deploying it in the project area; and for making the system functional.

80. Relocating Portable Video Surveillance System, Item SPV.0060.2014.

A Description

This special provision describes moving a previously deployed portable video surveillance system to a new location as directed by the engineer or as made necessary by construction operations in the area.

B Materials
Portable video surveillance system and wireless Ethernet bridge previously deployed through other pay items in this contract.

C Construction
Coordinate all planned down-time of the portable video surveillance system with the STOC at (414) 227-2166. Notify the STOC an amount of time ahead of planned down-time equal to the planned down-time. Examples would be that a 4-hour temporary down-time of the system would require notification 4-hours ahead of time while an 8-hour planned down-time would require 8-hours of advance notification.

Per manufacturer's recommendations, prepare the surveillance system for towing, relocate to the new location, re-deploy, and make functional as directed by the engineer and as made necessary by construction operations.

No payment will be made for this work unless previously approved by the engineer. No payment will be made for this work for relocations made necessary by operations not previously planned with the engineer's approval.

D Measurement
The department will measure Relocating Portable Video Surveillance System by each individual unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.2014	Relocating Portable Video Surveillance System	Each

Payment is full compensation for taking the surveillance system down, moving to a new location, and re-deploying in a new location; for re-integrating the wireless Ethernet bridge into the communications system.

81. Removing Controller Cabinet, Item SPV.0060.2015.

A Description
This special provision describes removing an existing controller cabinet.

B (Vacant)

C Construction
Remove controller cabinets at the locations shown on the plans, or as directed by the engineer. Salvage and store the cabinets and all contents for pick up by the department.

Do not remove the existing ITS control cabinets, or any other associated equipment until necessary, or as directed by the engineer. Carefully remove the existing cabinets from the concrete bases, together with all components in such a manner as to safeguard all parts and

wiring from damage or loss. Salvage and store the cabinet and contents for pick up by the department.

Prior to removing the existing ITS control cabinets, remove all cables being terminated in the cabinet. Cut existing cables flush with cabinet base and cap existing conduits. Dispose of the cables properly away from the project area.

D Measurement
The department will measure Removing Controller Cabinet 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.0060.2015	Removing Controller Cabinet	Each

Payment is full compensation for removal and storage of the controller cabinet; disconnecting all associated wires and cables; and for capping existing conduits.

82. Removing Controller Cabinet Base, Item SPV.0060.2016.

A Description
This special provision describes removing an existing controller cabinet concrete base.

B Materials
Existing controller cabinet base, including concrete masonry, ground rods, masonry anchors, and restoration materials such as topsoil, seeding, mulch, and fertilizer in accordance to the pertinent provisions of standard specs 201, 625, 627, 629, 630, 636, and 640.

C Construction
Remove and dispose of the concrete foundation and all other pertinent materials, and restore the disturbed area by placing 4-inches of topsoil, and fertilize, seed, and mulch all disturbed areas in accordance to the pertinent requirements of the standard specifications.

D Measurement
The department will measure Removing Controller Cabinet Base by each individual unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.2016	Removing Controller Cabinet Base	Each

Payment is full compensation for removing and disposing of a concrete controller cabinet base, including masonry anchors, ground rods, and concrete masonry; and for topsoil, fertilizer, seed and mulch.

83. EVP Detector Type I, Item SPV.0060.3101.

A Description

This work shall consist of furnishing and installing EVP Detector Type I as shown on the plans and as hereinafter provided.

B Materials

The infrared EVP Detector Type I shall be lightweight, weatherproof device capable of sensing and transforming pulsed infrared energy into electrical signals for use by the signal discrimination equipment. The infrared EVP Detector Type I shall be designed for mounting at or near an intersection on mast arms, pedestals or pipes. Each infrared EVP Detector Type I shall be supplied with mounting hardware to accommodate installation on mast arms, poles, or traffic signal standards as shown in the plans. The EVP Detector Type I shall accept infrared signals from one direction and shall provide a single electrical output signal. The EVP Detector Type I shall have a built-in terminal block to simplify wiring connections. The infrared EVP Detector Type I shall receive power from the discriminator and shall have internal voltage regulation to operate from 18 to 37 volts DC. The infrared EVP Detector Type I shall respond to clear lens code secured emitter with 0.84 (+/- 10%) Joules of energy output per flash at a distance of 2,500 feet under clear atmospheric conditions. If the emitter is configured with a visible light filter, the EVP Detector Type I shall respond at a distance of 1,800 feet under clear atmospheric conditions. The noted distances shall be comparable day and night. The infrared detector shall produce an electrical signal to the discriminator via a detector cable up to 1,000 feet in length.

The EVP Detector Type I shall be a GTT Opticom Model #711, or approved equal.

C Construction

Furnish and install EVP Detector Type I for traffic signals. Set the initial aim angle at a distance of 1,800 feet from the stop bar or as specified by the engineer in the field. Final adjustment shall be under the direction of the engineer.

D Measurement

The department will measure each EVP Detector Type I as each unit, acceptably completed.

E Payment

EVP Detector Type I will be paid for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.3101	EVP Detector Type I	EACH

Payment is full compensation for furnishing and installing the EVP Detector Type I on signal poles or mast arms as shown on the plans, including extensions to poles if required; and for aiming the detector.

84. EVP Discriminator Type IV, Item SPV.0060.3102.

A Description

This work shall consist of furnishing and installing an EVP Discriminator Type IV in the control cabinet as shown on the plans and as hereinafter provided.

B Materials

The EVP Discriminator Type IV shall be a plug-in, four channel, multiple priority device intended to be installed directly, into a rack located within the controller cabinet. The EVP Discriminator Type IV card edge connector shall include primary infrared detector inputs and power outputs. Two additional detector inputs per channel shall be provided on a front panel connector. An auxiliary function harness (#757) shall be included. The EVP Discriminator Type IV shall be powered from 115 volt (95 volts AC to 135 volts AC), 60 Hz mains and shall contain an internal, regulated power supply that supports up to four infrared detectors. The EVP Discriminator Type IV shall include several control timers that shall limit or modify the duration of a priority control condition and programmable security via jumper selection. The control timers shall be as follows:

- MAX CALL TIME: Shall set the maximum time a channel is allowed to be active. It can be set to 120, 240, or 65,535 seconds. Its factory default must be the maximum time.
- CALL HOLD TIME: Shall set the time a call is held on a channel after the priority signal is no longer being received. It can be set to either 6 or 12 seconds via jumper selects. Its factory default must be six seconds.
- SECURITY ENCODED DATA: Shall require that an infrared signal contain an embedded vehicle ID code to be recognized as a valid request. The default jumper selection shall disable this requirement.

The EVP Discriminator Type IV default range values shall be re-settable by the operator using switches located on its front. The EVP Discriminator Type IV shall be capable of three levels of discrimination of security encoded infrared signals, as follows:

- Verification of the presence of the base infrared of either 14.03509 Hz +/- 0.01773 Hz for Command priority, or 9.63855 Hz +/- 0.00836 Hz for Advantage priority.
- Determination of when the vehicle is within the prescribed range.
- The EVP Discriminator Type IV card edge connector shall include primary infrared detector inputs and power outputs. The EVP Discriminator Type IV shall include one optoisolated NPN output per channel that provides the following electrical signal to the appropriate pin on the card edge connector:
- Hz +/- 0.1 Hz 50% on/duty square wave in response to an Advantage priority call.

- A steady ON in response to a Command priority call.

The EVP Discriminator Type IV shall accommodate two methods for setting intensity thresholds (emitter range) for high and low priority signals:

- Using an encoded emitter with range-setting capability.
- Using an encoded emitter while manipulating the front panel switches.

The EVP Discriminator Type IV shall have a solid state POWER ON LED indicator that flashes to indicate unit diagnostic mode and illuminates steadily to indicate proper operation. The EVP Discriminator Type IV shall have internal diagnostics to test for proper operation. If a fault is detected, the discriminator shall use the front panel LED indicators to display fault information. The EVP Discriminator Type IV shall have a Command (high) and Advantage (low) solid state LED indicator for each channel to display active calls. The EVP Discriminator Type IV shall have a test switch for each channel to test proper operation of Command or Advantage priority. The EVP Discriminator Type IV shall properly identify a Command priority call with the presence of 10 Advantage priority code secured emitter signals being received simultaneously on the same channel. The EVP Discriminator Type IV shall have write-on pads to allow identification of the phase and channel. The EVP Discriminator Type IV shall have the capability of functionally testing connected detector circuits and indicating via front panel LEDs non-functional detector circuits. An auxiliary interface panel shall be available to facilitate interconnections between the discriminator and traffic cabinet wiring.

Additional wiring harnesses may be required for auxiliary detector heads as shown on the plans.

The EVP Discriminator Type IV shall be a GTT Opticom Model #464, or approved equal.

C Construction

Furnish and install EVP Discriminator Type IV for traffic signals.

D Measurement

The department will measure EVP Discriminator Type IV as each individual unit, acceptably completed.

E Payment

EVP Discriminator Type IV will be paid for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.3102	EVP Discriminator Type IV	EACH

Payment is full compensation for furnishing and installing the EVP Discriminator Type IV in the control cabinets and any additional wiring harnesses required for auxiliary heads.

85. EVP Confirmation Light Assembly Type I, Item SPV.0060.3103.

A Description
This work shall consist of furnishing and installing Confirmation Light Assemblies, Type I as shown on the plans and as hereinafter provided.

B Materials
Confirmation Light Assembly, Type I, shall consist of weatherproof, aluminum lamp holder with a single LED lamp as shown on the plans. In addition, mounting materials shall be provided as shown on the plans.

The Confirmation Light Assembly Type I shall be a GTT Opticom Model #575, or approved equal.

C Construction
Furnish and install Confirmation Light Assembly Type I for traffic signals.

D Measurement
The department will measure EVP Confirmation Light Assembly Type I 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.0060.3103	Confirmation Light Assembly Type I	EACH

Payment is full compensation for furnishing and installing the Confirmation Light Assembly Type I.

86. Removing and Salvaging Light Poles, Luminaires, and Arms, Item SPV.0060.3104.

A Description
The work under this item shall consist of removing and salvaging above-ground street lighting equipment owned by the City of West Allis, in accordance to the applicable provisions of standard specs 204, 655 and 659.

Specific removal and salvage items are described in the plans and miscellaneous quantities. This item also includes all other non-itemized materials, labor, and tools required to remove the lighting equipment as shown in the plans.

B (Vacant)

C Construction
The City of West Allis will be responsible for removal of the lighting circuitry from the existing light pole in order to keep the associated street lighting system fully functional. Coordinate with City crews to determine when service has been removed from the subject light pole.

Inspect the pole prior to removing from the existing base. Inform the engineer of any items of concern or potential problems that may interfere with the reuse of the pole, arm or luminaire. Arrange for the removal of the street lighting equipment after receiving approval from the engineer that the existing equipment can be removed. Minimize the time between removal from the existing base and reinstallation on the new base. Bases will be paid as a separate item and are not included herein.

Items identified in the plans and Miscellaneous Quantities to be returned to the City shall be delivered to the City of West Allis Maintenance Facility. Concrete bases and all conductors and wire shall be removed and properly disposed of. Conduit shall be removed or abandoned in place. Conduit may be abandoned in place only if it does not interfere with new construction or present a risk of damage to newly constructed items.

All work shall be in accordance to the latest Standard Specifications, City of West Allis Standards, and the plans.

D Measurement
The department will measure Removing and Salvaging Light Poles, Luminaires, and Arms by each individual light 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.0060.3104	Removing and Salvaging Light Poles, Luminaires, and Arms	EACH

Payment is full compensation for removing, relocating, and/or disassembling street lighting (as needed), scrapping of some materials, storing salvaged items on site, disposing of scrap material, and for delivering the indicated materials to the City.

87. Lighting Unit Single, Item SPV.0060.3105.

A Description
This special provision describes various bronze anodized aluminum street lighting units, each consisting of a light pole, 30 foot tall and 6-foot luminaire arm, as indicated at locations shown in the plan. Luminaires Utility LED Category B units will be paid for separately.

B Materials
Poles and Arms:
Conform to the applicable provisions of standard specs 657.2.1 and 657.2.3 and as shown on the plans. Certify to resist all loads shown, as well as the implied load of a traffic sign of up to 20 square feet mounted as high as 15 feet (to top of sign) above the ground. Include anchor bolt covers to match the pole finish.

C Construction
Conform to the applicable provisions of standard spec 657.3, with the exception that luminaire mast arms shall not utilize a clamped connection to the lighting pole. The luminaire mast arms shall be designed to be directly bolted to the lighting pole utilizing a stainless steel rivnut connection. Provide shop drawing detail of the lighting unit for the City of West Allis review and approval.

D Measurement
The department will measure Lighting Units Single 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.0060.3105	Lighting Unit Single	EACH

Payment is full compensation according to standard spec 657.5.

88. Traffic Signal Controller Programming, Item SPV.0060.3106.

A Description
This special provision describes the required traffic signal controller programming necessary to update the intersection phasing and timing. Specific timing plans will be provided by the City during construction.

B (Vacant)

C Construction
Input traffic signal timings into the new traffic signal controller as directed by the City to allow the traffic signal to operate according to the sequence of operations.

Allow the City and/or its representatives to review the operation of the controller prior to installation at the job site. Provide guidance as needed on special programming features based on the sequence of operations to maintain proper operation.

D Measurement
The department will measure Traffic Signal Controller Programming by each individual controller, 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.0060.3106	Traffic Signal Controller Programming	EACH

Payment is full compensation according to standard spec 658.5.

89. Pedestrian Hybrid Beacon, Item SPV.0060.3107.

A Description
This special provision describes the furnishing and installation of a three-section Pedestrian Hybrid Beacon including signal faces, backplate, 2-inch reflective border, and all other necessary items not otherwise itemized.

B Materials
Backplate materials shall be in accordance to standard spec 658.

Reflective border materials shall be in accordance to standard specs 637.2.2.3 and 637.2.3.4.2. The adhesive for the reflective border shall be pressure sensitive per manufacturer's recommendations.

C Construction
Construction shall be in accordance to standard specs 637 and 658, manufacturer’s recommendations, and the project plans.

D Measurement
The department will measure Pedestrian Hybrid Beacon by each individual unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.3107	Pedestrian Hybrid Beacon	EACH

Payment is full compensation for furnishing and installing the Pedestrian Hybrid Beacon including traffic signal housings, backplates, LED modules, reflective border, and all necessary hardware and fittings.

90. Install Traffic Cabinet Base, Item SPV.0060.3109.

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

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

C Construction
Install concrete traffic cabinet bases in accordance to the plans. Plan changes must be approved by a City of Milwaukee Electric Services Supervisor or Traffic Engineer. The primary contacts are Mr. Al Nichols, Traffic Operations Supervisor (414) 286-3687 office, (414) 708-5148 mobile; or Mr. Joseph Blakeman, Traffic Control Engineer III, (414) 286-8070.

D Measurement
The department will measure Install Traffic Cabinet Base as each individual 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.0060.3109	Install Traffic Cabinet Base	Each

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

91. Concrete Control Cabinet Base Type 9 Special (Mod.), Item SPV.0060.3110.

A Description
Work under this specification shall be done in accordance to standard spec 654, contract plan detail, and these special provisions.

B Materials
Materials shall be in accordance to standard spec 654.

C Construction
Construction shall be in accordance to standard spec 654.

D Measurement
The department will measure Concrete Bases (Type) as each individual 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.0060.3110	Concrete Control Cabinet Base Type 9 Special (Mod.)	Each

Payment is full compensation for providing concrete bases; for embedded conduit and electrical components; for anchor rods, nuts, and washers; for bar steel reinforcement, if required; for excavating, backfilling, and disposing of surplus materials.

92. Removing Pavement Markings Water Blasting, Item SPV.0090.0001.

A Description
Conform to standard spec 646.3.4 as modified in this special provision

Remove pavement markings using ultra-high pressure water from locations shown on the plans or as the engineer directs. Remove marking as per standard spec 646.3.4 when ambient air or pavement temperature is below 38 degrees F.

B (Vacant)

C Construction
Remove pavement marking using a high pressurized water spray with a vacuum recovery system to provide a clean, almost dry surface, without the use of a secondary cleanup process. Obtain engineer approval of the removal. Provide equipment with a storage system that contains wastewater and debris. Control blast head at all times.

Remove pavement marking as per standard spec 646.3.4 when pavement or ambient air temperature is below 38° F within 2 hours of removal.

Obtain approval from engineer to perform alternative removal process when restricted from using water blasting. Do not damage pavement during removal process.

D Measurement
The department will measure Removing Pavement Markings Water Blasting by the linear foot of 4-inch wide line, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.0001	Removing Pavement Markings Water Blasting	LF

Payment for Removing Pavement Markings Water Blasting is full compensation for removal, dust collection, repairing associated damage, and disposal of wastewater and residue.
SEF Rev. 13_0829

93. Grooved Preformed Thermoplastic Crosswalk 6-Inch, Item SPV.0090.0002; Crosswalk 24-Inch, Item SPV.0090.0003; Stop Line 18-Inch, Item SPV.0090.0004.

A Description

This special provision describes grooving the pavement surface, and furnishing and installing preformed thermoplastic pavement marking as shown on the plans, in accordance to standard spec 647, and as hereinafter provided.

B Materials

Furnish 125 mils preformed thermoplastic pavement marking from the department's approved products list. If required, furnish sealant material recommended by the manufacturer.

C Construction

C.1 General

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

Plane the grooved lines in accordance to the plan details. Use grooving equipment with a free-floating, independent cutting or grinding head. Plane a minimum number of passes to create a smooth groove.

C.2 Groove Depth

Cut the groove to a depth of 120 mils ±10 mils deep from the pavement surface or, if tined, from the high point of the tined surface. Measure depth using a straightedge placed perpendicular to the groove. The department may periodically check groove depths.

C.3 Groove Width – Linear Markings

Cut the groove 1-inch wider than the width of the thermoplastic.

C.4 Groove Position

Position the groove edge in accordance to the plan details.

C.4.1 Linear Marking

Groove at a minimum of 4-inches, but not greater than, 12-inches from both ends of the line segment. Achieve straight alignment with the grooving equipment.

C.4.2 Special Marking

Groove at a minimum of 4-inches from the perimeter of the special marking. Groove separate areas for Word Items.

C.5 Groove Cleaning

C.5.1 Concrete

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

If water is used in the grooving process, allow the groove to dry a minimum of 24 hours after groove cleaning, after removal of excess water, and prior to pavement marking application. Clean and dry the groove for proper application of the sealant, and placement of the pavement marking. Use a high-pressure air blower with at least 185 ft^3/min air flow and 90 psi air pressure to clean the groove; use of the air blower does not decrease the amount of time required for the groove to dry.

C.5.2 Asphalt

Use a high-pressure air blower with at least 185 ft^3/min air flow and 90 psi air pressure to clean the groove.

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

C.6 Preformed Thermoplastic Application

Preheat the surface if necessary based on manufacturer's recommendation.

Apply preformed thermoplastic in the groove as per manufacturer's recommendations. If manufacturer's recommendations require a sealant, apply a sealant lower than 91g/l VOC during the following period of time due to Volatile Organic Compound Limitations:

May 1 to September 30, both dates inclusive – the Southeast Region and the ozone non-attainment Northeast Region counties of Sheboygan, Manitowoc, and Kewaunee.

