HIGHWAY WORK PROPOSAL

Proposal Number: 1 6

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

COUNTY	STATE PROJECT ID	FEDERAL PROJECT ID	PROJECT DESCRIPTION	HIGHWAY
Oneida	1174-10-72		Minocqua - Woodruff Old Hwy 70 - Third Avenue	USH 51
Oneida	1174-10-73		Minocqua - Woodruff Old Hwy 70 - Third Avenue Sanitary & Water Utilities	USH 51

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: February 11, 2014 Time (Local Time): 9:00 AM	Firm Name, Address, City, State, Zip Code **SAMPLE** **NOT FOR BIDDING PURPOSES**
Contract Completion Time August 28, 2014	
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 Grading, base, storm sewer, sanitary sewer and water, concrete curb and gutter, HMA pavement, signal poles, signal bases, mono-tube signal poles installation.	
Notice of Award Dated	Date Guaranty Returned

PLEASE ATTACH
PROPOSAL GUARANTY HERE

Effective with November 2007 Letting

PROPOSAL REQUIREMENTS AND CONDITIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

Effective with August 2007 Letting

BID PREPARATION

Preparing the Proposal Schedule of Items

A General

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

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

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

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

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

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

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

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

B Submitting Electronic Bids

B.1 On the Internet

(1) Do the following before submitting the bid:

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

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

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

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

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

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

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

Bidder Name

BN00

Proposals: 1, 12, 14, & 22

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

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

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

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

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

C Waiver of Electronic Submittal

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

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

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

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

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

PROPOSAL BID BOND

Wisconsin Department of Transportation

DT1303 1/2006

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

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

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

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

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

PRINCIPAL

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

(Signature and Title)

(Company Name)

(Signature and Title)

(Company Name)

(Signature and Title)

(Company Name)

(Signature and Title)

NOTARY FOR PRINCIPAL

(Date)

State of Wisconsin)
) ss.
_____ County)

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

(Signature, Notary Public, State of Wisconsin)

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

(Date Commission Expires)

Notary Seal

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

(Signature of Attorney-in-Fact)

NOTARY FOR SURETY

(Date)

State of Wisconsin)
) ss.
_____ County)

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

(Signature, Notary Public, State of Wisconsin)

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

(Date Commission Expires)

Notary Seal

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

CERTIFICATE OF ANNUAL BID BOND

Wisconsin Department of Transportation

DT1305 8/2003

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

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

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

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

(Signature of Authorized Contractor Representative) (Date)

March 2010

LIST OF SUBCONTRACTORS

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

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

Name of Subcontractor	Class of Work	Estimated Value

DECEMBER 2000

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

Instructions for Certification

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Special Provisions

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SPECIAL PROVISIONS

1. General.

Perform the work under this construction contract for Project 1174-10-72, Minocqua - Woodruff, Old Hwy 70 – Third Avenue; 1174-10-73, Minocqua - Woodruff, Old Hwy 70 – Third Avenue, Sanitary and Water Utilities, USH 51, Oneida 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 grading, base, storm sewer, sanitary sewer and water, concrete curb and gutter, pavement, signal bases, mono-tube signal poles 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.

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

Complete Stages 1 – 3.2, as described under staging, on USH 51 prior to 12:01 AM June 28, 2014.

Supplement standard spec 108.11 as follows:

If the contractor fails to complete the work as described under Staging, on USH 51 prior to 12:01 AM June 28, 2014, the department will assess the contractor $1,690 in interim liquidated damages for each calendar day that the roadway remains closed after 12:01 AM, June 28, 2014. An entire calendar day will be charged for any period of time within a calendar day that the road remains closed beyond 12:01 AM.

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.

Mill and overlay areas: cover the milled surface with HMA pavement within 72 hours of milling.

Staging
Stage 1 will construct temporary signals at STH 70 and CTH J. Place temporary traffic control to remove USH 51 median islands at the intersections of STH 70 west and CTH J/Townline Road. Remove curb and gutter islands and patch with 4-inch asphaltic surface over 12-inch base aggregate dense 1 ¼ inch.