Use any sealant in the remainder counties and for the remainder of the year. The sealant must be wet.

D Measurement

The department will measure Grooved Preformed Thermoplastic (Type) (Size) in length by the linear foot of tape, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.0002	Grooved Preformed Thermoplastic Crosswalk 6-Inch	LF
SPV.0090.0003	Grooved Preformed Thermoplastic Crosswalk 24-Inch	LF
SPV.0090.0004	Grooved Preformed Thermoplastic Stop Line 18-Inch	LF

Payment is full compensation for cleaning and preparing the pavement surface, and for furnishing and installing the material.

94. Cable Type UF 2-14 AWG, Item SPV.0090.3001.

A Description
This work shall consist of furnishing and installing cable for confirmation lights and making all connections as shown on the plans and as hereinafter provided. Conform to standard spec 655 and as hereinafter modified.

B Materials
Supplement standard spec 655.3.4 with the following:

When lighting is installed in conjunction with traffic signals, conductors from the traffic signal control cabinet to the confirmation light(s) shall be Cable Type UF, 2 conductor without ground, solid copper conductor, size No. 14.

C Construction
Furnish and install Cable Type UF 2-14 AWG for traffic signals.

D Measurement
The department will measure Cable Type UF 2-14 AWG by the linear foot of cable, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.3001	Cable Type UF 2-14 AWG	LF

Payment is full compensation for furnishing and installing cable; for making all connections; for furnishing and installing all connectors, including wire nuts, splice kits, tape, insulating varnish or sealant and ground lug fasteners, and for testing.

95. Series Circuit Power Cable, Item SPV.0090.3101.

A Description
This special provision describes furnishing and installing series circuit power cables as shown on the plans.

B Materials
The series circuit power cable shall be #8 AWG 5 KV rating and the following:

B.1. Conductors

B.1.1. Inner Conductor

Type: The inner conductor shall consist of annealed copper wire conforming to ASTM B-3. It shall be coated with tin per ASTM B-33 or lead tin alloy per ASTM B-189.

Stranding: Size 8 AWG may be solid or stranded. Stranding shall conform to ASTM B-8, Class B. Solid 8 AWG is preferred.

Stranding Shielding: The stranded conductors of cables shall be covered with a spiral wrapping of semi-conducting tape complying with IPCEA Specification S-1981.

B.1.2. Outer Conductor

Type: The outer concentric conductor shall consist of annealed copper wire conforming to ASTM B-3.

Coating: Each wire shall be protected with a coating of either tin per ASTM B-33 or lead tin alloy per ASTM B-189.

Construction: Shall consist of 7 to 10 spirally wrapped tinned or coated copper wires whose total cross sectional area shall be equal to that of the insulated conductor in accordance to IPCEA Standard Specifications.

A spiral wound Mylar tape shall be wound over the concentric wires, under the outer PVC jacket.

B.2. Insulation

Type: The conductor shall be insulated with a cross-linked polyethylene compound meeting the requirements given below.

Application: The insulation shall be extruded directly over the solid conductor or over the semi-conducting material on the stranded conductor and shall fit tightly thereto.

Thickness: The nominal thickness of the conductor covering shall be 120 mils and the minimum not less than 90° of the nominal. This conductor covering may consist of cross-linked polyethylene insulation o of cross-linked polyethylene with a semi-conducting jacket.

B.2.1. Physical Requirements:

Original: Tensile strength min. psi. 1750, Elongation at rupture, min. % 350.

Aged after air oven exposure at 121°C for 7 days: Tensile strength min. psi. 75; Elongation at rupture, min. % 75.

Aged after air pressure test exposure, 80 psi at 127°C for 40 hours: Tensile strength min. psi. 75; Elongation at rupture, min. % 75.

Cold Bend Test: shall pass cold bend test at minus 65°C.

Mechanical Water Absorption: after 7 days in 70°C water, maximum mg/sq in 5.0.

Ozone Resistance: 0.030% Ozone concentration for 24 hours at room temperature, no failure.

B.2.2 Electrical Requirements

High Voltage Test: Each length of insulted cable shall withstand 100 volts per mil AC for 5 minutes. Cables shall also withstand for 15 minutes a DC potential of 300 volts per mil.

Test Values: installation test 80° of factory test; proof test 60° of factory test.

Insulation Resistance: The insulation resistance constant shall be not less than 10,000 ohms.

Electrical Stability in 90°C Water: SIC 1 day (max), 3.5; %change in SIC 1-14 days (max), 3.0; change in SIC 7-14 days (max), 2.0; % power factor (max) 1 day, 1.5; Stability factor (max), 1.0.

Corona Level Test: Each length of cable shall comply with the minimum ciriba extubction levels as specified by IPCEA-NEMA.

Heat Distortion Test: Per ASTM D-734 with the following minimum values: 4/0 AWG and smaller (Insulation tested on cable) 20% max.

Tract Resistance: Tracking voltage shall be not less than 2.2kV.

B.2.3 Overall Jacket for Mechanical Protection Only

Type: The jacket may be a 0.045 inch wall of extruded polyvinyl chloride material covering over the entire sheath assembly and shall conform to Part 4 of IPCEA standard specification S-19-81, latest edition.

B.2.4 Final Electrical Tests

Each length of finished cable shall be tested in accordance to IPCEA-NEMA standard procedure and shall meet the requirements of this specification.

Certified test reports must be furnished with each shipment.

C Construction

The City of West Allis will make all cable splices to the existing lighting circuits. Notify Terry Meincke with the City of West Allis Electrical Division at (414) 302-8876 office or (414) 531-5102 mobile, at least five working days prior to installation of the series circuit power cable.

Furnish and install Series Circuit Power Cable in conduit per manufacturer's specifications. Protect all existing circuits during construction. Protect and seal the ends of the cable if the City of West Allis is not able to make the splices the same day as cable installation.

D Measurement

The department will measure Series Circuit Power Cable by the linear foot of cable, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.3101	Series Circuit Power Cable	LF

Payment is full compensation for furnishing and installing cable; sealing cable ends, if required; and for disposing of surplus material.

96. Pavement Cleanup Project 1060-35-91, Item SPV.0105.0001.

A Description

This special provision describes cleanup of dust and debris from pavements within and adjacent to the job site.

B Materials

B.1 Pavement Cleanup

Furnish a vacuum-type street sweeper equipped with a power broom, water spray system, and a vacuum collection system.

Vacuum equipment shall have a self-contained particulate collector capable of preventing discharge from the collection bin into the atmosphere.

Use a vacuum-type sweeper as the primary sweeper, except as specified herein or approved by the engineer.

C Construction

C.1 Pavement Cleanup

Keep all pavements, curb lanes and gutters both closed and open to public traffic within the job-site boundaries free of dust and debris generated from any activity under the contract. Keep all pavements, curb lanes and gutters adjacent to the project free of dust and debris that are affected by land disturbing, dust generating activities, as defined in the contractor's dust control implementation plan.

Provide surveillance to identify if material is being tracked from the jobsite. Clean up spillage and material tracked from the project within an hour of occurrence or as directed by the engineer. Perform cleanup operations in a safe manner.

Provide routine sweeping of all pavements, curb lanes and gutters on local street active haul routes a minimum of once a day as defined in the Dust Control Implementation Plan (DCIP) or as directed by the engineer.

In addition to routine sweeping, conduct sweepings as the engineer directs or approves, to deal with dust problems that might arise during off-work hours or emergencies. Provide the engineer with a contact person available at all times to respond to requests for emergency sweeping. Respond to emergency sweeping requests within 4 hours.

If the vacuum-type sweeper breaks down, a mechanical broom sweeper may be substituted for no more than 24 hours total elapsed time. Repair the vacuum-type sweeper within that 24 hours or substitute a vacuum-type sweeper.

Skid steers with mechanical power brooms may only be utilized on sidewalks and driveways whose pavements will not support the weight of a street sweeper, unless otherwise approved by the engineer.

D Measurement
The department will measure Pavement Cleanup Project 1060-35-91 as a single lump sum unit of work, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.0001	Pavement Cleanup Project 1060-35-91	LS

Payment schedule for this item will be in accordance to the percentage of contract value earned.

Payment is full compensation for surveillance, mobilization, sweeping, disposing of materials.
SEF Rev. 12_1008

97. Survey Project 1060-35-91, Item SPV.0105.0002.

A Description
Perform work according to standard spec 105.6 and 650 and as hereinafter modified.

This special provision describes modifying standard specs 105.6 and 650 to define the requirements for construction staking for this contract.

Replace standard spec 105.6.2 with the following:

The department will not perform any construction staking for this contract. Obtain engineer's approval prior to performing all survey required to layout and construct the work under this contract.

The survey includes establishing horizontal and vertical position for all aspects of construction including but not limited to storm sewer, subgrade, base, curb, gutter, curb and gutter, sidewalk, pavement, beam guard, barriers (permanent), supplemental control, slope stakes, pavement markings, traffic control items, traffic signal equipment, etc.

The department may choose to perform quality assurance surveys during the project. These quality assurance surveys do not relieve the responsibility for performing all survey work required to layout and construct the work under this contract.

Delete standard spec 650.1.

B (Vacant)

C Construction
Conform to standard spec 650.3 and as modified in this special provision.

Replace standard spec 650.3.3.1 with the following:

Under the Survey Project bid item, global positioning system (GPS) machine guidance for conventional subgrade staking on all or part of the work may be substituted. The engineer may require reverting to conventional subgrade staking methods for all or part of the work at any point during construction if, in the engineer's opinion, the GPS machine guidance is producing unacceptable results.

Replace standard spec 650.3.3.3.4.1 with the following:

The department will provide the contractor staking packet as described in the Construction and Materials Manual (CMM) 7.10. At any time after the contract is awarded, the available survey and design information may be requested. The department will provide that information within five business days of receiving the contractor’s request. The department incurs no additional liability beyond that specified in standard specification 105.6 or standard spec 650 by having provided this additional information.

Add the following to standard spec 650.3.3.3.6.2:

Record all subgrade elevation checks and submit a hard copy to the engineer at the completion of the project.

D Measurement
Replace standard spec 650.4 with the following:

The department will measure Survey Project 1060-35-91 as a separate single lump sum unit of work, acceptably completed.

E Payment
Replace standard spec 650.5 with the following:

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.0002	Survey Project 1060-35-91	LS

Payment is full compensation for performing all survey work required to layout and construct all work under this contract. No additional payments will be made for restaking due to construction disturbance and knock-outs.
SEF Rev. 13_0925

98. Modular Curb System with Vertical Panels, SPV.0105.0003.

A Description
This work shall consist of furnishing and installing to the department a modular curb system consisting of a low profile curbing, vertical panels attached to the curbing as described herein and as shown on the plans. It shall be affixed to pavement with the use of anchor bolts sufficient length to imbed into the concrete.

B Materials
The Modular Curb System with Vertical Panels traffic separator shall be fabricated to withstand repeated impacts with minimal maintenance to the unit, and minor damage to the impacting vehicle. The system shall incorporate modular sections of low profile curbing which interconnect, and east section shall be anchored independently. The system shall be comprised of 40’ curb sections with a connector to connect the sections. Additionally, the system shall include quick-release channelizing devices vertical striped yellow/black panels. One vertical panel minimum per 40” section. Each 40” section of curb shall have two arched glass element technology reflectors to provide maximum nighttime visibility for motorists. Uprights to be installed on each 40” section, in addition to these reflectors to increase conspicuity. The channelizing devices shall incorporate either a flexible post or post and panel assembly, and shall utilize a reactive spring device to absorb the stress from the impacting vehicle. The system shall allow the replacement of uprights without the use of tools. Spring assemble shall have an anti-twist feature to assure channelizer is returned to an upright position facing traffic.

Curbing
Curbing shall be composed of injection molded material which is resilient, and featuring solid yellow color throughout, eliminating the need to repaint scuffed surfaces. It shall not exceed 2” in height of 8” in width. It shall possess gently sloping sides in order to facilitate crossover by emergency or errant vehicles. Curbing sections shall interconnect, but have the ability to space sections to facilitate passage of water between sections of curb.

Channelizer
All channelizers must conform to the Manual of Uniform Traffic Control Devices (MUTCD).

Vertical Panels shall be 8" (8" x 24") with a 36" overall height. Vertical Panels will contain white flexible high intensity reflective sheeting with a 4" yellow stripe and 4" black stripe angled at 45 degrees per MUTCD vertical panel standards.

Workmanship
The system shall be free of burns, discoloration and other objectionable marks or defects, which affect appearance or serviceability.

Reflective Sheeting
The reflective material used on the channelizer shall be made of flexible, type F sheeting per standard spec 637.2.2.2, impact resistance, pressure sensitive sheeting.

C Construction
Installation and deployment shall be per manufacturer's recommendations or as directed by the specifying engineer. Curb spacing recommendation is no less than 1" apart, and no more than 3" for visual considerations, or if drainage or other considerations warrant additional space, a larger gap is acceptable. Installation shall utilize 5/8" x 6" zince plated lag bolts and sleeves for penetration into the concrete surface which is below the 3" asphalt surface. Also, use ½" x 4" wedge anchors for concrete installations. Curb section shall be equipped with quick release bolts unless otherwise specified.

D Measurement
The department will measure Modular Curb System with Vertical Panels as a lump sum unit of work, 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.0105.0003	Modular Curb System with Vertical Panels	LS

Payment is full compensation for delivering and installing the complete system, and for hardware and anchors.

99. Remove Traffic Signals STH 100 and W. Lapham Street, Item SPV.0105.3001; STH 100 and W. Theo Trecker Way, Item SPV.0105.3002; STH 100 and STH 59, Item SPV.0105.3003; STH 59 and S. 92nd Street, Item SPV.0105.3004; STH 59 and STH 181, Item SPV.0105.3005; STH 181 and State Fair Park Gate 4, Item SPV.0105.3006; STH 181 and W. Schlinger Avenue, Item SPV.0105.3007; IH 894/USH 45 EB Off Ramp and W. Lincoln Avenue, Item SPV.0105.3008; W. National Avenue and S. 102nd Street, Item SPV.0105.3101; W. National Avenue and W. Lincoln Avenue, Item SPV.0105.3102; W. National Avenue and S. 84th Street (South), Item SPV.0105.3103; W. National Avenue and S. 84th Street (North), Item SPV.0105.3104; USH 18 and St. Camillus Driveway, Item SPV.0105.3105; USH 18 and N. 68th Street, Item SPV.0105.3106; W. Lincoln Avenue and W. Beloit Road, Item SPV.0105.3127.

A Description

This special provision describes removing existing traffic signals in accordance to the pertinent provisions of standard spec 204 and as hereinafter provided. Specific removal items are noted in the plans.

B (Vacant)

C Construction

Arrange for the de-energizing of the traffic signals with the local electrical utility after receiving approval from the engineer that the existing traffic signals can be removed.

The department, City of West Allis, and City of Wauwatosa assume that all equipment is in good condition and in working order prior to the contractor's removal operation. Prior to removal, inspect and provide a list of any damaged or non-working traffic signal equipment to the engineer. Any equipment not identified as damaged or not working, prior to removal, will be replaced by the contractor at no cost to the department, City of West Allis, or City of Wauwatosa.

State Owned Traffic Signals

Notify the department's Electrical Field Unit at (414) 266-1170 at least five working days prior to the removal of the traffic signals. Complete the removal work as soon as possible following shut down of this equipment.

Remove all standards and poles per plan from their concrete footings and disassemble out of traffic. Remove the transformer bases from each pole. Remove the signal heads, mast arms, luminaires, wiring/cabling, and traffic signal mounting devices from each signal standard, arm or pole. Ensure that all access hand hole doors and all associated hardware remain intact. Dispose of the underground signal cable, internal wires and street lighting cable off the state right-of-way. Deliver the remaining materials to the West Allis

Electrical Service Facility at 935 South 60th Street, West Allis, WI. Contact the department's Electrical Field Unit at (414) 266-1170 at least five working days prior to delivery to make arrangements.

DOT forces shall remove the signal cabinet from the footing. The signal cabinet and associated signal cabinet equipment will be removed from the site by DOT forces and will remain the property of the department.

City of West Allis Owned Traffic Signals
Notify the City of West Allis Public Works Department at (414) 302-8808 at least five working days prior to the removal of the traffic signal. Complete the removal work as soon as possible following shut down of this equipment.

Remove all standards and poles per plan from their concrete footings and disassemble out of traffic. Remove the transformer bases from each pole. Remove the signal heads, mast arms, luminaires, wiring / cabling and traffic signal mounting devices from each signal standard, arm or pole. Ensure that access handhole doors and all associated hardware remain intact. Remove the traffic signal cabinet from the concrete footing. Dispose of the underground signal cable, internal wires, and street lighting cable. Deliver the remaining materials to the City of West Allis at 6300 W. McGeoch Avenue, West Allis, WI. Contact the City of West Allis Public Works Department at (414) 302-8808 at least five working days prior to delivery to make arrangements.

City of Wauwatosa Owned Traffic Signals
Notify the City of Wauwatosa Public Works Department at (414) 471-8422 at least five working days prior to the removal of the traffic signal. Complete the removal work as soon as possible following shut down of this equipment.

Remove all standards and poles per plan from their concrete footings and disassemble out of traffic. Remove the transformer bases from each pole. Remove the signal heads, mast arms, luminaires, wiring / cabling and traffic signal mounting devices from each signal standard, arm or pole. Ensure that access handhole doors and all associated hardware remain intact. Remove the traffic signal cabinet from the concrete footing. Dispose of the underground signal cable, internal wires, and street lighting cable. Deliver the remaining materials to the City of Wauwatosa Electrical Yard at 11100 W. Walnut Road, Wauwatosa, WI. Contact the City of Wauwatosa Public Works Department at (414) 471-8422 at least five working days prior to delivery to make arrangements.

D Measurement
The department will measure Remove Traffic Signals (Location) 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 items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.3001	Remove Traffic Signals STH 100 and W. Lapham Street	LS
SPV.0105.3002	Remove Traffic Signals STH 100 and W. Theo Trecker Way	LS
SPV.0105.3003	Remove Traffic Signals STH 100 and STH 59	LS
SPV.0105.3004	Remove Traffic Signals STH 59 and S. 92nd Street	LS
SPV.0105.3005	Remove Traffic Signals STH 59 and STH 181	LS
SPV.0105.3006	Remove Traffic Signals STH 181 and State Fair Park Gate 4	LS
SPV.0105.3007	Remove Traffic Signals STH 181 and W. Schlinger Avenue	LS
SPV.0105.3008	Remove Traffic Signals IH 894/USH 45 EB Off Ramp and W. Lincoln Avenue	LS
SPV.0105.3101	Remove Traffic Signals W. National Avenue and S. 102nd Street	LS
SPV.0105.3102	Remove Traffic Signals W. National Avenue and W. Lincoln Avenue	LS
SPV.0105.3103	Remove Traffic Signals W. National Avenue and S. 84th Street (South)	LS
SPV.0105.3104	Remove Traffic Signals W. National Avenue and S. 84th Street (North)	LS
SPV.0105.3105	Remove Traffic Signals USH 18 and St. Camillus Driveway	LS
SPV.0105.3106	Remove Traffic Signals USH 18 and N. 68th Street	LS
SPV.0105.3127	Remove Traffic Signals W. Lincoln Avenue and W. Beloit Road	LS

Payment is full compensation for removing and disassembling traffic signals; for scrapping of some materials; for disposing of scrap material; and for delivering the requested materials to the West Allis Electrical Service Facility, City of Wauwatosa, or City of West Allis.

100. Install State Furnished Traffic Signal Cabinet STH 100 and W. Lapham Street, Item SPV.0105.3009; STH 100 and W. Theo Trecker Way, Item SPV.0105.3010; STH 59 and S. 92nd Street, Item SPV.0105.3011; STH 59 and STH 181, Item SPV.0105.3012; STH 181 and State Fair Park Gate 4, Item SPV.0105.3013; STH 181 and W. Schlinger Avenue, Item SPV.0105.3014; IH 894/USH 45 EB Off Ramp and W. Lincoln Avenue, Item SPV.0105.3015.

A Description

This special provision describes the installing of the state furnished Traffic Signal Cabinet for traffic signals.

B Materials

Use materials furnished by the department including: the traffic signal controller and the traffic signal cabinet. The department will provide notification at the preconstruction meeting of the Traffic Signal Cabinet vendor and provide the vendor's contact information.

Pick up the department furnished materials at the department's Electrical Shop located at 935 South 60th Street, West Allis. Notify the department's Electrical Field Unit at (414) 266-1170 and make arrangements for picking up the department furnished materials five (5) working days prior to picking up the materials.

Provide all other needed materials in conformance with standard specs 651.2, 652.2, 653.2, 654.2, 655.2, 656.2, 657.2, 658.2 and 659.2.

Append standard spec 651.3.3 (6) with the following:

Operate the completed traffic signal installation for 30 days consecutively, using the specified signal sequence(s) and all special functions, such as preemption as the plans show or as specified by the engineer.

C Construction

Perform work in accordance to standard specs 651.3, 652.3, 653.3, 654.3, 655.3, 656.3, 657.3, 658.3 and 659.3 except as specified below.

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. The departments' Region Electrical personnel will perform the inspection.

Coordinate directly with the department's Traffic Signal Cabinet vendor to schedule the cabinet acceptance testing. Notify the department's Electrical Field Unit at (414) 266-1170 and participate in the acceptance testing. The department has the final determination of the cabinet acceptance testing date and time. The acceptance testing procedures will be provided by the department. The department shall not be responsible for project delays and costs due to the delays of delivery by the vendor or by the failure of the Traffic Signal Cabinet to pass acceptance testing.

D Measurement

The department will measure Install State Furnished Traffic Signal Cabinet (Location) as a single lump sum unit of work, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.3009	Install State Furnished Traffic Signal Cabinet STH 100 and W. Lapham Street	LS
SPV.0105.3010	Install State Furnished Traffic Signal Cabinet STH 100 and W. Theo Trecker Way	LS
SPV.0105.3011	Install State Furnished Traffic Signal Cabinet STH 59 and S. 92nd Street	
SPV.0105.3012	Install State Furnished Traffic Signal Cabinet STH 59 and STH 181	LS
SPV.0105.3013	Install State Furnished Traffic Signal Cabinet STH 181 and State Fair Park Gate 4	LS
SPV.0105.3014	Install State Furnished Traffic Signal Cabinet STH 181 and W. Schlinger Avenue	LS
SPV.0105.3015	Install State Furnished Traffic Signal Cabinet IH 894/USH 45 EB Off Ramp and W. Lincoln Avenue	LS

Payment is full compensation for installing and testing the Traffic Signal Cabinet; for furnishing and installing all other items necessary (such as, wire nuts, splice kits and/or connectors, tape, insulating varnish, ground lug fasteners, etc.) to make the proposed system complete from the source of supply to the most remote unit; and for clean-up and waste disposal.

101. Transporting Signal and Lighting Materials STH 100 and W. Lapham Street, Item SPV.0105.3016; STH 100 and W. Theo Trecker Way, Item SPV.0105.3017; STH 59 and S. 92nd Street, Item SPV.0105.3018; STH 59 and STH 181, Item SPV.0105.3019; STH 181 and State Fair Park Gate 4, Item SPV.0105.3020; STH 181 and W. Schlinger Avenue, Item SPV.0105.3021; IH 894/USH 45 EB Off Ramp and W. Lincoln Avenue, Item SPV.0105.3022.

A Description

This special provision describes the transporting of department furnished materials for traffic signals and intersection lighting.

B Materials

Transport materials furnished by the department including: monotube poles, monotube arms, and luminaire arms (to be installed on monotube assemblies).

Pick up the department furnished materials at the department's Electrical Shop located at 935 South 60th Street, West Allis. Notify the department's Electrical Field Unit at (414) 266-1170 and make arrangements for picking up the department furnished materials at least five working days prior to picking the materials up.

C (Vacant)

D Measurement

The department will measure Transporting Signal and Lighting Materials (Location) as a single lump sum unit of work, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.3016	Transporting Signal and Lighting Materials STH 100 and W. Lapham Street	LS
SPV.0105.3017	Transporting Signal and Lighting Materials STH 100 and W. Theo Trecker Way	LS
SPV.0105.3018	Transporting Signal and Lighting Materials STH 59 and S. 92nd Street	
SPV.0105.3019	Transporting Signal and Lighting Materials STH 59 and STH 181	LS
SPV.0105.3020	Transporting Signal and Lighting Materials STH 181 and State Fair Park Gate 4	LS
SPV.0105.3021	Transporting Signal and Lighting Materials STH 181 and W. Schlinger Avenue	LS
SPV.0105.3022	Transporting Signal and Lighting Materials IH 894/USH 45 EB Off Ramp and W. Lincoln Avenue	LS

Payment is full compensation for transporting the monotube poles, monotube arms, and luminaire arms (to be installed on monotubes). Installation of these materials is included under a separate pay item.

102. Transporting and Installing State Furnished Radar Detection System STH 100 and W. Lapham Street, Item SPV.0105.3023; STH 100 and W. Theo Trecker Way, Item SPV.0105.3024; STH 59 and S. 92nd Street, Item SPV.0105.3025; STH 59 and STH 181, Item SPV.0105.3026; STH 181 and State Fair Park Gate 4, Item SPV.0105.3027; STH 181 and W. Schlinger Avenue, Item SPV.0105.3028; IH 894/USH 45 EB Off Ramp and W. Lincoln Avenue, Item SPV.0105.3029.

A Description

This special provision describes the transporting and installing of department furnished Radar Detection System on for installation on monotube poles or arms.

B Materials

Pick up the department furnished Radar System at the department's electrical shop located at 935 South 60th Street, West Allis. Notify the department's electrical field unit (EFU) at (414) 266-1170 to make arrangements for picking up the department furnished materials at least five working days prior to material pick-up.

C Construction

Coordinate the locations of the radar units with the department's electrical personnel prior to installation. Install the department furnished pole/arm mounting brackets, extension arms (if required), and radar units per manufacturer recommendations. Install the power and communication cables to run continuously (without splices) from the traffic signal cabinet to the radar units plus an additional 16 feet in each pull box and an extra 10-feet in the monotube pole handhole. Terminate the ends of the cables, if required, and make all connections to the radar units. The EFU will install all required cabinet equipment in the traffic signal control cabinet. Make all final cable connections in the traffic signal cabinet.

Mark each end of the lead in the traffic signal cabinet and each cable in the monotube handhole to indicate the equipment label (i.e. RA1, RA2, etc.).

Notify department's Electrical Shop at (414) 266-1170 upon completion of the installation.

The department will provide notification of the radar detection system vendor and provide the vendor's contact information. Coordinate directly with the department's radar detection system vendor to arrange for the vendor to program the radar detection system on-site. Notify the department and vendor at least five working days prior to the date of programming. Assist the department and vendor with adjusting the radar units during the radar system programming.

D Measurement

The department will measure Transporting and Installing State Furnished Radar Detection System 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 items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.3023	Transporting and Installing State Furnished Radar Detection System STH 100 and W. Lapham Street	LS
SPV.0105.3024	Transporting and Installing State Furnished Radar Detection System STH 100 and W. Theo Trecker Way	LS
SPV.0105.3025	Transporting and Installing State Furnished Radar Detection System STH 59 and S. 92nd Street	LS
SPV.0105.3026	Transporting and Installing State Furnished Radar Detection System STH 59 and STH 181	LS
SPV.0105.3027	Transporting and Installing State Furnished Radar Detection System STH 181 and State Fair Park Gate 4	LS
SPV.0105.3028	Transporting and Installing State Furnished Radar Detection System STH 181 and W. Schlinger Avenue	LS
SPV.0105.3029	Transporting and Installing State Furnished Radar Detection System IH 894/USH 45 EB Off Ramp and W. Lincoln Avenue	LS

Payment is full compensation for transporting and installing the radar detection system, cable, mounting hardware, and radar units; arranging for and providing programming by the vendor; and for assisting the department and vendor during the radar system programming.

103. Install State Furnished EVP Detector Heads STH 100 and W. Lapham Street, Item SPV.0105.3030; STH 100 and W. Theo Trecker Way, Item SPV.0105.3031; STH 59 and S. 92nd Street, Item SPV.0105.3032; STH 59 and STH 181, Item SPV.0105.3033; STH 181 and State Fair Park Gate 4, Item SPV.0105.3034; STH 181 and W. Schlinger Avenue, Item SPV.0105.3035; IH 894/USH 45 EB Off Ramp and W. Lincoln Avenue, Item SPV.0105.3036.

A Description

This special provision describes the transporting and installing of state furnished Emergency Vehicle Preemption (EVP) Detector Heads and EVP Detector Head Mounting Brackets, and Confirmation Light Assemblies.

B Materials

Use materials furnished by the department including: Emergency Vehicle Preemption (EVP) Detector Heads and EVP Detector Head Mounting Brackets, and Confirmation Light Assemblies.

Pick up the state furnished materials at the department's Electrical Shop located at 935 South 60th Street, West Allis. Notify the department's Electrical Field Unit at (414) 266-1170 and make arrangements for picking up the state furnished materials at least five working days prior to picking the materials up.

C Construction

Install the EVP detector heads, EVP detector head mounting brackets, and confirmation light assemblies as shown on the plans. The department will determine the exact location to ensure that the installation does not create a sight obstruction. The department will terminate the EVP cable ends and install the discriminators and card rack in the cabinet.

Notify the department's Electrical shop at (414) 266-1170 upon completion of the installation of the Emergency Vehicle Preemption (EVP) Detector Heads and EVP Detector Head Mounting Brackets.

D Measurement

The department will measure Install State Furnished EVP Detector Heads (Location) as a single lump sum unit of work, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.3030	Install State Furnished EVP Detector Heads STH 100 and W. Lapham Street	LS
SPV.0105.3031	Install State Furnished EVP Detector Heads STH 100 and W. Theo Trecker Way	LS
SPV.0105.3032	Install State Furnished EVP Detector Heads STH 59 and S. 92nd Street	LS
SPV.0105.3033	Install State Furnished EVP Detector Heads STH 59 and STH 181	LS
SPV.0105.3034	Install State Furnished EVP Detector Heads STH 181 and State Fair Park Gate 4	LS
SPV.0105.3035	Install State Furnished EVP Detector Heads STH 181 and W. Schlinger Avenue	LS
SPV.0105.3036	Install State Furnished EVP Detector Heads IH 894/USH 45 EB Off Ramp and W. Lincoln Avenue	LS

Payment is full compensation for transporting and installing of department furnished Emergency Vehicle Preemption (EVP) Detector Heads, EVP Detector head Mounting Brackets, and Confirmation Light Assemblies.

104. Temporary EVP System STH 100 and W. Theo Trecker Way, Item SPV.0105.3037; STH 59 and S. 92nd Street, Item SPV.0105.3038; STH 59 and STH 181, Item SPV.0105.3039; STH 181 and W. Schlinger Avenue, Item SPV.0105.3040; IH 894/USH 45 EB Off Ramp and W. Lincoln Avenue, Item SPV.0105.3041; STH 100 and W. Lapham Street, Item SPV.0105.3056; W. National Avenue and S. 102nd Street, Item SPV.0105.3122; W. National Avenue and W. Lincoln Avenue, Item SPV.0105.3123; W. National Avenue and S. 84th Street (South), Item SPV.0105.3124; W. National Avenue and S. 84th Street (North), Item SPV.0105.3125; W. Lincoln Avenue and W. Beloit Road, Item SPV.0105.3128; USH 18 and N. 68th Street, Item SPV.0105.3130.

A Description

This special provision describes furnishing, installing, and maintaining temporary EVP systems at the temporary signalized intersection as shown in the plans.

B Materials

Furnish an emergency vehicle preemption system compatible with the City of Wauwatosa, City of Milwaukee, and City of West Allis systems and users

Contact the City of Wauwatosa Public Works [Joe Kroll; (414) 471-8422; 11100 W. Walnut Road, Wauwatosa, WI; jkroll@wauwatosa.net] for information regarding the equipment needs and operational requirements of the emergency vehicle preemption system within the City of Wauwatosa jurisdiction.

Contact the City of Milwaukee Signals Shop [Al Nichols, Interim Manager/Dispatch; (414) 286-3687; 1540 W. Canal Street, Milwaukee, WI 53233] and City of Milwaukee Signals Engineering [Joseph Bondowski, Engineering Technician; (414) 286-5162; 841 N. Broadway, Milwaukee, WI 53202] for information regarding the equipment needs and operational requirements of the emergency vehicle preemption system within the City of Milwaukee jurisdiction.

Contact the City of West Allis Public Works [Terry Meincke; (414) 302-8808] for information regarding the equipment needs and operational requirements of the emergency vehicle preemption system within the City of West Allis jurisdiction.

C Construction

The Temporary 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 and sub-stage of construction.

Install the temporary vehicle detection system as shown in the plans and according to the manufacturer's recommendations. Determine a suitable location for the temporary EVP detectors for each stage and sub-stage of construction. Detectors may be mounted on the temporary traffic signal span wire or wood poles. Relocate the temporary EVP detectors to a suitable location if construction activities and/or construction staging changes impede the detector operation. Arrange for testing of equipment prior to acceptance of the installation for each construction stage.

All cables associated with the temporary vehicle detection 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 EVP detectors may be required due to changes in traffic control, staging, or other construction operations.

Ensure that the temporary EVP system stays in clean working order. Periodic cleaning of the equipment may be required due to dirt and dust build-up.

Remove the temporary EVP system upon project completion.

Provide the engineer records of all EVP settings used during construction.

D Measurement

The department will measure Temporary EVP System (Location) as a single lump sum unit of work, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.3037	Temporary EVP System STH 100 and W. Theo Trecker Way	LS
SPV.0105.3038	Temporary EVP System STH 59 and S. 92nd Street	LS
SPV.0105.3039	Temporary EVP System STH 59 and STH 181	LS
SPV.0105.3040	Temporary EVP System STH 181 and W. Schlinger Avenue	LS
SPV.0105.3041	Temporary EVP System IH 894/USH 45 EB Off Ramp and W. Lincoln Avenue	LS
SPV.0105.3056	Temporary EVP System STH 100 and W. Lapham Street	LS
SPV.0105.3122	Temporary EVP System W. National Avenue and S. 102nd Street	LS
SPV.0105.3123	Temporary EVP System W. National Avenue and W. Lincoln Avenue	LS
SPV.0105.3124	Temporary EVP System W. National Avenue and S. 84th Street (South)	LS
SPV.0105.3125	Temporary EVP System W. National Avenue and S. 84th Street (North)	LS
SPV.0105.3128	Temporary EVP System W. Lincoln Avenue and W. Beloit Road	LS
SPV.0105.3130	Temporary EVP System USH 18 and N. 68th Street	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; for removing the temporary EVP system; and for cleaning up and properly disposing of waste.

105. Remove Loop Detector Wire and Lead-in Cable STH 100 and W. Theo Trecker Way, Item SPV.0105.3042, STH 181 and State Fair Park Gate 4, Item SPV.0105.3043; STH 181 and W. Schlinger Avenue, Item SPV.0105.3044; IH 894/USH 45 EB Off Ramp and W. Lincoln Avenue, Item SPV.0105.3045.

A Description

This special provision describes removing loop detector wire and lead-in cable. Removal shall be in accordance to standard spec 204, as shown in the plans, and as hereinafter provided.

B (Vacant)

C Construction

City of West Allis Owned Traffic Signals

Notify the City of West Allis Public Works Department at (414) 302-8808 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 and 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 items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.3042	Remove Loop Detector Wire and Lead-in Cable STH 100 and W. Theo Trecker Way	LS
SPV.0105.3043	Remove Loop Detector Wire and Lead-in Cable STH 181 and State Fair Park Gate 4	LS
SPV.0105.3044	Remove Loop Detector Wire and Lead-in Cable STH 181 and W. Schlinger Avenue	LS
SPV.0105.3045	Remove Loop Detector Wire and Lead-in Cable IH 894/USH 45 EB Off Ramp and W. Lincoln Avenue	LS

Payment is full compensation for removing loop detector wire and lead-in cable; for scrapping of some materials; and for disposing of scrap material.

106. Install State Furnished Municipal Traffic Signal Cabinet W. National Avenue and S. 102nd Street, Item SPV.0105.3107; W. National Avenue and W. Lincoln Avenue, Item SPV.0105.3108; W. National Avenue and S. 84th Street (South), Item SPV.0105.3109; W. National Avenue and S. 84th Street (North), Item SPV.0105.3110; USH 18 HAWK, Item SPV.0105.3111; W. Lincoln Avenue and W. Beloit Road, Item SPV.0105.3126.

A Description

This special provision describes the installing of the State Furnished Municipal Traffic Signal Cabinet for traffic signals.

B Materials

Use materials furnished by the department including: the traffic signal controller and the traffic signal cabinet. The City of Wauwatosa and/or City of West Allis will provide notification at the preconstruction meeting of the Traffic Signal Cabinet vendor and provide the vendor's contact information.

Pick up the materials at the department's Electrical Shop located at 935 South 60th Street, West Allis. Notify the department's Electrical Field Unit at (414) 266-1170 and make arrangements for picking up the department furnished materials five working days prior to picking up the materials.

Provide all other needed materials in conformance with standard specs 651.2, 652.2, 653.2, 654.2, 655.2, 656.2, 657.2, 658.2 and 659.2.

Append standard spec 651.3.3 (6) with the following:

Operate the completed traffic signal installation for 30 days consecutively, using the specified signal sequence(s) and all special functions, such as preemption as the plans show or as specified by the engineer.

C Construction

Perform work in accordance to standard specs 651.3, 652.3, 653.3, 654.3, 655.3, 656.3, 657.3, 658.3 and 659.3 except as specified below.

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. The City of Wauwatosa and/or City of West Allis personnel will perform the inspection.

Coordinate directly with the Traffic Signal Cabinet vendor to schedule the cabinet acceptance testing. Notify the City of Wauwatosa Public Works Department at (414) 471-8422 or the City of West Allis Public Works Department at (414) 302-8808 and participate in the acceptance testing. The City of Wauwatosa and the City of West Allis has the final determination of the cabinet acceptance testing date and time. The acceptance testing procedures will follow the WisDOT procedures for state owned/operated signals as well as any procedures set forth by the City of Wauwatosa and the City of West Allis. The department shall not be responsible for project delays and costs due to the delays of delivery by the vendor or by the failure of the Traffic Signal Cabinet to pass acceptance testing.