Stage 2 will construct storm sewer pipe P1, P2, P3, P7, P11, and P45. Construct sanitary manholes at Station 494+70 48'LT and Station 494+90 20'RT with connecting sanitary sewer 10-inch. Install initial traffic control for lane closure for Stage 3.1.

Stage 3.1 Close outside lanes from Station 483+24 to Station 518+56 to reconstruct the outside lanes according to plan including concrete curb and gutter, storm sewer, sidewalk/path, municipal utilities, HMA pavement through lower layers.

Stage 3.2 Close inside lanes and center turn-lane from Station 483+24 to Station 518+56 to reconstruct according to plan including concrete curb and gutter islands, HMA pavement through lower layers. Construct HMA pavement on upper layers on all lanes, pavement marking and signing with lane closures.

Work not subject to stages:
New Packing Plant Road, "old" Packing Plant Road and Handrick Drive and landscaping, finishing, and WPS street light pole installation.

4. Traffic

Maintain access to all businesses and residences at all times. Do not close any driveways without permission of the engineer and provide a minimum of 2 business days advance notice to the property owner. Do not close entrances longer than ½ day unless other arrangements are made with the property owners affected.

Maintain access through work zones to local streets at all times. Control any disruptions to access by the use of proper traffic control measures, including flaggers. Maintain access to

"old" Packing Plant Road through construction of New Packing Plant Road or with temporary access to CTH J.

All lanes open to traffic will have a minimum 12-foot clear lane width.

Temporary pavement shall consist of 4inches asphaltic surface, over a minimum of 12 inches of base aggregate dense 1 ¼-inch.

No lane closures will be allowed on USH 51 between June 28, 2014 and contract completion date.

Traffic may be reduced to one lane under flagging operations from 6:00 PM Sunday to 12:00 PM Friday and Friday and Saturday between the hours of 6:00 PM – 9:00 AM from the spring construction start to Monday May 19, 2014.

Monday May 19, 2014 – June 28, 2014, traffic may be reduced to one lane under flagging operations between the hours of 6:00 PM – 9:00 AM.

For Stage 2 construction, USH 51 and STH 70 traffic shall not travel on base aggregate dense for more than 48 hours.

For Stage 3.1 and 3.2 construction, USH 51, STH 70 and STH J traffic shall not travel on base aggregate dense for more than 36 hours.

5. Notice to Contractor – Work on adjacent project.

USH 51
Construction work on the previous project 1174-10-70, Front St – Old Hwy 70, will continue in the spring of 2014 and will require coordination between contractors.

6. Municipality Acceptance of Sanitary Sewer and Water Main Construction.

Both the department and Lakeland Sanitary District personnel will inspect construction of sanitary sewer and water main under this contract. However, construction staking, testing, and final acceptance of the sanitary sewer and water main construction will be by the Lakeland Sanitary District.
105-001 (20061009)

7. Holiday Work Restrictions.

Do not perform work on, nor haul materials of any kind along or across any portion of the highway carrying USH 51 traffic, and entirely clear the traveled way and shoulders of such portions of the highway of equipment, barricades, signs, lights, and any other material that might impede the free flow of traffic during the following holiday periods:

- From noon Friday, May 23, 2014, to 6:00 AM Tuesday, May 27, 2014 for Memorial Day;
- From noon Thursday, July 3, 2014 to 6:00 AM Monday, July 7, 2014 for Independence Day.

107-005 (20050502)

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

The department has obtained a U.S. Army Corps of Engineers Section 404 permit. Comply with the requirements of the permit in addition to requirements of the special provisions. A copy of the permit is available from the regional office by contacting Richard Simon at (715) 365-5775.
107-054 (20080901)

9. Environmental Protection, Invasive Plant Control.

Supplement standard spec 107.18 as follows:

To preclude the spread of the invasive plants purple loosestrife (Lythrum salicaria) and common reed grass (Phragmites australis) use extreme caution to prevent any soil containing roots or seeds from spreading into uncontaminated areas of the project. Landscape and revegetate areas below as soon as possible after being disturbed.