D Measurement

The department will measure Install State Furnished Municipal Traffic Signal Cabinet (Location) as a single lump sum unit of work, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.3107	Install State Furnished Municipal Traffic Signal Cabinet W. National Avenue and S. 102nd Street	LS
SPV.0105.3108	Install State Furnished Municipal Traffic Signal Cabinet W. National Avenue and W. Lincoln Avenue	LS
SPV.0105.3109	Install State Furnished Municipal Traffic Signal Cabinet W. National Avenue and S. 84th Street (South)	LS
SPV.0105.3110	Install State Furnished Municipal Traffic Signal Cabinet W. National Avenue and S. 84th Street (North)	LS
SPV.0105.3111	Install State Furnished Municipal Traffic Signal Cabinet USH 18 HAWK	LS
SPV.0105.3126	Install State Furnished Municipal Traffic Signal Cabinet W. Lincoln Avenue and W. Beloit Road	LS

Payment is full compensation for installing and testing the Traffic Signal Cabinet; for furnishing and installing all other items necessary (such as, wire nuts, splice kits and/or connectors, tape, insulating varnish, ground lug fasteners, etc.) to make the proposed system complete from the source of supply to the most remote unit; and for clean-up and waste disposal.

107. Transporting Municipal Signal and Lighting Materials W. National Avenue and S. 102nd Street, Item SPV.0105.3112; W. National Avenue and W. Lincoln Avenue, Item SPV.0105.3113; W. National Avenue and S. 84th Street, Item SPV.0105.3114; W. Lincoln Avenue and W. Beloit Road, Item SPV.0105.3115; USH 18 HAWK, Item SPV.0105.3116; USH 18 and N. 68th Street, Item SPV.0105.3129.

A Description

This special provision describes the transporting of department furnished materials for traffic signals and intersection lighting.

B Materials

Transport materials furnished by the department including: monotube poles, monotube arms, and luminaire arms (to be installed on monotube assemblies).

Pick up the department furnished materials at the department's Electrical Shop located at 935 South 60th Street, West Allis. Notify the department's Electrical Field Unit at (414) 266-1170 and make arrangements for picking up the department furnished materials at least five working days prior to picking the materials up.

C (Vacant)

D Measurement

The department will measure Transporting Signal and Lighting Materials (Location) as a single lump sum unit of work, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.3112	Transporting Municipal Signal and Lighting Materials W. National Avenue and S. 102nd Street	LS
SPV.0105.3113	Transporting Municipal Signal and Lighting Materials W. National Avenue and W. Lincoln Avenue	LS
SPV.0105.3114	Transporting Municipal Signal and Lighting Materials W. National Avenue and S. 84th Street	LS
SPV.0105.3115	Transporting Municipal Signal and Lighting Materials W. Lincoln Avenue and W. Beloit Road	LS
SPV.0105.3116	Transporting Municipal Signal and Lighting Materials USH 18 HAWK	LS
SPV.0105.3129	Transporting Municipal Signal and Lighting Materials USH 18 and N. 68th Street	LS

Payment is full compensation for transporting the monotube poles, monotube arms, and luminaire arms (to be installed on monotubes). Installation of these materials is included under a separate pay item.

108. Transporting and Installing State Furnished Microwave Detection System W. National Avenue and S. 102nd Street, Item SPV.0105.3117; W. National Avenue and W. Lincoln Avenue, Item SPV.0105.3118; W. National Avenue and S. 84th Street, Item SPV.0105.3119; W. Lincoln Avenue and W. Beloit Road, Item SPV.0105.3120; USH 18 and N. 68th Street, Item SPV.0105.3121.

A Description

This special provision describes the transporting and installing of state furnished Microwave Detection System for installation on monotube poles or arms.

B Materials

Pick up the department furnished Microwave Detection System at the department's electrical shop located at 935 South 60th Street, West Allis. Notify the department's electrical field unit (EFU) at (414) 266-1170 to make arrangements for picking up the department furnished materials at least five working days prior to material pick-up.

C Construction

The department will provide notification of the microwave detection system vendor and provide the vendor's contact information.

Perform Field System Integrator responsibilities in accordance to standard spec 670.3.3.2.

Coordinate the locations of the microwave units with the municipality, product vendor, and Justin Effinger with WisDOT Signal Operations at (262) 548-5676 prior to installation. Install the department furnished pole/arm mounting brackets, extension arms (if required), and microwave units per manufacturer recommendations. Install the department furnished cable per the cable routing plan. All cable runs less than or equal to 300-feet shall be installed continuously (without splices) from the traffic signal cabinet to the microwave units plus an additional 6-feet in each pull box and an extra 10-feet in the monotube pole handhole. Cable runs longer than 300-feet require a repeater; install the cable continuously (without splices) from the traffic signal cabinet to the pedestal base, transformer base, or monotube pole handhole identified in the cable routing plan for the repeater plus an additional 6 feet in each pull box and an extra 10-feet in the pedestal base, transformer base, or monotube pole handhole. Install the repeater in the pedestal base, transformer base, or monotube pole handhole and install the cable continuously (without splices) from the repeater to the microwave units plus an additional 6-feet in each pull box and an extra 10-feet in the monotube pole handhole. Terminate the ends of the cables, if required, and make all connections to the repeaters and microwave units. Install all required cabinet equipment, including any required Ethernet cable equipment, in the traffic signal control cabinet. Make all final connections in the traffic signal cabinet.

Mark each end of the lead in the traffic signal cabinet and each cable in the monotube handhole to indicate the equipment label (i.e. M1, M2, etc.).

Submit an Ethernet Cable Test Procedure to the department 30 days prior to initial installation. The department will approve the test procedure within 30 days of the date received and provide a written approval.

Resubmit rejected test procedures within 15 days of notification. The department will provide written approval of resubmitted test procedures within 30 days of the date received.

Perform an Ethernet Cable Test conforming to the approved Ethernet Cable Test Procedure on each run of Ethernet cable. Test the Ethernet cable for the following: 1000BASE-T, 100BASE-TX, 10BASE-T, Voice Over IP, Wiremap, Telco, and Length. Submit 5 copies of the test results to the department for approval. Replace any Ethernet Cable that fails the testing.

Notify municipality and WisDOT Signal Operations upon completion of the installation.

Coordinate directly with the department's microwave detection system vendor to arrange for the vendor to program the microwave detection system on-site. Notify the municipality and vendor at least five working days prior to the date of programming. Assist the municipality and vendor with adjusting the microwave units during the microwave detection system programming.

D Measurement
The department will measure Transporting and Installing State Furnished Microwave Detection System (Location) 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.0105.3117	Transporting and Installing State Furnished Microwave Detection System W. National Avenue and S. 102nd Street	LS
SPV.0105.3118	Transporting and Installing State Furnished Microwave Detection System W. National Avenue and W. Lincoln Avenue	LS
SPV.0105.3119	Transporting and Installing State Furnished Microwave Detection System W. National Avenue and S. 84th Street	LS
SPV.0105.3120	Transporting and Installing State Furnished Microwave Detection System W. Lincoln Avenue and W. Beloit Road	LS
SPV.0105.3121	Transporting and Installing State Furnished Microwave Detection System USH 18 and N. 68th Street	LS

Payment is full compensation for transporting and installing the microwave detection system, cable, cable repeaters, mounting hardware, and microwave units; installing all required cabinet equipment; making all connections; arranging for and providing programming by the vendor; and for assisting the municipality and vendor during the microwave detection system programming.

109. Transporting and Installing Accessible Pedestrian Signal Push Buttons, Item SPV.0105.3131.

A Description
This special provision describes the transporting and installing of department furnished Accessible Pedestrian Signal Push Button assembly and control unit.

B Materials
Use materials furnished by the department including: Accessible Pedestrian Signal push button and control unit.

Pick up the department furnished materials at the department's Electrical Shop located at 935 South 60th Street, West Allis. Notify the department's Electrical Field Unit (EFU) at (414) 266-1170 to make arrangements for picking up the department furnished materials at least five working days prior to picking the materials up.

Provide all other required material in accordance to standard specs 651.2 and 658.2.

C Construction
Construction shall be in accordance to standard specs 651.3 and 658.3, manufacturer's recommendations, and the project plans. Coordinate the installation of the control unit in the traffic signal cabinet with the department's EFU.

D Measurement
The department will measure Transporting and Installing Accessible Pedestrian Signal Push Buttons as a single lump sum unit of work, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.3131	Transporting and Installing Accessible Pedestrian Signal Push Buttons	LS

Payment is full compensation for picking-up, transporting, and installing all materials provided by the department; and for furnishing and installing all other items necessary (such as wire nuts, splice kits and/or connectors, tape, insulating varnish, ground lug fasteners, etc.) to make the proposed system complete from the source of supply to the most remote unit.

110. Install Fiber Optic Communications in Cabinet STH 100 and W. Lapham Street, Item SPV.0105.3050; STH 100 and W. Theo Trecker Way, Item SPV.0105.3051; IH 894/USH 45 EB Off Ramp and W. Lincoln Avenue, Item SPV.0105.3054; USH 18 HAWK, Item SPV.0105.3132; W. National Avenue and S. 102nd Street, Item SPV.0105.3133; W. National Avenue and W. Lincoln Avenue, Item SPV.0105.3134.

A Description
This special provision describes installing fiber optic communications equipment in traffic signal cabinets.

B Materials
The department will furnish pre-terminated fiber optic patch panels and managed Ethernet switches. The materials will be provided with the traffic signal cabinet. The patch panels will have pre-terminated fiber optic cable pigtails. Provide two each 1-meter lengths of ST-ST single mode fiber jumper (2 fibers per jumper) from the patch panel to the Ethernet switch. Provide a 1-meter length of CAT-5e cable from the Ethernet switch to the controller. Provide a 1-meter length of CAT-5e cable from the Ethernet switch to the Interface Panel. CAT-5e patch cords shall have factory pre-terminated RJ45 / 8P8C connectors on both ends per TIA/EIA T568B. Provide all patch panel, Ethernet switch, and Interface Panel attachment hardware.

Provide a 14 AWG XLP insulated, stranded, copper, 600 volt AC locate wire through the conduit run from the communication vault to the traffic signal cabinet. Connect the locate wire by using a silicone filled wire nut at each pull box, vault or other access point. Alternatively, use a single wire through the access points, leaving a 6 foot coil in each pull box, vault or other access point for splicing. All material under this item shall meet the requirements of standard spec 655.

C Construction

Install the patch panel and Ethernet switch on the side of the traffic signal cabinet opposite the electrical service at a location as approved by the engineer. With approval by the engineer, the Ethernet switch may be placed on a shelf near the patch panel. Install the pre-terminated fiber optic cable in conduit from the patch panel to the communication vault as specified in standard spec 678.3.1. Fiber optic cable ends shall be covered securely to protect open ends during installation in raceways. Leave the remainder of the fiber optic cable coiled in the communication vault.

Install the fiber jumpers and CAT-5e cable and provide a communications link from the communication vault to the controller. Install the CAT5-e cable from the Interface Panel to the Ethernet switch.

Connect the locate wire by using a wire nut at each access point. Alternatively, use a single wire through the access points.

D Measurement

The department will measure Install Fiber Optic Communications in Cabinet (Location) as a single lump sum unit of work, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.3050	Install Fiber Optic Communications in Cabinet STH 100 and W. Lapham Street	LS
SPV.0105.3051	STH 100 and W. Theo Trecker Way	LS
SPV.0105.3054	IH 894/USH 45 EB Off Ramp and W. Lincoln Avenue	LS
SPV.0105.3132	USH 18 HAWK	LS
SPV.0105.3133	W. National Avenue and S. 102nd Street	LS
SPV.0105.3134	W. National Avenue and W. Lincoln Avenue	LS

Payment is full compensation for installing pre-terminated patch panels, Ethernet switches, and fiber optic cable in conduit; furnishing and installing attachment hardware, fiber jumpers, CAT-5e cable, and locate wire.

111. Topsoil Special, Item SPV.0180.0001.

A Description

This special provision section describes furnishing, placing, spreading, and finishing humus-bearing soil, adapted to sustain plant life, commonly known as topsoil, from locations the contractor furnishes beyond the limits of the right-of-way.

This special provision also describes removing topsoil from the sites of proposed roadway excavations and embankments in amounts and depths available and necessary to cover the work slopes. This work also includes reclamation, placing, spreading, and finishing of this topsoil.

B Materials

Furnish material that is relatively free from large roots, sticks, weeds, brush, stones, litter, and waste products.

Furnish material, either obtained offsite, or material obtained within project limits, consisting of loam, sandy loam, silt loam, silty clay loam, or clay loam humus-bearing soils adapted to sustain plant life. Do not use surface soils from ditch bottoms, drained ponds, and eroded areas, or soils which are supporting growth of NR 40 listed plants and noxious weeds or other undesirable vegetation. Ensure that the material conforms to the following:

Topsoil Requirements	Minimum Range	Maximum Range
Material Passing 2.00 mm (#10) Sieve*	90%	100%
PH Range	6.0	7.0
Organic Matter**	5%	20%
Clay	5%	30%
Silt	10%	70%
Sand and Gravel	10%	70%

*See standard spec 625.3.3 for sieve requirements when using either sod or seed mixture 40.

**Organic matter determined by loss on ignition test of samples oven dried to constant weight at 212 F. (100 C).

C Construction

C.1 Preparing the Roadway for Topsoil

Undercut or underfill all areas designated to receive topsoil to a degree that if covered to the required depth with topsoil the finished work conforms to the required lines, grades, slopes and cross sections the plans and drawings show.

C.2 Processing Topsoil

Mow topsoil procurement areas to a height of approximately 6 inches. Remove litter such as brush, rock, and other materials that will interfere with subsequent vegetation establishment.

Strip off the humus-bearing soil. Take care to minimize removing the underlying sterile soil. Then stockpile the topsoil on the right-of-way or place it directly on the designated areas.

Obtain topsoil from embankment areas outside the roadway foundation only if that additional material is required to cover the slopes, and conforms to the requirements of section B above. Utilize excess topsoil on the project or dispose of as specified in standard spec 205.3.12.

C.3 Placing Topsoil

After preparing and finishing the areas designated for topsoil to the required lines, grades, slopes and cross section, place and spread the topsoil to a uniform depth as the plans show or the contract requires. If no depth is shown, place and spread the topsoil to a minimum depth of 4 inches in rural areas and a minimum depth of 6 inches in urban areas, or as the engineer designates.

Break down all clods and lumps using appropriate equipment to provide a uniformly textured soil.

Where using either sod or seed mixture 40 ensure that, for the upper 2 inches, 100 percent of the material passes a one-inch sieve and at least 90 percent passes the No. 10 sieve.

Remove rocks, twigs, foreign material, and clods that cannot be broken down. Dress the entire surface to present a uniform appearance. The engineer will not require rolling.

If light sandy soils are covered with heavier clay bearing loam topsoil, then mix or blend the 2 types of soils to a more or less homogeneous mixture by using the appropriate equipment.

D Measurement

The department will measure Topsoil by the square yard, acceptably completed. The measured quantity shall equal the actual number of square yards of topsoiled area to the depth specified within the limits of construction designated on the plans, or in the contract, or as the engineer directs.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.0001	Topsoil	SY

Payment is full compensation for removing, stockpiling, reclaiming, providing, processing, excavating, loading, hauling, and placing this material; and for undercutting excavations, or underfilling embankments necessary to receive this material. The department will make no allowance, adjustment, or measurement for payment under the Excavation bid items for undercutting cut sections, underfilling embankments, or deductions for materials obtained from areas of cut sections.

If an area is damaged by erosion after partial acceptance, the department will pay for restoring topsoil in these areas at a unit price determined by multiplying the contract unit price bid for Topsoil multiplied by 3. The department will pay for restoration under the Restoration Post Acceptance Topsoil administrative item.

The department will not pay for removing topsoil from outside the roadway foundation in embankment areas unless that material is necessary to cover the slopes.
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ADDITIONAL SPECIAL PROVISION 4

Payment to First-Tier Subcontractors

Within 10 calendar days of receiving a progress payment for work completed by a subcontractor, pay the subcontractor for that work. The prime contractor may withhold payment to a subcontractor if, within 10 calendar days of receipt of that progress payment, the prime contractor provides written notification to the subcontractor and the department documenting "just cause" for withholding payment.

The prime contractor may also withhold routine retainage from payments due subcontractors.

Payment to Lower-Tier Subcontractors

Ensure that subcontracting agreements at all tiers provide prompt payment rights to lower-tier subcontractors that parallel those granted first-tier subcontractors in this provision.

Release of Routine Retainage

After granting substantial completion the department may reduce the routine retainage withheld from the prime contractor to 75 percent of the original total amount retained.

When the Department sends the semi-final estimate the department may reduce the routine retainage withheld from the prime contractor to 10 percent of the original total amount retained.

Within 30 calendar days of receiving the semi-final estimate from the department, submit written certification that subcontractors at all tiers are paid in full for acceptably completed work and that no routine retainage is being withheld. The department will pay the prime contractor in full and reduce the routine retainage withheld from the prime contractor to zero when the department approves the final estimate.

This special provision does not limit the right of the department, prime contractor, or subcontractors at any tier to withhold payment for work not acceptably completed or work subject to an unresolved contract dispute.

ADDITIONAL SPECIAL PROVISION 6

ASP 6 - Modifications to the standard specifications

Make the following revisions to the 2014 edition of the standard specifications:

101.3 Definitions

Replace the definition of semi-final estimate with the following effective with the December 2013 letting:

Semi-final estimate An estimate indicating the engineer has measured and reported all contract quantities and materials requirements.

105.11.1 Partial Acceptance

Replace paragraph two with the following effective with the December 2013 letting:

(2) Partial acceptance will relieve the contractor of maintenance responsibility for the designated portion of the work. By relieving the contractor of maintenance, the department does not relieve the contractor of responsibility for defective work or damages caused by the contractor's operations. Do not construe partial acceptance to be conditional final acceptance or final acceptance of any part of the project, or a waiver of any legal rights specified under 107.16.

105.11.2 Final Acceptance

Retitle and replace the entire text with the following effective with the December 2013 letting:

105.11.2 Project Acceptance

105.11.2.1 Inspection

105.11.2.1.1 General

(1) Notify the engineer when the project is substantially complete as defined in 105.11.2.1.3. As soon as it is practical, the engineer will inspect the work and categorize it as one of the following:

1. Unacceptable or not complete.
2. Substantially complete.
3. Complete.

105.11.2.1.2 Unacceptable or Not Complete

(1) The engineer will identify, in writing, work that is unacceptable or not complete. Immediately correct or complete that work. The engineer will assess contract time until the work is corrected or completed.

(2) Proceed as specified in 105.11.2.1.1 until the engineer determines that the work is complete.

105.11.2.1.3 Substantially Complete

(1) The project is substantially complete and the engineer will no longer assess contract time if the contractor has completed all contract bid items and change order work, except for the punch-list. As applicable, the following must have occurred:

1. All lanes of traffic are open on a finished surface.
2. All signage and traffic control devices are in place and operating.
3. All drainage, erosion control, excavation, and embankments are completed.
4. All safety appurtenances are completed.

(2) The engineer will provide a written punch-list enumerating work the contractor must perform and documents the contractor must submit before the the engineer will categorize the work as complete.

1. Punch-list work includes uncompleted cleanup work required under 104.9 and minor corrective work. Immediately correct or complete the punch-list work. The engineer may restart contract time if the contractor does not complete the punch-list work within 5 business days after receiving the written punch-list. The engineer and contractor may mutually agree to extend this 5-day requirement.
2. Punch-list documents include whatever contract required documentation is missing. The engineer may restart contract time if the contractor does not submit the punch-list documents within 15 business days after receiving the written punch-list. The engineer and contractor may mutually agree to extend this 15-day requirement.

(3) Proceed as specified in 105.11.2.1.1 until the work is complete.

105.11.2.1.4 Complete

(1) The project is complete when the contractor has completed all contract bid items, change order work, and punch-list work including the submission of all missing documentation.

105.11.2.2 Conditional Final Acceptance

(1) When the engineer determines that the project is complete, the engineer will give the contractor written notice of conditional final acceptance relieving the contractor of maintenance responsibility for the completed work.

105.11.2.3 Final Acceptance

(1) The engineer will grant final acceptance of the project after determining that all contract is work complete; all contract, materials, and payroll records are reviewed and approved; and the semi-final estimate quantities are final under 109.7.

(2) Failure to discover defective work or materials before final acceptance does not prevent the department from rejecting that work or those materials later. The department may revoke final acceptance if the department discovers defective work or materials after it has accepted the work.

105.13.3 Submission of Claim

Replace paragraph one with the following effective with the December 2013 letting:

(1) Submit the claim to the project engineer as promptly as possible following the submission of the Notice of Claim, but not later than final acceptance of the project as specified in 105.11.2.3. If the contractor does not submit the claim before final acceptance of the project, the department will deny the claim.

107.17.3 Railroad Insurance Requirements

Replace paragraph one with the following effective with the December 2013 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 engineer determines that the work is complete as specified in 105.11.2.1.4.

107.26 Standard Insurance Requirements

Replace paragraph one with the following effective with the December 2013 letting:

(1) Maintain the following types and limits of commercial insurance in force until the engineer determines that the work is complete as specified in 105.11.2.1.4.

TABLE 107-1 REQUIRED INSURANCE AND MINIMUM COVERAGES

TYPE OF INSURANCE	MINIMUM LIMITS REQUIRED[1]
1. Commercial general liability insurance endorsed to include blanket contractual liability coverage.[2]	$2 million combined single limits per occurrence with an annual aggregate limit of not less than $4 million.
2. Workers' compensation.	Statutory limits
3. Employers' liability insurance.	Bodily injury by accident: $100,000 each accident Bodily injury by disease: $500,000 each accident $100,000 each employee
4. Commercial automobile liability insurance covering all contractor-owned, non-owned, and hired vehicles used in carrying out the contract.[2]	$1 million-combined single limits per occurrence.

[1] The contractor may satisfy these requirements with primary insurance coverage or with excess/umbrella policies.

[2] The Wisconsin Department of Transportation, its officers, agents, and employees shall be named as an additional insured under the general liability and automobile liability insurance.

108.14 Terminating the Contractor's Responsibility

Replace paragraph one with the following effective with the December 2013 letting:

(1) The contractor's responsibilities are terminated, except as set forth in the contract bond and specified in 107.16, when the department grants final acceptance as specified in 105.11.2.3.

109.2 Scope of Payment

Replace paragraph two with the following effective with the December 2013 letting:

(2) The department will pay for the quantity of work acceptably completed and measured for payment as the measurement subsection for each bid item specifies. Within the contract provide means to furnish and install the work complete and in-place. Payment is full compensation for everything required to perform the work under the applicable bid items including, but not limited to, the work elements listed in the payment subsection. Payment also includes all of the following not specifically excluded in that payment subsection:

1. Furnishing and installing all materials as well as furnishing the labor, tools, supplies, equipment, and incidentals necessary to perform the work.
2. All losses or damages, except as specified in 107.14, arising from one or more of the following:
    - The nature of the work.
    - The action of the elements.
    - Unforeseen difficulties encountered during prosecution of the work.
3. All insurance costs, expenses, and risks connected with the prosecution of the work.
4. All expenses incurred because of an engineer-ordered suspension, except as specified in 104.2.2.3.
5. All infringements of patents, trademarks, or copyrights.
6. All other expenses incurred to complete and protect the work under the contract.

109.6.1 General

Replace paragraphs three and four with the following effective with the December 2013 letting:

(3) The department's payment of an estimate before conditional final acceptance of the work does not constitute the department's acceptance of the work, and does not relieve the contractor of responsibility for:

1. Protecting, repairing, correcting, or renewing the work.
2. Replacing all defects in the construction or in the materials used in the construction of the work under the contract, or responsibility for damage attributable to these defects.

(4) The contractor is responsible for all defects or damage that the engineer may discover on or before the engineer's conditional final acceptance of the work. The engineer is the sole judge of these defects or damage, and the contractor is liable to the department for not correcting all defects or damage.

109.7 Acceptance and Final Payment

Replace paragraphs one and two with the following effective with the December 2013 letting:

(1) After the engineer grants conditional final acceptance of the work as specified in 105.11.2.2 and reviews required document submittals and materials test reports, the engineer will issue the semi-final estimate.

(2) Within 30 calendar days after receiving the semi-final estimate, submit to the engineer a written statement of agreement or disagreement with the semi-final estimate. For an acceptable statement of disagreement, submit an item-by-item list with reasons for each disagreement. If the contractor does not submit this written statement within those 30 days, the engineer will process the final estimate for payment. The engineer and the contractor can mutually agree to extend this 30-day submission requirement.

450.3.3 Maintaining the Work

Replace paragraph one with the following effective with the December 2013 letting:

(1) Protect and repair the prepared foundation, tack coat, base, paved traffic lanes, shoulders, and seal coat. Correct all rich or bleeding areas, breaks, raveled spots, or other nonconforming areas in the paved surface.

455.3.2.5 Maintaining Tack Coat

Replace paragraph one with the following effective with the December 2013 letting:

(1) Protect and repair the existing surface and the tack coat. Correct areas with excess or deficient tack material and any breaks, raveled spots, or other areas where bond might be affected.

460.2.2.3 Aggregate Gradation Master Range

Replace paragraph one with the following effective with the January 2014 letting:

(1) Ensure that the aggregate blend, including recycled material and mineral filler, conforms to the gradation requirements in table 460-1. The values listed are design limits; production values may exceed those limits.

TABLE 460-1 AGGREGATE GRADATION MASTER RANGE AND VMA REQUIREMENTS

SIEVE	PERCENTS PASSING DESIGNATED SIEVES						
	NOMINAL SIZE						
	37.5 mm	25.0 mm	19.0 mm	12.5 mm	9.5 mm	SMA 12.5 mm	SMA 9.5 mm
50.0-mm	100						
37.5-mm	90 –100	100					
25.0-mm	90 max	90 -100	100				
19.0-mm	___	90 max	90 -100	100		100	
12.5-mm	___	___	90 max	90 -100	100	90 - 97	100
9.5-mm	___	___	___	90 max	90 -100	58 - 72	90 - 100
4.75-mm	___	___	___	___	90 max	25 - 35	35 - 45
2.36-mm	15 – 41	19 - 45	23 - 49	28 - 58	20 - 65	15 - 25	18 - 28
75-µm	0 – 6.0	1.0 - 7.0	2.0 - 8.0	2.0 - 10.0	2.0 - 10.0	8.0 - 12.0	10.0 - 14.0
% MINIMUM VMA	11.0	12.0	13.0	14.0[1]	15.0[2]	16.0	17.0

[1] 14.5 for E-3 mixes.

[2] 15.5 for E-3 mixes.

460.2.7 HMA Mixture Design

Replace paragraph one with the following effective with the January 2014 letting:

(1) For each HMA mixture type used under the contract, develop and submit an asphaltic mixture design according to the department's test method number 1559 as described in CMM 8-66 and conforming to the requirements of table 460-1 and table 460-2. The values listed are design limits; production values may exceed those limits. The department will review mixture designs and report the results of that review to the designer according to the department's test method number 1559.

TABLE 460-2 MIXTURE REQUIREMENTS

Mixture type	E - 0.3	E - 1	E - 3	E - 10	E - 30	E - 30x	SMA
ESALs x 10^6 (20 yr design life)	< 0.3	0.3 - < 1	1 - < 3	3 - < 10	10 - < 30	>= 30	___
LA Wear (AASHTO T96)							
100 revolutions(max % loss)	13	13	13	13	13	13	13
500 revolutions(max % loss)	50	50	45	45	45	45	40
Soundness (AASHTO T104) (sodium sulfate, max % loss)	12	12	12	12	12	12	12
Freeze/Thaw (AASHTO T103) (specified counties, max % loss)	18	18	18	18	18	18	18
Fractured Faces (ASTM 5821) (one face/2 face, % by count)	60 / __	65 / __	75 / 60	85 / 80	98 / 90	100/100	100/90
Flat & Elongated (ASTM D4791) (max %, by weight)	5 (5:1 ratio)	5 (5:1 ratio)	5 (5:1 ratio)	5 (5:1 ratio)	5 (5:1 ratio)	5 (5:1 ratio)	20 (3:1ratio)
Fine Aggregate Angularity (AASHTO T304, method A, min)	40	40	43	45	45	45	45
Sand Equivalency (AASHTO T176, min)	40	40	40	45	45	50	50
Gyratory Compaction							
Gyrations for N_{ini}	6	7	7	8	8	9	8
Gyrations for N_{des}	40	60	75	100	100	125	65
Gyrations for N_{max}	60	75	115	160	160	205	160
Air Voids, $\%V_a$ ($\%G_{mm}$ N_{des})	4.0 (96.0)	4.0 (96.0)	4.0 (96.0)	4.0 (96.0)	4.0 (96.0)	4.0 (96.0)	4.0 (96.0)
% G_{mm} N_{ini}	<= 91.5[1]	<= 90.5[1]	<= 89.0[1]	<= 89.0	<= 89.0	<= 89.0	___
% G_{mm} N_{max}	<= 98.0	<= 98.0	<= 98.0	<= 98.0	<= 98.0	<= 98.0	___
Dust to Binder Ratio[2] (% passing 0.075/P_{be})	0.6 - 1.2	0.6 - 1.2	0.6 - 1.2	0.6 - 1.2	0.6 - 1.2	0.6 - 1.2	1.2 - 2.0
Voids filled with Binder (VFB or VFA, %)	68 - 80[4] [5]	65 - 78[4]	65 - 75[3] [4]	65 - 75[3] [4]	65 - 75[3] [4]	65 - 75[3] [4]	70 - 80
Tensile Strength Ratio (TSR) (ASTM 4867)							
no antistripping additive	0.70	0.70	0.70	0.70	0.70	0.70	0.70
with antistripping additive	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Draindown at Production Temperature (%)	___	___	___	___	___	___	0.30

[1] The percent maximum density at initial compaction is only a guideline.

[2] For a gradation that passes below the boundaries of the caution zone(ref. AASHTO MP3), the dust to binder ratio limits are 0.6 - 1.6.

[3] For 9.5mm and 12.5 mm nominal maximum size mixtures, the specified VFB range is 70 - 76%.

[4] For 37.5mm nominal maximum size mixes, the specified VFB lower limit is 67%.

[5] For 25.0mm nominal maximum size mixes, the specified VFB lower limit is 67%.

460.2.8.2.1.5 Control Limits

Replace paragraph one with the following effective with the January 2014 letting:

(1) Conform to the following control limits for the JMF and warning limits based on a running average of the last 4 data points:

ITEM	JMF LIMITS	WARNING LIMITS
Percent passing given sieve:		
37.5-mm	+/- 6.0	+/- 4.5
25.0-mm	+/- 6.0	+/- 4.5
19.0-mm	+/- 5.5	+/- 4.0
12.5-mm	+/- 5.5	+/- 4.0
9.5-mm	+/- 5.5	+/- 4.0
2.36-mm	+/- 5.0	+/- 4.0
75-µm	+/- 2.0	+/- 1.5
Asphaltic content in percent	- 0.3	- 0.2
Air voids in percent	+/- 1.3	+/- 1.0
VMA in percent[1]	- 0.5	- 0.2

[1] VMA limits based on minimum requirement for mix design nominal maximum aggregate size in Table 460-1.

(2) Warning bands are defined as the area between the JMF limits and the warning limits.

460.2.8.2.1.6 Job Mix Formula Adjustment

Replace the entire text with the following effective with the January 2014 letting:

(1) The contractor may request adjustment of the JMF according to the department's test method number 1559. Have an HTCP HMA technician certified at a level appropriate for process control and troubleshooting or mix design submit a written JMF adjustment request. Ensure that the resulting JMF is within specified master gradation bands. The department will have an HMA technician certified at level III review the proposed adjustment and, if acceptable, issue a revised JMF.

(2) The department will not allow adjustments that do the following:

- Exceed specified JMF tolerance limits.
- Reduce the JMF asphalt content unless the production VMA running average meets or exceeds the minimum VMA design requirement defined in table 460-1for the mixture produced.

(3) Have an HMA technician certified at level II make related process adjustments. If mixture redesign is necessary, submit a new JMF, subject to the same specification requirements as the original JMF.

520.3.8 Protection After Laying

Delete the entire subsection.

614.2.1 General

Replace paragraphs five and six with the following effective with the December 2013 letting:

(5) Furnish zinc coated wire rope and fitting conforming to the plans and galvanized according to ASTM A741.

(6) Before installation store galvanized components above ground level and away from surface run off. The department may reject material if the zinc coating is physically damaged or oxidized.

(7) Provide manufacturer's drawings, and installation and maintenance instructions when providing proprietary systems.

614.2.3 Steel Rail and Fittings

Replace paragraph one with the following effective with the December 2013 letting:

(1) Furnish galvanized steel rail conforming to AASHTO M180 class A, type II beam using the single-spot test coating requirements. Furnish plates, anchor plates, post mounting brackets, and other structural steel components conforming to 506.2.2.1 and hot-dip galvanized according to ASTM A123.

614.2.7 Crash Cushions

Replace paragraph one with the following effective with the December 2013 letting:

(1) Furnish permanent and temporary crash cushions from the department's approved products list. Use cushions as wide or wider than the plan back-width. Furnish transitions conforming to the crash cushion manufacturer's design and specifications. Submit manufacturer crash cushion and transition design details to engineer before installing.

616.3.1 General

Replace paragraph six with the following effective with the December 2013 letting:

(6) Remove and dispose of all excess excavation and surplus materials from the fence site.

618.3.3 Restoration

Replace paragraph one with the following effective with the December 2013 letting:

(1) Upon termination of hauling operations and before conditional final acceptance, restore all haul roads, including drainage facilities and other components, to the equivalent of pre-hauling conditions.

627.3.1 General

Replace paragraph four with the following effective with the December 2013 letting:

(4) Maintain the mulched areas and repair all areas damaged by wind, erosion, traffic, fire or other causes.

637.3.2.1 General

Delete paragraph three effective with the December 2013 letting.

670.3.4.2 Post-Construction Work

Replace paragraph one with the following effective with the December 2013 letting:

(1) Submit 5 copies of ITS documentation including but not limited to the following:

- Operator's manual: for contractor furnished equipment, submit a manual containing detailed operating instructions for each different type or model of equipment and or operation performed.
- Maintenance procedures manuals: for contractor furnished equipment, submit a manual containing detailed preventive and corrective maintenance procedures for each type or model of equipment furnished.
- Cabinet fiber optic wiring diagram: submit a cabinet wiring diagram, identified by location for each cabinet. Include both electrical wiring and fiber optic conductor and cable connections. Place one copy of the fiber optic wiring diagram in a weatherproof holder in the cabinet. Deliver the other copies to the engineer.
- As-built drawings: submit final as-built drawings that detail the final placement of all conduit, cabling, equipment, and geometric modifications within the contract. Provide all documentation in an electronic format adhering to the region’s ITS computer aided drafting standards and according to the department’s as-built requirements. The department will review the as-built drawings for content and electronic format. Modify both the content and format of as-built drawings until meeting all requirements.
- Equipment inventory list: submit an inventory list including serial number, make, model, date installed, and location installed of all equipment installed under the contract.

Errata

Make the following corrections to the 2014 edition of the standard specifications:

415.3.14 Protecting Concrete

Correct errata by referencing the opening to service specification.

(1) Erect and maintain suitable barricades and, if necessary, provide personnel to keep traffic off the newly constructed pavement until it is opened for service as specified in 415.3.15. Conform to 104.6 for methods of handling and facilitating traffic.

501.2.9 Concrete Curing Materials

Correct errata by changing AASHTO M171 to ASTM C171.

(2) Furnish sheeting conforming to ASTM C171 for white opaque polyethylene film, except that the contractor may use clear or black polyethylene for cold weather protection.

607.2 Materials

Correct errata by changing AASHTO M198 to ASTM C990.

(1) Use materials conforming to the requirements for the class of material named and specified below.

Composite pipe, couplings, fittings and joint materials	ASTM D2680
Annular rubber and plastic gaskets for flexible, watertight joints	ASTM C990
External rubber gaskets, mastic, and protective film	ASTM C877
Mortar	519.2.3

637.2.1.3 Sheet Aluminum

Correct errata by changing ASTM B449 to B921 and eliminating the specification for coating thickness.

(4) Degrease, etch, and coat the sign blank on both sides with a chromate treatment conforming to ASTM B921, class 2.

637.3.3.4 Performance

Correct errata to reference to 105.11.2.3 as revised to implement changes to the finals process.

(1) Under 105.11.2.3 the department may revoke acceptance and direct the contractor to repair or replace previously accepted sign installations if the department subsequently discovers evidence of defective materials or improper installation. Deficiencies that warrant department action include but are not limited to the following:

- Sign posts more than five degrees out of plumb.
- Signs twisted by more than 5 degrees from plan orientation.
- Signs with delaminated or warped plywood.
- Signs with bubbling, fading, delaminating, or buckling sheeting.

646.3.3.4 Proving Period

Correct errata to reference to 105.11.2.3 as revised to implement changes to the finals process.

(4) Replace all marking within sections with a percent failing more than 10% and repair or replace all markings that, in the engineer's assessment, show evidence of improper construction. If post-acceptance inspections uncover evidence of defective materials or improper construction, the department may revoke acceptance under 105.11.2.3.

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://www.dot.wi.gov/business/civilrights/laborwages/index.htm

(2) Ensure that all tiers of subcontractors, as well as all trucking firms, submit their weekly certified payrolls electronically through CRCS. These payrolls are due within seven calendar days following the close of the payroll period. Every firm providing physical labor towards completing the project is a subcontractor under this special provision.

(3) Upon receipt of contract execution, promptly make all affected firms aware of the requirements under this special provision and arrange for them to receive CRCS training as they are about to begin payrolls. The department will provide training either in a classroom setting at one of our regional offices or by telephone. Contact Tess Mulrooney at 608-267-4489 to schedule the training.