Properly dispose of any topsoil, marsh or common excavated material, or other waste dirt that is excavated from these sites so as not to contaminate wetland areas. The material may be spread and disced into an upland agricultural area or properly buried on an upland site approved by the engineer.

Wash all equipment utilized in this area to excavate, grade, haul or spread the soil with pressurized water to remove all soil that may contain seeds or roots before this equipment is removed from the contaminated areas.

All costs incurred in hauling and disposing of waste material and washing equipment shall be considered incidental to the unit price costs of topsoil, common excavation and marsh excavation.

10. Environmental Protection, Aquatic Exotic Species Control.

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

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

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

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

Complete the inspection and removal procedure before equipment is brought to the project site and before the equipment leaves the project site.
107-055 (20130615)

11. Environmental Protection, Storm Sewer and Sanitary and Water.

Isolate work areas for storm sewer and sanitary sewer and water work. Use impermeable barriers such as sheet piling, sandbags wrapped in plastic, or other engineer-approved method both upstream and downstream.

Place and shape riprap in such a manner that it does not inhibit aquatic organism movement.

Include the cost of all work and materials associated with water treatment and/or dewatering in the unit bid price for the culvert pipe or storm sewer item being installed. Work includes

furnishing all materials, excavation, maintenance, cleaning, disposal of surplus material, removal of the basin after completion of dewatering operations, and all labor, tools, equipment and incidentals necessary to complete the work in accordance to the contract.

12. Environmental Protection - Dewatering.

Supplement standard spec 107.18 as follows:

If dewatering is required, treat the water to remove suspended solids before allowing it to enter any waterway or wetland. Provide a settling basin, or other suitable means approved by the engineer, with sufficient capacity and size to provide an efficient means to filter the water from the dewatering operation before it is discharged back into the wetland or waterway as provided in the standard specifications and these special provisions. Treatment practices may include the use of natural polyacrylamide such as chitosan, as approved by the engineer.

Conform to dewatering guidelines of WisDNR Storm Water Construction Technical Standards, Code #1061, "Dewatering". This document can be found at the WisDNR website: http://dnr.wi.gov/topic/stormwater/standards/const_standards.html

Include the cost of all work and materials associated with water treatment and/or dewatering in the unit bid price for Storm Sewer Pipe, Removal/Installation of Sanitary sewers, Forcemains, Watermains and appurtenance. Work includes furnishing all materials, excavation, maintenance, cleaning, disposal of surplus material, removal of the basin after completion of dewatering operations, and all labor, tools, equipment and incidentals necessary to complete the work in accordance to the contract.
(NCR-06262012)

13. Public Convenience and Safety.

Replace standard spec 107.8 (4) with the following:

Notify the following organizations and departments at least two business days before road closures, lane closures or detours are put into effect:

Oneida County Sheriff's Department
Wisconsin State Patrol
Town of Minocqua
Minocqua School District
Town of Woodruff
Howard Young Medical Center
Marshfield Clinic

The Oneida County Sheriff's Department 911 dispatches all area police, fire and ambulance services, and will relay any notification given by the contractor.

14. Public Convenience and Safety - Lane Closure Notification.

Supplement standard spec 107.8 with the following:

At least 14 days prior to the preconstruction meeting submit to the engineer for approval a schedule of closures necessary for completion of the contract. Identify general information including the construction activity requiring a closure, location of closure, type of closure, duration of closure, and times of closure.

All closures must be in accordance to the contract unless approved by the engineer. Submit any changes to the traffic control plan or other traffic related requirements of the contract to the engineer for approval at a minimum of 14 calendar days prior to the closure.

Review the closure schedule with the engineer at the preconstruction meeting. Within five days after the meeting, the engineer will accept the contractor's initial schedule or request additional information. Provide additional information requested by the engineer within five days after the request. Provide the engineer with an updated closure schedule whenever changes are necessary.