(4) The department will reject all paper submittals of forms DT-1816 and DT-1929 for information required under this special provision. All costs for conforming to this special provision are incidental to the contract.

(5) Firms wishing to export payroll data from their computer system into CRCS should have their payroll coordinator send several sample electronic files to Tess two months before a payroll needs to be submitted. Not every contractor's payroll system is capable of producing export files. For details, see pages 17-22 of the CRCS System Background Information manual available online on the Labor, Wages, and EEO Information page at: http://www.dot.wi.gov/business/civilrights/laborwages/docs/crc-payroll-manual.pdf

DECEMBER 2013

BUY AMERICA PROVISION

All steel and iron materials permanently incorporated in this project shall be domestic products and all manufacturing and coating processes for these materials from smelting forward in the manufacturing process must have occurred within the United States. Coating includes epoxy coating, galvanizing, painting and any other coating that protects or enhances the value of a material subject to the requirements of Buy America. The exemption of this requirement is the minimal use of foreign materials if the total cost of such material permanently incorporated in the product does not exceed one-tenth of one percent (1/10 of 1%) of the total contract cost or $2,500.00, whichever is greater. For purposes of this paragraph, the cost is that shown to be the value of the subject products as they are delivered to the project. The contractor shall take actions and provide documentation conforming to CMM 2-28.5 to ensure compliance with this “Buy America” provision.

http://roadwaystandards.dot.wi.gov/standards/cmm/cm-02-28.pdf#cm2-28.5

Upon completion of the project certify to the engineer, in writing using department form WS4567, that all steel, iron, and coating processes for steel or iron incorporated into the contract work conform to these "Buy America" provisions. Attach a list of exemptions and their associated costs to the certification form. Department form WS4567 is available at:

http://roadwaystandards.dot.wi.gov/standards/forms/ws4567.doc

Effective with September 2004 Letting

WISCONSIN DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS AND TRANSPORTATION FACILITIES

SUPPLEMENTAL REQUIRED CONTRACT PROVISIONS

I. WAGE RATES, HOURS OF LABOR AND PAYMENT OF WAGES

The schedule of "Minimum Wage Rates" attached hereto and made a part hereof furnishes the prevailing wage rates that have been determined pursuant to Section 103.50 of the Wisconsin Statutes. These wage rates are the minimum required to be paid to the various laborers, workers, mechanics and truck drivers employed by contractors and subcontractors on the construction work embraced by the contract and subject to prevailing hours and wages under Section 103.50, Stats. If necessary to employ laborers, workers, mechanics or truck drivers whose classification is not listed on the schedule, they shall be paid at rates conformable to those listed for similar classifications. Apprentices shall be paid at rates not less than those prescribed in their state indenture contacts.

While the wage rates shown are the minimum rates required by the contract to be paid during its life, this in not a representation that labor can be obtained at these rates. It is the responsibility of bidders to inform themselves as to the local labor conditions and prospective changes or adjustments of wage rates. No increase in the contract price shall be allowed or authorized on account of the payment of wage rates in excess of those listed herein.

Pursuant to Section 103.50 of the Wisconsin Statutes, the prevailing hours of labor have been determined to be up to 10 hours per day and 40 hours per calendar week Monday through Friday. If any laborer, worker, mechanic or truck driver is permitted or required to work more than the prevailing number of hours per day or per calendar week on this contract, they shall be paid for all hours in excess of the prevailing hours at a rate of at least one and one-half (1 1/2) times their hourly rate of pay. All work on Saturday, Sunday and the following holidays is to be paid at time and a half: (1) January 1, (2) the last Monday in May, (3) July 4, (4) the first Monday in September, (5) the fourth Thursday in November, (6) December 25, (7) the day before if January 1, July 4 or December 25 falls on a Saturday and (8) the day following if January 1, July 4 or December 25 falls on a Sunday.

All laborers, workers, mechanics and truck drivers shall be paid unconditionally not less often than once a week. Persons who own and operate their own trucks must receive the prevailing truck driver rate for the applicable type of truck (i.e. 2 axle, 3 or more axle, articulated, eculid or dumptor) he or she operates, plus an agreed upon amount for the use of his or her truck. Every owner-operator MUST be paid separately for their driving and for the use of their truck.

For those projects subject to the requirements of the Davis-Bacon Act, the Secretary of Labor will also have determined "Minimum Wage Rates" for work to be performed under the contract. These rates are, for all or most of the labor, worker, mechanic or truck driver classifications, identical to those established under Section 103.50 of the Wisconsin Statutes. In the event the rates are not identical, the higher of the two rates will govern.

II. PAYROLL REQUIREMENTS

All contractors and subcontractors must submit weekly Certified Payrolls and Compliance Statement verifying that all laborers, workers, mechanics and truck drivers working on the project have been paid the prevailing wage rates for all work performed under the contract required by Section 103.50 of the Wisconsin Statutes.

III. POSTINGS AT THE SITE OF THE WORK

In addition to the required postings furnished by the Department, the contractor shall post the following in at least one conspicuous place at the site of work:

a. "NOTICE TO EMPLOYEES," which provides information required to be posted by the provisions of Section 103.50 of the Wisconsin Statutes.

b. A copy of the State of Wisconsin Minimum Wages Rates. (Four pages.)

c. A copy of the contractor's Equal Employment Opportunity Policy.

d. On any project involving federal aid, in addition to the furnished postings, the contractor shall post a copy of the "Davis-Bacon Act, Minimum Wage Rates". (Three pages.)

IV. WAGE RATE REDISTRIBUTION

The amount specified as the hourly basic rate of pay and the amount(s) specified as the fringe benefit contribution(s), for all classes of laborers, workers, mechanics or truck drivers may be redistributed, when necessary, to conform to those specified in any applicable collective bargaining agreement, provided that both parties to such agreement

request and receive the approval for any such redistribution from both the Department of Transportation and the Department of Workforce Development prior to the implementation of such redistribution.

V. ADDITIONAL CLASSIFICATIONS

Any unlisted laborer or mechanic classification that is needed to perform work on this project, and is not included within the scope of any of the classifications listed in the application prevailing wage rate determination, may be added after award only if all of the following criteria have been met:

1. The affected employer(s) must make a written request to WisDOT Central Office to utilize the unlisted classification on this project.

2. The request must indicate the scope of the work to be performed by the unlisted classification and must indicate the proposed wage/fringe benefit package that the unlisted classification is to receive.

3. The work to be performed by the unlisted classification must not be performed by a classification that is included in the applicable prevailing wage rate determination.

4. The unlisted classification must be commonly employed in the area where the project is located.

5. The proposed wage/fringe benefit package must bear a reasonable relationship to those set forth in the applicable prevailing wage rate determination.

6. The request should be made prior to the actual performance of the work by the unlisted classification.

7. DWD must approve the use of the unlisted classification and the proposed wage/fringe benefit package. USDOL also must approve the use of the unlisted classification and the proposed wage/fringe benefit package on federal aid projects.

8. WisDOT and DWD may amend the proposed wage/fringe benefit package, as deemed necessary, and may set forth specific employment ratios and scope of work requirements in the approval document.

The approved wage/fringe benefit package shall be paid to all laborers, workers, mechanics or truck drivers performing work within the scope of that performed by the unlisted classification, from the first day on which such work is performed. In the event that work is performed by the unlisted classification prior to approval, the wage/fringe benefit package to be paid for such work must be in conformance with the wage/fringe

benefit package approved for such work. Under this arrangement a retroactive adjustment in wages and/or fringe benefits may be required to be made to the affected laborers, workers, mechanics or truck drivers by the affected employer(s).

ANNUAL PREVAILING WAGE RATE DETERMINATION
FOR ALL STATE HIGHWAY PROJECTS
MILWAUKEE COUNTY

Compiled by the State of Wisconsin - Department of Workforce Development
for the Department of Transportation
Pursuant to s. 103.50, Stats.
Issued on May 1, 2014

CLASSIFICATION: Contractors are required to call the Department of Workforce Development if there are any questions reqarding the proper trade or classification to be used for any worker on a public works project.

OVERTIME: Time and one-half must be paid for all hours worked over 10 hours per day and 40 hours per calendar week and for all hours worked on Saturday, Sunday and the following six (6) holidays: January 1; the last Monday in May; July 4; the 1st Monday in September; the 4th Thursday in November; December 25; the day before if January 1, July 4 or December 25 falls on a Saturday; the day following if January 1, July 4 or December 25 falls on a Sunday.

FUTURE INCREASE: If indicated for a specific trade or occupation, the full amount of such increase MUST be added to the "TOTAL" indicated for such trade or occupation on the date(s) such increase(s) becomes effective.

PREMIUM PAY: If indicated for a specific trade or occupation, the full amount of such pay MUST be added to the "HOURLY BASIC RATE OF PAY" indicated for such trade or occupation, whenever such pay is applicable.

SUBJOURNEY: Wage rates may be available for some of the classifications indicated below. Any employer that desires to use any subjourney classification on a project MUST request the applicable wage rate from the Department of Workforce Development PRIOR to the date such classification is used on such project. Form ERD-10880 is available for this purpose and can be obtained by writing to the Department of Workforce Development, Equal Rights Division, P.O. Box 8928, Madison, WI 53708.

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Bricklayer, Blocklayer or Stonemason	35.80	16.87	52.67
Carpenter	33.68	19.81	53.49
Future Increase(s): Add $1.25/hr on 6/2/2014.			
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	31.56	18.53	50.09
Future Increase(s): 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	32.82	22.61	55.43
Premium Pay: DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year’s Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Fence Erector	16.00	3.33	19.33
Ironworker	30.51	23.23	53.74
Line Constructor (Electrical)	38.25	17.63	55.88
Painter	21.87	11.37	33.24
Pavement Marking Operator	30.00	0.00	30.00
Piledriver	27.67	25.64	53.31
Roofer or Waterproofer	29.40	15.55	44.95
Teledata Technician or Installer	24.75	16.08	40.83
Tuckpointer, Caulker or Cleaner	34.57	16.42	50.99
Underwater Diver (Except on Great Lakes)	34.48	15.90	50.38
Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	34.43	15.24	49.67

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY	30.60	15.07	45.67
Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	26.78	13.58	40.36
Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	24.86	12.97	37.83
Groundman - ELECTRICAL LINE CONSTRUCTION ONLY	21.04	11.74	32.78
TRUCK DRIVERS			
Single Axle or Two Axle	34.22	19.90	54.12
Three or More Axle	25.24	15.20	40.44
Articulated, Euclid, Dumptor, Off Road Material Hauler	29.27	20.40	49.67
Future Increase(s): Add $1.75/hr on 6/1/14); Add $1.25/hr on 6/1/15); Add $1.30/hr on 6/1/16); Add $1.25/hr on 6/ 1/ 17. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.			
Pavement Marking Vehicle	25.24	15.20	40.44
Shadow or Pilot Vehicle	34.22	19.90	54.12
Truck Mechanic	25.24	15.20	40.44
LABORERS			
General Laborer	26.06	19.43	45.49
Future Increase(s): 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	19.00	0.00	19.00
Landscaper	26.06	19.43	45.49
Future Increase(s): Add $1.60/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			
Flagperson or Traffic Control Person	22.55	19.43	41.98
Future Increase(s): 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)	17.69	15.50	33.19
Railroad Track Laborer	13.50	4.06	17.56

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 $1.75/hr on 6/1/2014); Add $1.25/hr on 6/1/2015); Add $1.30/hr on 6/1/2016); Add $1.25/hr on 6/ 1/ 2017. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.	36.72	20.40	57.12
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 $1.75/hr on 6/1/2014); Add $1.25/hr on 6/1/2015); Add $1.30/hr on 6/1/2016); Add $1.25/hr on 6/ 1/ 2017. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.	36.22	20.40	56.62
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	35.72	20.40	56.12

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
& A- Frames. Future Increase(s): Add $1.75/hr on 6/1/2014); Add $1.25/hr on 6/1/2015); Add $1.30/hr on 6/1/2016); Add $1.25/hr on 6/ 1/ 2017. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.			
Belting, Burlap, Texturing Machine; Broom or Sweeper; Compactor (Self-Propelled or Tractor Mounted, Towed & Light Equipment); Concrete Finishing Machine (Road Type); Environmental Burner; Farm or Industrial Type Tractor; Fireman (Asphalt Plant, Pile Driver & Derrick NOT Performing Work on the Great Lakes); Forklift; Greaser; Hoist (Tugger, Automatic); Jeep Digger; Joint Sawer (Multiple Blade); Launch (NOT Performing Work on the Great Lakes); Lift Slab Machine; Mechanical Float; Mulcher; Power Subgrader; Robotic Tool Carrier (With or Without Attachments); Roller (Rubber Tire, 5 Ton or Under); Self Propelled Chip Spreader; Shouldering Machine; Skid Steer Loader (With or WIthout Attachments); Telehandler; Tining or Curing Machine. Future Increase(s): Add $1.75/hr on 6/1/2014); Add $1.25/hr on 6/1/2015); Add $1.30/hr on 6/1/2016); Add $1.25/hr on 6/ 1/ 2017. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.	35.46	20.40	55.86
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 $1.75/hr on 6/1/2014); Add $1.25/hr on 6/1/2015); Add $1.30/hr on 6/1/2016); Add $1.25/hr on 6/ 1/ 2017. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.	35.17	20.40	55.57
Fiber Optic Cable Equipment.	26.69	16.65	43.34
Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer.	38.80	20.17	58.97
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.	38.80	20.17	58.97
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.	34.50	20.04	54.54
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.	34.50	20.04	54.54

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
	SECTION 0001 ROADWAY ITEMS					
0010	108.4400 CPM PROGRESS SCHEDULE	1.000 EACH		.		.
0020	204.0100 REMOVING PAVEMENT	504.000 SY		.		.
0030	204.0110 REMOVING ASPHALTIC SURFACE	38.000 SY		.		.
0040	204.0120 REMOVING ASPHALTIC SURFACE MILLING	475.000 SY		.		.
0050	204.0150 REMOVING CURB & GUTTER	2,206.000 LF		.		.
0060	204.0155 REMOVING CONCRETE SIDEWALK	3,072.000 SY		.		.
0070	204.0195 REMOVING CONCRETE BASES	171.000 EACH		.		.
0080	204.0250 ABANDONING MANHOLES	3.000 EACH		.		.
0090	205.0100 EXCAVATION COMMON	983.000 CY		.		.
0100	213.0100 FINISHING ROADWAY (PROJECT) 0001. 1060-35-91	1.000 EACH		.		.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0110	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH	1,184.000 TON		.		.
0120	310.0115 BASE AGGREGATE OPEN GRADED	58.000 CY		.		.
0130	415.0080 CONCRETE PAVEMENT 8-INCH	137.000 SY		.		.
0140	416.0610 DRILLED TIE BARS	257.000 EACH		.		.
0150	455.0105 ASPHALTIC MATERIAL PG58-28	16.000 TON		.		.
0160	455.0115 ASPHALTIC MATERIAL PG64-22	12.000 TON		.		.
0170	455.0605 TACK COAT	43.000 GAL		.		.
0180	460.1103 HMA PAVEMENT TYPE E-3	462.000 TON		.		.
0190	520.8000 CONCRETE COLLARS FOR PIPE	1.000 EACH		.		.
0200	601.0331 CONCRETE CURB & GUTTER 31-INCH	2,298.000 LF		.		.
0210	602.0410 CONCRETE SIDEWALK 5-INCH	3,000.000 SF		.		.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0220	602.0420 CONCRETE SIDEWALK 7-INCH	21,352.000 SF		.		.
0230	602.0505 CURB RAMP DETECTABLE WARNING FIELD YELLOW	520.000 SF		.		.
0240	602.2400 CONCRETE SAFETY ISLANDS	2,003.000 SF		.		.
0250	603.1436 CONCRETE BARRIER TYPE S36C	238.000 LF		.		.
0260	608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	5.000 LF		.		.
0270	608.0318 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH	8.000 LF		.		.
0280	611.0430 RECONSTRUCTING INLETS	2.000 EACH		.		.
0290	611.0600 INLET COVERS TYPE A	2.000 EACH		.		.
0300	611.3220 INLETS 2X2-FT	3.000 EACH		.		.
0310	611.8110 ADJUSTING MANHOLE COVERS	2.000 EACH		.		.
0320	611.8115 ADJUSTING INLET COVERS	5.000 EACH		.		.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0330	611.9710 SALVAGED INLET COVERS	1.000 EACH		.		.
0340	612.0408 PIPE UNDERDRAIN WRAPPED 8-INCH	474.000 LF		.		.
0350	614.0200 STEEL THRIE BEAM STRUCTURE APPROACH	21.000 LF		.		.
0360	614.0345 STEEL PLATE BEAM GUARD SHORT RADIUS	25.000 LF		.		.
0370	614.0390 STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL	1.000 EACH		.		.
0380	614.2300 MGS GUARDRAIL 3	18.750 LF		.		.
0390	614.2610 MGS GUARDRAIL TERMINAL EAT	1.000 EACH		.		.
0400	618.0100 MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 0001. 1060-35-91	1.000 EACH		.		.
0410	619.1000 MOBILIZATION	1.000 EACH		.		.
0420	620.0300 CONCRETE MEDIAN SLOPED NOSE	100.000 SF		.		.
0430	628.1504 SILT FENCE	616.000 LF		.		.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0440	628.1520 SILT FENCE MAINTENANCE	616.000 LF		.		.
0450	628.1905 MOBILIZATIONS EROSION CONTROL	4.000 EACH		.		.
0460	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL	4.000 EACH		.		.
0470	628.7005 INLET PROTECTION TYPE A	4.000 EACH		.		.
0480	628.7015 INLET PROTECTION TYPE C	55.000 EACH		.		.
0490	629.0210 FERTILIZER TYPE B	1.000 CWT		.		.
0500	631.0300 SOD WATER	14.000 MGAL		.		.
0510	631.1000 SOD LAWN	832.000 SY		.		.
0520	634.0618 POSTS WOOD 4X6-INCH X 18-FT	28.000 EACH		.		.
0530	634.0622 POSTS WOOD 4X6-INCH X 22-FT	2.000 EACH		.		.
0540	634.0816 POSTS TUBULAR STEEL 2X2-INCH X 16-FT	30.000 EACH		.		.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0550	637.2210 SIGNS TYPE II REFLECTIVE H	1,158.500 SF		.		.
0560	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING	358.080 SF		.		.
0570	637.2230 SIGNS TYPE II REFLECTIVE F	282.500 SF		.		.
0580	638.2102 MOVING SIGNS TYPE II	18.000 EACH		.		.
0590	638.2602 REMOVING SIGNS TYPE II	102.000 EACH		.		.
0600	638.3000 REMOVING SMALL SIGN SUPPORTS	27.000 EACH		.		.
0610	641.8100 OVERHEAD SIGN SUPPORT (STRUCTURE) 0001. S-40-994	LUMP	LUMP			.
0620	643.0100 TRAFFIC CONTROL (PROJECT) 0001. 1060-35-91	1.000 EACH		.		.
0630	643.0300 TRAFFIC CONTROL DRUMS	4,601.000 DAY		.		.
0640	643.0410 TRAFFIC CONTROL BARRICADES TYPE II	11,791.000 DAY		.		.
0650	643.0420 TRAFFIC CONTROL BARRICADES TYPE III	436.000 DAY		.		.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0660	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A	12,663.000 DAY		.		.
0670	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C	1,072.000 DAY		.		.
0680	643.0800 TRAFFIC CONTROL ARROW BOARDS	66.000 DAY		.		.
0690	643.0900 TRAFFIC CONTROL SIGNS	9,266.000 DAY		.		.
0700	645.0111 GEOTEXTILE FABRIC TYPE DF SCHEDULE A	343.000 SY		.		.
0710	646.0106 PAVEMENT MARKING EPOXY 4-INCH	6,698.000 LF		.		.
0720	646.0126 PAVEMENT MARKING EPOXY 8-INCH	2,884.000 LF		.		.
0730	647.0156 PAVEMENT MARKING ARROWS EPOXY TYPE 1	3.000 EACH		.		.
0740	647.0166 PAVEMENT MARKING ARROWS EPOXY TYPE 2	22.000 EACH		.		.
0750	647.0176 PAVEMENT MARKING ARROWS EPOXY TYPE 3	6.000 EACH		.		.
0760	647.0356 PAVEMENT MARKING WORDS EPOXY	18.000 EACH		.		.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0770	647.0456 PAVEMENT MARKING CURB EPOXY	106.000 LF		.		.
0780	647.0566 PAVEMENT MARKING STOP LINE EPOXY 18-INCH	987.000 LF		.		.
0790	647.0606 PAVEMENT MARKING ISLAND NOSE EPOXY	1.000 EACH		.		.
0800	647.0726 PAVEMENT MARKING DIAGONAL EPOXY 12-INCH	387.000 LF		.		.
0810	647.0766 PAVEMENT MARKING CROSSWALK EPOXY 6-INCH	3,395.000 LF		.		.
0820	647.0796 PAVEMENT MARKING CROSSWALK EPOXY 24-INCH	150.000 LF		.		.
0830	647.0955 REMOVING PAVEMENT MARKINGS ARROWS	3.000 EACH		.		.
0840	647.0965 REMOVING PAVEMENT MARKINGS WORDS	2.000 EACH		.		.
0850	649.0701 TEMPORARY PAVEMENT MARKING 8-INCH	976.000 LF		.		.
0860	649.0801 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH	354.000 LF		.		.
0870	649.0900 TEMPORARY PAVEMENT MARKING STOP LINE 12-INCH	17.000 LF		.		.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0880	649.1200 TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 18-INCH	22.000 LF		.		.
0890	649.1700 TEMPORARY PAVEMENT MARKING ARROWS	2.000 EACH		.		.
0900	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	2,466.000 LF		.		.
0910	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	6,169.000 LF		.		.
0920	652.0240 CONDUIT RIGID NONMETALLIC SCHEDULE 40 4-INCH	44.000 LF		.		.
0930	652.0605 CONDUIT SPECIAL 2-INCH	3,943.000 LF		.		.
0940	652.0615 CONDUIT SPECIAL 3-INCH	9,238.000 LF		.		.
0950	652.0625 CONDUIT SPECIAL 4-INCH	138.000 LF		.		.
0960	652.0700.S INSTALL CONDUIT INTO EXISTING ITEM	19.000 EACH		.		.
0970	653.0135 PULL BOXES STEEL 24X36-INCH	8.000 EACH		.		.
0980	653.0140 PULL BOXES STEEL 24X42-INCH	130.000 EACH		.		.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0990	653.0905 REMOVING PULL BOXES	77.000 EACH		.		.
1000	654.0101 CONCRETE BASES TYPE 1	74.000 EACH		.		.
1010	654.0102 CONCRETE BASES TYPE 2	23.000 EACH		.		.
1020	654.0105 CONCRETE BASES TYPE 5	13.000 EACH		.		.
1030	654.0110 CONCRETE BASES TYPE 10	23.000 EACH		.		.
1040	654.0113 CONCRETE BASES TYPE 13	25.000 EACH		.		.
1050	654.0217 CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL	9.000 EACH		.		.
1060	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG	7,969.000 LF		.		.
1070	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG	7,494.000 LF		.		.
1080	655.0250 CABLE TRAFFIC SIGNAL 9-14 AWG	240.000 LF		.		.
1090	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG	21,845.000 LF		.		.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS		UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1100	655.0265 CABLE TRAFFIC SIGNAL 15-12 AWG	572.000	LF		.		.
1110	655.0270 CABLE TRAFFIC SIGNAL 15-14 AWG	1,943.000	LF		.		.
1120	655.0290 CABLE TRAFFIC SIGNAL 21-14 AWG	83.000	LF		.		.
1130	655.0305 CABLE TYPE UF 2-12 AWG GROUNDED	525.000	LF		.		.
1140	655.0320 CABLE TYPE UF 2-10 AWG GROUNDED	9,284.000	LF		.		.
1150	655.0505 ELECTRICAL WIRE TRAFFIC SIGNALS 14 AWG	650.000	LF		.		.
1160	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG	20,941.000	LF		.		.
1170	655.0520 ELECTRICAL WIRE TRAFFIC SIGNALS 8 AWG	286.000	LF		.		.
1180	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG	7,812.000	LF		.		.
1190	655.0700 LOOP DETECTOR LEAD IN CABLE	84.000	LF		.		.
1200	655.0900 TRAFFIC SIGNAL EVP DETECTOR CABLE	13,612.000	LF		.		.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1210	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 3001. STH 100 & W. LAPHAM STREET	LUMP	LUMP			.
1220	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 3002. STH 100 & W THEO TRECKER WAY	LUMP	LUMP			.
1230	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 3004. STH 59 & S. 92ND STREET	LUMP	LUMP			.
1240	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 3005. STH 59 & STH 181	LUMP	LUMP			.
1250	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 3006. STH 181 & STATE FAIR PARK GATE 4	LUMP	LUMP			.
1260	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 3007. STH 181 & W. SCHLINGER AVENUE	LUMP	LUMP			.
1270	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 3008. IH 894/USH 45 EB OFF RAMP & W. LINCOLN AVENUE	LUMP	LUMP			.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1280	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 3101. W. NATIONAL AVENUE & S. 102ND ST.	LUMP	LUMP			.
1290	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 3102. W. NATIONAL AVENUE & W. LINCOLN AVENUE	LUMP	LUMP			.
1300	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 3103. W. NATIONAL A ENUE & S. 84TH ST.	LUMP	LUMP			.
1310	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 3104. USH 18 AND N. 68TH ST.	LUMP	LUMP			.
1320	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 3105. USH 18 HAWK	LUMP	LUMP			.
1330	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 3106. W. LINCOLN AND W. BELOIT RD.	LUMP	LUMP			.
1340	657.0100 PEDESTAL BASES	74.000 EACH	.			.
1350	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE	32.000 EACH	.			.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1360	657.0305 POLES TYPE 2	8.000 EACH		.		.
1370	657.0310 POLES TYPE 3	9.000 EACH		.		.
1380	657.0322 POLES TYPE 5-ALUMINUM	4.000 EACH		.		.
1390	657.0405 TRAFFIC SIGNAL STANDARDS ALUMINUM 3.5-FT	1.000 EACH		.		.
1400	657.0420 TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT	23.000 EACH		.		.
1410	657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT	23.000 EACH		.		.
1420	657.0430 TRAFFIC SIGNAL STANDARDS ALUMINUM 10-FT	24.000 EACH		.		.
1430	657.0609 LUMINAIRE ARMS SINGLE MEMBER 4-INCH CLAMP 6-FT	11.000 EACH		.		.
1440	657.0610 LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FT	4.000 EACH		.		.
1450	657.1345 INSTALL POLES TYPE 9	8.000 EACH		.		.
1460	657.1350 INSTALL POLES TYPE 10	15.000 EACH		.		.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1470	657.1355 INSTALL POLES TYPE 12	4.000 EACH		.		.
1480	657.1360 INSTALL POLES TYPE 13	21.000 EACH		.		.
1490	657.1515 INSTALL MONOTUBE ARMS 15-FT	1.000 EACH		.		.
1500	657.1520 INSTALL MONOTUBE ARMS 20-FT	1.000 EACH		.		.
1510	657.1525 INSTALL MONOTUBE ARMS 25-FT	7.000 EACH		.		.
1520	657.1530 INSTALL MONOTUBE ARMS 30-FT	14.000 EACH		.		.
1530	657.1535 INSTALL MONOTUBE ARMS 35-FT	8.000 EACH		.		.
1540	657.1540 INSTALL MONOTUBE ARMS 40-FT	11.000 EACH		.		.
1550	657.1545 INSTALL MONOTUBE ARMS 45-FT	5.000 EACH		.		.
1560	657.1550 INSTALL MONOTUBE ARMS 50-FT	1.000 EACH		.		.
1570	657.1808 INSTALL LUMINAIRE ARMS STEEL 8-FT	38.000 EACH		.		.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1580	657.1815 INSTALL LUMINAIRE ARMS STEEL 15-FT	4.000 EACH		.		.
1590	658.0110 TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL	159.000 EACH		.		.
1600	658.0115 TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL	46.000 EACH		.		.
1610	658.0120 TRAFFIC SIGNAL FACE 5-12 INCH VERTICAL	10.000 EACH		.		.
1620	658.0215 BACKPLATES SIGNAL FACE 3 SECTION 12-INCH	159.000 EACH		.		.
1630	658.0220 BACKPLATES SIGNAL FACE 4 SECTION 12-INCH	46.000 EACH		.		.
1640	658.0225 BACKPLATES SIGNAL FACE 5 SECTION 12-INCH	10.000 EACH		.		.
1650	658.0412 PEDESTRIAN SIGNAL FACE 12-INCH	16.000 EACH		.		.
1660	658.0416 PEDESTRIAN SIGNAL FACE 16-INCH	85.000 EACH		.		.
1670	658.0500 PEDESTRIAN PUSH BUTTONS	86.000 EACH		.		.
1680	658.0600 LED MODULES 12-INCH RED BALL	167.000 EACH		.		.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1690	658.0605 LED MODULES 12-INCH YELLOW BALL	163.000 EACH		.		.
1700	658.0610 LED MODULES 12-INCH GREEN BALL	159.000 EACH		.		.
1710	658.0615 LED MODULES 12-INCH RED ARROW	48.000 EACH		.		.
1720	658.0620 LED MODULES 12-INCH YELLOW ARROW	108.000 EACH		.		.
1730	658.0625 LED MODULES 12-INCH GREEN ARROW	66.000 EACH		.		.
1740	658.0635 LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH	85.000 EACH		.		.
1750	658.0660 LED MODULES COUNTDWN TIMER 12-INCH	16.000 EACH		.		.
1760	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 3001. STH 100 & W. LAPHAM STREET	LUMP	LUMP			.
1770	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 3002. STH 100 & W. THEO TRECKER WAY	LUMP	LUMP			.
1780	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 3003. STH 100 & STH 59	LUMP	LUMP			.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1790	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 3004. STH 59 & S. 92ND STREET	LUMP	LUMP			.
1800	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 3005. STH 59 & STH 181	LUMP	LUMP			.
1810	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 3006. STH 181 & STATE FAIR PARK GATE 4	LUMP	LUMP			.
1820	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 3007. STH 181 & W. SCHLINGER AVENUE	LUMP	LUMP			.
1830	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 3008. IH 894/USH 45 EB OFF RAMP & W. LINCOLN AVENUE	LUMP	LUMP			.
1840	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 3101. W. NATIONAL AVENUE & 102ND STREET	LUMP	LUMP			.
1850	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 3102. W. NATIONAL AVENUE & W. LINCOLN AV	LUMP	LUMP			.
1860	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 3103. W. NATIONAL AVENUE & S. 84TH ST	LUMP	LUMP			.
1870	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 3105. USH 18 HAWK	LUMP	LUMP			.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1880	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 3106. USH 18 & N. 68TH STREET	LUMP	LUMP			.
1890	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 3107. W. LINCOLN AND W. BELOIT RD.	LUMP	LUMP			.
1900	659.1120 LUMINAIRES UTILITY LED B	32.000 EACH	.			.
1910	659.1125 LUMINAIRES UTILITY LED C	31.000 EACH	.			.
1920	659.1130 LUMINAIRES UTILITY LED D	2.000 EACH	.			.
1930	661.0200 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 3001. STH 100 & W. LAPHAM STREET	LUMP	LUMP			.
1940	661.0200 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 3002. STH 100 & W. THEO TRECKER WAY	LUMP	LUMP			.
1950	661.0200 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 3004. STH 59 & S 92ND STREET	LUMP	LUMP			.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1960	661.0200 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 3005. STH 59 & STH 181	LUMP	LUMP			.
1970	661.0200 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 3007. STH 181 & W. SCHLINGER	LUMP	LUMP			.
1980	661.0200 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 3008. IH 894/USH 45 EB OFF RAMP & W. LINCOLN AVENUE	LUMP	LUMP			.
1990	661.0200 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 3101. W. NATIONAL AVENUE & S. 102ND ST	LUMP	LUMP			.
2000	661.0200 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 3102. W. NATIONAL AVENUE & W. LINCOLN AV	LUMP	LUMP			.
2010	661.0200 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 3103. W. NATIONAL AVENUE & S. 84TH ST (SOUTH)	LUMP	LUMP			.