Provide the engineer a detailed closure schedule weekly, by noon on Wednesday, that covers planned closures for the following two weeks. Include detailed information on the construction activity, location, type, duration, and time of closures. Verify with the engineer that the closure is approved in the Wisconsin Lane Closure System prior to implementing the closure. Immediately notify the engineer if there are any changes in the schedule, early completions, or cancellations of scheduled work.

Provide the minimum advance notification to the engineer for the following closures:

Shoulder closures	3 business days
Ramp closures	3 business days
Lane closures	3 business days
Local street closings	7 calendar days
System ramp closures	14 calendar days
Full freeway closures	14 calendar days
Construction stage changes	14 calendar days
Detours	14 calendar days

Non-compliance with the above requirements may result in non-approval of a closure.
No time extensions as described in standard spec 108.10 will be granted for non-approval of a closure. The department will not assume damages accrued due to non-approval of a closure, including but not limited to mobilization costs, traffic control costs, and other damages for delays to the contract.
(NCR-05312011)

15. Notice to Contractor – Contamination Beyond Construction Limits.

The department and others have completed testing for soil and ground water contamination for locations within or adjacent to this project where excavation or grading may be required. Testing indicated that contaminated soil and/or groundwater known to be impacted or potentially impacted by petroleum hydrocarbons is present at the following sites as shown on the plans:

Island City Antique Market (former filling station) – 8661 US 51 N: Station 482+75 to Station 484+00, approximately 90 feet LT of reference line.

Marathon Gas Station (filling station) – 8684 USH 51 N: Station 487+50 to Station 489+00, approximately 75 feet RT of reference line.

Vacant Lot (filled area) – Southeast corner US 51 N at CTH J: Station 504+50 to Station 505+75, approximately 60 feet RT of reference line.

Skylark Motel (former fuel pump and underground storage tank) – 226 Elm Street (USH 51 N): Station 513+00 to Station 513+50, approximately 100 feet RT of reference line.

The contaminated soil and/or groundwater at the above sites are expected to be beyond the excavation and grading limits necessary to complete the work under this project. Control construction operations at these locations to ensure that they do not extend beyond the excavation or grading limits indicated in the plans unless expressly directed to do so by the engineer.

If contaminated soil, groundwater or underground storage tanks are encountered at these sites or elsewhere on the project during excavation or grading, then terminate excavation or grading in the area and notify the engineer.

Information pertaining to the presence of hazardous materials at each site is available by contacting the department's environmental coordinator: Rosanne Meer, Wisconsin Department of Transportation – North Central Region, 510 N. Hanson Lake Road, Rhinelander, WI 54501, Telephone: (715) 365-5715, Email: rosanne.meer@dot.wi.gov.

16. Notice to Contractor – Traffic Signal Installation (WisDOT Maintained).

USH 51 and STH 70 West

Traffic Signal Controller and Cabinet.
The department will furnish and install the traffic signal controller and cabinet for the traffic signals installed at USH 51 and STH 70 West. Notify the department's North Central Region electrician, Rick McCaigue at (715) 365-5789 a minimum of ten working days prior to the desired traffic signal controller and cabinet installation date.

Electrical Service Meter Breaker Pedestal USH 51 and STH 70 West.
The contractor will furnish and install the electrical service meter breaker pedestal for the traffic signals installed at USH 51 and STH 70 West under the pertinent bid items. This includes the electric service installation or relocation request.

Concrete Control Cabinet Bases Type 9 Special.
The contractor will be responsible for the installation of the concrete control cabinet base under the pertinent bid item provided in the contract. Finish grade the service trench, replace topsoil which may become lost or contaminated, seed, fertilize, and mulch all areas which are disturbed by the electric utility company after installing the electric service lateral.