2020	661.0200 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 3104. W. NATIONAL AVENUE & S. 84TH ST (NORTH)	LUMP	LUMP			.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2030	661.0200 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 3105. USH 18 & N. 68TH STREET	LUMP	LUMP			.
2040	661.0200 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 3106. W. LINCOLN AVENUE & W. BELOIT ROAD	LUMP	LUMP			.
2050	661.0300 GENERATORS	20.000 DAY	.			.
2060	662.1040.S RAMP CLOSURE GATES HARDWIRED 40-FT	1.000 EACH	.			.
2070	670.0100 FIELD SYSTEM INTEGRATOR 2001. FTMS	LUMP	LUMP			.
2080	670.0100 FIELD SYSTEM INTEGRATOR 3001. STH 100	LUMP	LUMP			.
2090	670.0100 FIELD SYSTEM INTEGRATOR 3002. STH 59	LUMP	LUMP			.
2100	670.0100 FIELD SYSTEM INTEGRATOR 3003. STH 181	LUMP	LUMP			.
2110	670.0100 FIELD SYSTEM INTEGRATOR 3006. USH 18	LUMP	LUMP			.
2120	670.0100 FIELD SYSTEM INTEGRATOR 3104. W. NATIONAL AVENUE	LUMP	LUMP			.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2130	670.0100 FIELD SYSTEM INTEGRATOR 3105. W. LINCOLN AVENUE	LUMP	LUMP			.
2140	670.0200 ITS DOCUMENTATION 2001. FTMS	LUMP	LUMP			.
2150	670.0200 ITS DOCUMENTATION 3001. STH 100	LUMP	LUMP			.
2160	670.0200 ITS DOCUMENTATION 3002. STH 59	LUMP	LUMP			.
2170	670.0200 ITS DOCUMENTATION 3003. STH 181	LUMP	LUMP			.
2180	670.0200 ITS DOCUMENTATION 3006. USH 18	LUMP	LUMP			.
2190	670.0200 ITS DOCUMENTATION 3104. W. NATIONAL AVENUE	LUMP	LUMP			.
2200	670.0200 ITS DOCUMENTATION 3105. W. LINCOLN AVENUE	LUMP	LUMP			.
2210	674.0300 REMOVE CABLE	955.000 LF		.		.
2220	675.0400.S INSTALL ETHERNET SWITCH	1.000 EACH		.		.
2230	676.0105 SIGNAL ASSEMBLY RAMP CONTROL OVERHEAD	2.000 EACH		.		.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2240	676.0300 SIGNAL ASSEMBLY ADVANCE FLASHER TYPE 1	2.000 EACH		.		.
2250	676.9002.S REMOVING ADVANCE FLASHER ASSEMBLIES TYPE 2	1.000 EACH		.		.
2260	677.0200 INSTALL CAMERA ASSEMBLY	6.000 EACH		.		.
2270	677.0300.S INSTALL VIDEO ENCODER	6.000 EACH		.		.
2280	677.9051.S REMOVING 50-FOOT CAMERA POLE	1.000 EACH		.		.
2290	677.9200.S REMOVING CCTV CAMERA	1.000 EACH		.		.
2300	678.0006 INSTALL FIBER OPTIC CABLE OUTDOOR PLANT 6-CT	5,035.000 LF		.		.
2310	678.0300 FIBER OPTIC SPLICE	79.000 EACH		.		.
2320	678.0400 FIBER OPTIC TERMINATION	48.000 EACH		.		.
2330	678.0500 COMMUNICATION SYSTEM TESTING 2001. FTMS	LUMP	LUMP			.
2340	678.0500 COMMUNICATION SYSTEM TESTING 3001. STH 100	LUMP	LUMP			.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2350	678.0500 COMMUNICATION SYSTEM TESTING 3002. STH 59	LUMP	LUMP			.
2360	678.0500 COMMUNICATION SYSTEM TESTING 3003. STH 181	LUMP	LUMP			.
2370	678.0500 COMMUNICATION SYSTEM TESTING 3006. USH 18	LUMP	LUMP			.
2380	678.0500 COMMUNICATION SYSTEM TESTING 3104. W. NATIONAL AVENUE	LUMP	LUMP			.
2390	678.0500 COMMUNICATION SYSTEM TESTING 3105. W. LINCOLN AVENUE	LUMP	LUMP			.
2400	690.0150 SAWING ASPHALT	193.000 LF	.			.
2410	690.0250 SAWING CONCRETE	4,876.000 LF	.			.
2420	SPV.0060 SPECIAL 0001. TRAFFIC CONTROL LOCAL ROAD LANE CLOSURES	34.000 EACH	.			.
2430	SPV.0060 SPECIAL 0002. EXPOSING EXISTING UTILITY UNPAVED AREA	6.000 EACH	.			.
2440	SPV.0060 SPECIAL 0003. EXPOSING EXISTING UTILITY PAVED AREA	24.000 EACH	.			.
2450	SPV.0060 SPECIAL 2001. INSTALL WIRELESS MODEM	2.000 EACH	.			.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2460	SPV.0060 SPECIAL 2002. INSTALL BLUETOOTH DETECTOR	5.000 EACH		.		.
2470	SPV.0060 SPECIAL 2003. SALVAGE WIRELESS TRAFFIC SENSOR REPEATER	2.000 EACH		.		.
2480	SPV.0060 SPECIAL 2004. INSTALL WIRELESS TRAFFIC SENSOR REPEATER	1.000 EACH		.		.
2490	SPV.0060 SPECIAL 2005. SALVAGE AND INSTALL WIRELESS TRAFFIC SENSOR ACCESS POINT	1.000 EACH		.		.
2500	SPV.0060 SPECIAL 2006. WIRELESS TRAFFIC SENSOR	12.000 EACH		.		.
2510	SPV.0060 SPECIAL 2007. REMOVING RAMP CONTROL SIGNAL ASSEMBLY SIDEMOUNT	2.000 EACH		.		.
2520	SPV.0060 SPECIAL 2008. INSTALL SALVAGED RAMP CONTROL SIGNAL ASSEMBLY SIDEMOUNT	1.000 EACH		.		.
2530	SPV.0060 SPECIAL 2009. INSTALL 5.8 GHZ ETHERNET BRIDGE	3.000 EACH		.		.
2540	SPV.0060 SPECIAL 2010. REMOVING ON-RAMP CLOSURE GATE	1.000 EACH		.		.
2550	SPV.0060 SPECIAL 2011. SALVAGE CITY OF WEST ALLIS CAMER A ASSEMBLY	2.000 EACH		.		.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2560	SPV.0060 SPECIAL 2012. INSTALL CITY OF WEST ALLIS CAMERA ASSSEMBLY	2.000 EACH		.		.
2570	SPV.0060 SPECIAL 2013. INSTALL PORTABLE VIDEO SURVEILLANCE SYSTEM	1.000 EACH		.		.
2580	SPV.0060 SPECIAL 2014. RELOCATING PORTABLE VIDEO SURVEILLANCE SYSTEM	1.000 EACH		.		.
2590	SPV.0060 SPECIAL 2015. REMOVING CONTROLLER CABINET	1.000 EACH		.		.
2600	SPV.0060 SPECIAL 2016. REMOVING CONTROLLER CABINET BASE	1.000 EACH		.		.
2610	SPV.0060 SPECIAL 3101. EVP DETECTOR TYPE I	22.000 EACH		.		.
2620	SPV.0060 SPECIAL 3102. EVP DISCRIMINATOR TYPE IV	6.000 EACH		.		.
2630	SPV.0060 SPECIAL 3103. EVP CONFIRMATION LIGHT ASSEMBLY TYPE I	21.000 EACH		.		.
2640	SPV.0060 SPECIAL 3104. REMOVING AND SALVAGING LIGHT POLES, LUMINAIRES, AND ARMS	49.000 EACH		.		.
2650	SPV.0060 SPECIAL 3105. LIGHTING UNIT SINGLE	13.000 EACH		.		.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2660	SPV.0060 SPECIAL 3106. TRAFFIC SIGNAL CONTROLLER PROGRAMMING	5.000 EACH		.		.
2670	SPV.0060 SPECIAL 3107. PEDESTRIAN HYBIRD BEACON	4.000 EACH		.		.
2680	SPV.0060 SPECIAL 3109. INSTALL TRAFFIC CABINET BASE	1.000 EACH		.		.
2690	SPV.0060 SPECIAL 3110. CONCRETE CONTROL CABINET BASE TYPE 9 SPECIAL (MOD.)	3.000 EACH		.		.
2700	SPV.0090 SPECIAL 0001. REMOVING PAVEMENT MARKINGS WATER BLASTING	1,627.000 LF		.		.
2710	SPV.0090 SPECIAL 0002. GROOVED PREFORMED THERMOPLASTIC CROSSWALK 6-INCH	210.000 LF		.		.
2720	SPV.0090 SPECIAL 0003. GROOVED PREFORMED THERMOPLASTIC CROSSWALK 24-INCH	315.000 LF		.		.
2730	SPV.0090 SPECIAL 0004. GROOVED PREFORMED THERMOPLASTIC STOP LINE 18-INCH	83.000 LF		.		.
2740	SPV.0090 SPECIAL 3001. CABLE TYPE UF 2-14 AWG	12,907.000 LF		.		.
2750	SPV.0090 SPECIAL 3101. SERIES CIRCUIT POWER CABLE	2,615.000 LF		.		.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2760	SPV.0105 SPECIAL 0001. PAVEMENT CLEANUP PROJ. 1060-35-91	LUMP	LUMP			.
2770	SPV.0105 SPECIAL 0002. SURVEY PROJECT 1060-35-91	LUMP	LUMP			.
2780	SPV.0105 SPECIAL 0003. MODULAR CURB SYSTEM WITH VERTICAL PANELS	LUMP	LUMP			.
2790	SPV.0105 SPECIAL 3001. REMOVE TRAFFIC SIGNALS STH 100 & W. LAPHAM STREET	LUMP	LUMP			.
2800	SPV.0105 SPECIAL 3002. REMOVE TRAFFIC SIGNALS STH 100 & THEO TRECKER WAY	LUMP	LUMP			.
2810	SPV.0105 SPECIAL 3003. REMOVE TRAFFIC SIGNALS STH 100 & STH 59	LUMP	LUMP			.
2820	SPV.0105 SPECIAL 3004. REMOVE TRAFFIC SIGNALS STH 59 & S. 92ND STREET	LUMP	LUMP			.
2830	SPV.0105 SPECIAL 3005. REMOVE TRAFFIC SIGNALS STH 59 & STH 181	LUMP	LUMP			.
2840	SPV.0105 SPECIAL 3006. REMOVE TRAFFIC SIGNALS STH 181 & STATE FAIR PARK GATE 4	LUMP	LUMP			.
2850	SPV.0105 SPECIAL 3007. REMOVE TRAFFIC SIGNALS STH 181 & W. SCHLINGER AVE	LUMP	LUMP			.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2860	SPV.0105 SPECIAL 3008. REMOVE TRAFFIC SIGNALS IH894/USH45 EB OFF RAMP & W. LINCOLN AVENUE	LUMP	LUMP			.
2870	SPV.0105 SPECIAL 3009. INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET STH 100 & W. LAPHAM ST	LUMP	LUMP			.
2880	SPV.0105 SPECIAL 3010. INSTALL STATE FURN. TRAFFIC SIGNAL CABINET STH 100 & W. THEO TRECKER WAY	LUMP	LUMP			.
2890	SPV.0105 SPECIAL 3011. INSTALL STATE FURN. TRAFFIC SIGNAL CABINET STH 59 & S. 92ND STREET	LUMP	LUMP			.
2900	SPV.0105 SPECIAL 3012. INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET STH 59 & STH 181	LUMP	LUMP			.
2910	SPV.0105 SPECIAL 3013. INSTALL STATE FURNISHED TRAFF. SIG CABINET STH 181 & STATE FAIR PARK GATE 4	LUMP	LUMP			.
2920	SPV.0105 SPECIAL 3014. INSTALL STATE FURNISHED TRAFF. SIG CABINET STH 181 & W. SCHLINGER AVENUE	LUMP	LUMP			.
2930	SPV.0105 SPECIAL 3015. INSTALL STATE FURN. TRAFF SIG CAB IH894/USH45 EB OFF RAMP & W LINCOLN AVE	LUMP	LUMP			.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2940	SPV.0105 SPECIAL 3016. TRANSPORTING SIGNAL AND LIGHTING MATERIALS STH100 & W. LAPHAM STREET	LUMP	LUMP			.
2950	SPV.0105 SPECIAL 3017. TRANSPORTING SIGNAL AND LIGHTING MATERIALS STH 100 & W. THEO TRECKER WAY	LUMP	LUMP			.
2960	SPV.0105 SPECIAL 3018. TRANSPORTING SIGNAL AND LIGHTING MATERIALS STH 59 & S. 92ND STREET	LUMP	LUMP			.
2970	SPV.0105 SPECIAL 3019. TRANSPORTING SIGNAL AND LIGHTING MATERIALS STH 59 & STH 181	LUMP	LUMP			.
2980	SPV.0105 SPECIAL 3020. TRANSPORTING SIGNAL AND LIGHTING MATERIALS STH181 & STATE FAIR PARK GATE4	LUMP	LUMP			.
2990	SPV.0105 SPECIAL 3021. TRANSPORTING SIGNAL AND LIGHTING MATERIALS STH 181 & W SCHLINGER AVENUE	LUMP	LUMP			.
3000	SPV.0105 SPECIAL 3022. TRANSPORTING SIGNAL AND LIGHTING MAT. IH894/USH45 EB OFF RAMP & W LINCOLN	LUMP	LUMP			.
3010	SPV.0105 SPECIAL 3023. TRANSP. AND INST. STATE FURNISHED RADAR DETECTION SYS STH100 & LAPHAM ST	LUMP	LUMP			.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
3020	SPV.0105 SPECIAL 3024. TRANSP & INST STATE FURN RADAR DET SYS STH 100 & THEO TRECKER WAY	LUMP	LUMP			.
3030	SPV.0105 SPECIAL 3025. TRANSP AND INST STATE FURNISHED RADAR DETECTION SYS STH 59 & S 92ND ST	LUMP	LUMP			.
3040	SPV.0105 SPECIAL 3026. TRANSP AND INST STATE FURNISHED RADAR DETECTION SYS STH 59 & STH 181	LUMP	LUMP			.
3050	SPV.0105 SPECIAL 3027. TRANSP AND INST STATE FURNISHED RADAR DET SYS STH181 & ST FAIR GATE 4	LUMP	LUMP			.
3060	SPV.0105 SPECIAL 3028. TRANSP AND INST STATE FURNISHED RADAR DETECTION SYS STH 181 & SCHLINGER	LUMP	LUMP			.
3070	SPV.0105 SPECIAL 3029. TRANSP AND INST STATE FURN RADAR DET SYS IH894/USH45 EB OFF RAMP &LINCOLN	LUMP	LUMP			.
3080	SPV.0105 SPECIAL 3030. INSTALL STATE FURNISHED EVP DETECTOR HEADS STH 100 & W LAPHAM ST	LUMP	LUMP			.
3090	SPV.0105 SPECIAL 3031. INSTALL STATE FURN EVP DETECTOR HEADS STH 100 & W THEO TRECKER WAY	LUMP	LUMP			.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
3100	SPV.0105 SPECIAL 3032. INSTALL STATE FURN EVP DETECTOR HEADS STH 59 & S. 92ND STREET	LUMP	LUMP			.
3110	SPV.0105 SPECIAL 3033. INSTALL STATE FURN EVP DETECTOR HEADS STH 59 & STH 181	LUMP	LUMP			.
3120	SPV.0105 SPECIAL 3034. INSTALL STATE FURN EVP DETECTOR HEADS STH 181 & STATE FAIR PARK GATE 4	LUMP	LUMP			.
3130	SPV.0105 SPECIAL 3035. INSTALL STATE FURN EVP DETECTOR HEADS STH 181 W. SCHLINGER AVENUE	LUMP	LUMP			.
3140	SPV.0105 SPECIAL 3036. INSTALL STATE FURN EVP DETECTOR HEADS IH894/USH45 EB OFF RAMP & LINCOLN	LUMP	LUMP			.
3150	SPV.0105 SPECIAL 3037. TEMPORARY EVP SYSTEM STH 100 & W. THEO TRECKER WAY	LUMP	LUMP			.
3160	SPV.0105 SPECIAL 3038. TEMPORARY EVP SYSTEM STH 59 & S. 92ND STREET	LUMP	LUMP			.
3170	SPV.0105 SPECIAL 3039. TEMPORARY EVP SYSTEM STH 59 & STH 181	LUMP	LUMP			.
3180	SPV.0105 SPECIAL 3040. TEMPORARY EVP SYSTEM STH 181 & W. SCHLINGER AVENUE	LUMP	LUMP			.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
3190	SPV.0105 SPECIAL 3041. TEMPORARY EVP SYSTEM IH894/USH45 EB OFF RAMP & W. LINCOLN AVENUE	LUMP	LUMP			.
3200	SPV.0105 SPECIAL 3042. REMOVE LOOP DETECTOR WIRE AND LEAD IN CABLE STH 100 & W THEO TRECKER WAY	LUMP	LUMP			.
3210	SPV.0105 SPECIAL 3043. REMOVE LOOP DETECTOR WIRE AND LEAD IN CABLE STH181 & STATE FAIR PARK GATE 4	LUMP	LUMP			.
3220	SPV.0105 SPECIAL 3044. REMOVE LOOP DETECTOR WIRE AND LEAD IN CABLE STH 181 & W SCHLINGER AVENUE	LUMP	LUMP			.
3230	SPV.0105 SPECIAL 3045. REMOVE LOOP DET WIRE AND LEAD-IN CABLE IH894/USH45 EB OFF RAMP & LINCOLN	LUMP	LUMP			.
3240	SPV.0105 SPECIAL 3050. INSTALL FIBER OPTIC COMMUNICATIONS IN CABINET STH 100 & W. LAPHAM STREET	LUMP	LUMP			.
3250	SPV.0105 SPECIAL 3051. INSTALL FIBER OPTIC COMMUNICATIONS IN CABINET STH100 & THEO TRECKER WAY	LUMP	LUMP			.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
3260	SPV.0105 SPECIAL 3054. INSTALL FIBER OPTIC COMMUNICATIONS IN CAB IH894/USH45 EB RAMPS & W. LINCOLN	LUMP	LUMP			.
3270	SPV.0105 SPECIAL 3056. TEMPORARY EVP SYSTEM STH 100 & W. LAPHAM ST	LUMP	LUMP			.
3280	SPV.0105 SPECIAL 3101. REMOVE TRAFFIC SIGNALS W NATIONAL AVENUE & S. 102ND STREET	LUMP	LUMP			.
3290	SPV.0105 SPECIAL 3102. REMOVE TRAFFIC SIGNALS W. NATIONAL AVENUE & W. LINCOLN AVENUE	LUMP	LUMP			.
3300	SPV.0105 SPECIAL 3103. REMOVE TRAFFIC SIGNALS W. NATIONAL AVENUE & S. 84TH STREET (SOUTH)	LUMP	LUMP			.
3310	SPV.0105 SPECIAL 3104. REMOVE TRAFFIC SIGNALS W. NATIONAL AVENUE & S. 84TH STREET (NORTH)	LUMP	LUMP			.
3320	SPV.0105 SPECIAL 3105. REMOVE TRAFFIC SIGNALS USH 18 & ST. CAMILLUS DRIVEWAY	LUMP	LUMP			.
3330	SPV.0105 SPECIAL 3106. REMOVE TRAFFIC SIGNALS USH 18 & N. 68TH STREET	LUMP	LUMP			.
3340	SPV.0105 SPECIAL 3107. INSTALL STATE FURN MUN TRAFF SIG CAB W NATIONAL AVE & S 102ND STREET	LUMP	LUMP			.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
	SPV.0105 SPECIAL 3108.					
3350	INSTALL STATE FURN MUN TRAFF SIG CAB W NATIONAL AVE & W LINCOLN AVE	LUMP	LUMP			.
	SPV.0105 SPECIAL 3109.					
3360	INSTALL STATE FURN MUN TRAFF SIG CAB W NATIONAL AVE & S 84TH ST (SOUTH)	LUMP	LUMP			.
	SPV.0105 SPECIAL 3110.					
3370	INST STAT FURN MUNC TRAF SIG CAB W. NATIONAL AVE & S. 84TH ST (NORTH)	LUMP	LUMP			.
	SPV.0105 SPECIAL 3111.					
3380	INSTALL STATE FURN MUNICIP TRAFFIC SIGNAL CABINET USH 18 HAWK	LUMP	LUMP			.
	SPV.0105 SPECIAL 3112.					
3390	TRANSP MUNICIP SIG AND LIGHTING MAT W NATIONAL AVE & S 102ND STREET	LUMP	LUMP			.
	SPV.0105 SPECIAL 3113.					
3400	TRANSP MUNICIP SIG AND LIGHTING MAT W NATIONAL AVE & W LINCOLN AVE	LUMP	LUMP			.
	SPV.0105 SPECIAL 3114.					
3410	TRANSP MUNICIP SIG AND LIGHTING MAT W. NATIONAL AVE & S. 84TH STREET	LUMP	LUMP			.
	SPV.0105 SPECIAL 3115.					
3420	TRANSP MUNC SIGNAL & LIGHTING MAT W. LINCOLN AVE AND W. BELOIT RD	LUMP	LUMP			.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
3430	SPV.0105 SPECIAL 3116. TRANSPORTING MUNICIPAL SIGNAL AND LIGHTING MATERIALS USH 18 HAWK	LUMP	LUMP			.
3440	SPV.0105 SPECIAL 3117. TRANSP & INST STATE FURN MICROWAVE DET SYS W. NATIONAL AVE & 102ND STREET	LUMP	LUMP			.
3450	SPV.0105 SPECIAL 3118. TRANSP & INST STATE FURN MICROWAVE DET SYS W. NATIONAL AVE & W. LINCOLN AVE	LUMP	LUMP			.
3460	SPV.0105 SPECIAL 3119. TRANSP & INST STATE FURN MICROWAVE DET SYS W. NATIONAL AVE & S. 84TH STREET	LUMP	LUMP			.
3470	SPV.0105 SPECIAL 3120. TRANSP & INST STATE FURN MICROWAVE DETECTION SYS W. LINCOLN & W. BELOIT RD	LUMP	LUMP			.
3480	SPV.0105 SPECIAL 3121. TRANSP & INST STATE FURN MICROWAVE DETECTION SYSTEM USH 18 & N. 68TH ST.	LUMP	LUMP			.
3490	SPV.0105 SPECIAL 3122. TEMPORARY EVP SYSTEM W. NATIONAL AVENUE & S. 102ND STREET	LUMP	LUMP			.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
3500	SPV.0105 SPECIAL 3123. TEMPORARY EVP SYSTEM W. NATIONAL AVENUE & W. LINCOLN AVENUE	LUMP	LUMP			.
3510	SPV.0105 SPECIAL 3124. TEMPORARY EVP SYSTEM W. NATIONAL AVENUE & S. 84TH STREET (SOUTH)	LUMP	LUMP			.
3520	SPV.0105 SPECIAL 3125. TEMPORARY EVP SYSTEM W. NATIONAL AVENUE & S. 84TH STREET (NORTH)	LUMP	LUMP			.
3530	SPV.0105 SPECIAL 3126. INST STATE FURN MUNC TRAF SIG CAB W. LINCOLN AVE & W. BELOIT RD	LUMP	LUMP			.
3540	SPV.0105 SPECIAL 3127. REMOVE TRAFFIC SIGNALS W. LINCOLN AND W. BELOIT RD	LUMP	LUMP			.
3550	SPV.0105 SPECIAL 3128. TEMPORARY EVP SYSTEM W. LINCOLN AVENUE AND W. BELOIT ROAD	LUMP	LUMP			.
3560	SPV.0105 SPECIAL 3129. TRANSP MUNC SIG AND LIGHTING MAT USH 18 AND N. 68TH ST	LUMP	LUMP			.
3570	SPV.0105 SPECIAL 3130. TEMPORARY EVP SYSTEM USH 18 AND N. 68TH ST.	LUMP	LUMP			.
3580	SPV.0105 SPECIAL 3131. TRANSP & INST ACCESSIBLE PEDES SIGNAL PUSH BUTTONS	LUMP	LUMP			.

CONTRACT: 20140812008 PROJECT(S): 1060-35-91 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
3590	SPV.0105 SPECIAL 3132. INSTALL FIBER OPTIC COMMUNICATIONS IN CABINET USH 18 HAWK	LUMP	LUMP			.
3600	SPV.0105 SPECIAL 3133. INSTALL FIBER OPTIC COMMUNICATIONS IN CAB W. NATIONAL AVE & 102ND ST	LUMP	LUMP			.
3610	SPV.0105 SPECIAL 3134. INSTALL FIBER OPTIC COMMUNICATIONS IN CAB W. NATIONAL AVE & W. LINCOLN AVE	LUMP	LUMP			.
3620	SPV.0180 SPECIAL 0001. TOPSOIL SPECIAL	832.000 SY	.			.
	SECTION 0001 TOTAL					.
	TOTAL BID					.

PLEASE ATTACH SCHEDULE OF ITEMS HERE