USH 51 and CTH J / Townline Road

Traffic Signal Controller and Cabinet.
The department will furnish and install the traffic signal controller and cabinet for the traffic signals installed at USH 51 and CTH J / Townline Road. Notify the department's North Central Region electrician, Rick McCaigue at (715) 365-5789 a minimum of ten working days prior to the desired traffic signal controller and cabinet installation date.

Electrical Service Meter Breaker Pedestal USH 51 and CTH J / Townline Road.
The contractor will furnish and install the electrical service meter breaker pedestal for the traffic signals installed at USH 51 and CTH J / Townline Road under the pertinent bid items. This includes the electric service installation or relocation request.

Concrete Control Cabinet Bases Type 9 Special.
The contractor will be responsible for the installation of the concrete control cabinet base under the pertinent bid item provided in the contract. Finish grade the service trench, replace topsoil which may become lost or contaminated, seed, fertilize, and mulch all areas which are disturbed by the electric utility company after installing the electric service lateral.

17. Utilities.

This contract comes under the provision of Administrative Rule Trans 220.
107-065A (20080501)

Wisconsin Public Service (Gas) – Waiting on work plan

Wisconsin Public Service (Electric) - New WPS installed street lighting will be completed during construction with conduit being placed under the sidewalk prior to compaction. Street light bases are screw in bases to be installed during sidewalk forming. Existing wood street light poles will be removed concurrent with the project. Give WPS a 14 calendar day notice of when the sidewalk grading will be done and when streetlights need to be removed.

Give WPS a 14 calendar day notice of when the existing First Merit Bank outlet will be closed.

WPS contact: Rich Reitz, (715) 369-7111

Lakeland Sanitary – Sanitary and water utility work is included in this contract under project 1174-10-73.

LSD Contact: Ron Groth, (715) 356-4454.

Charter Communications – Underground Coax in 2-inch duct at the intersection of Margaret Street and USH 51 may be in conflict due to the unknown depth of the facility. Give Charter a two business day notice of when the excavation will occur at this intersection and they will be on site to relocate the cable as needed.

Charter contact: Mark Olejniczak, (715) 370-4106.

Frontier Communications of WI LLC - has underground facilities along the left side of USH 51 throughout construction limits.

The facility described above will remain, however Frontier will be on site to adjust manholes to proposed road grade and to protect the facility when work is done on storm sewer facilities near it at the following stations: approximately STA 489+00LT, Station 491+10LT, Station 491+50LT, and Station 494+00 LT.

Frontier plans to reconstruct the roof of the manhole vault at approximately Station 492+75 LT. Frontier will complete this work after WisDOT contractor has removed pavement and completed the highway excavation. Frontier will need up to five working days to do this work while the contractor has the highway closed to traffic when removing the existing island.

Frontier has aerial facilities along the right side of USH 51 from south of construction limits to approximately Station 487+50.

Frontier plans to remove the facility described above and install new underground facilities on the right from south of construction limits to approximately Station 487+50.

Frontier has an underground crossing USH 51 at approximately Station 487+50.

Frontier has underground facilities along the right side of USH 51 from approximately Station 487+50 to Station 493+75.

The facility described above will remain in place, however Frontier will be on site to adjust manholes to proposed road grade and to protect the facility when work is done on storm sewer facilities near it at the following stations: approximately Station 493+20 RT and Station 493+50 RT.

Frontier has underground facilities along the left side of Townline Road from west of construction limits to approximately Station 8+25 LT.

The facility described above will remain in place, however Frontier will be on site to protect the facility when work is done on storm sewer facilities near it at approximately Station 8+25 LT.

Frontier has underground facilities starting west of the construction limits on the left side of Townline Road. From here the facilities continue to approximately Station 5+00 LT where they cross to the right side of Townline Road. The facilities then continue to approximately Station 8+50 RT where they cross to the left side of proposed CTH J. These facilities then continue to approximately Station 13+00 LT where they cross to the right side of CTH J and continue to a point outside of the construction limits.

Frontier plans to discontinue in place the facility described above from approximately Station 6+25 RT to Station 11+00 LT.

Frontier plans to install new underground facilities from approximately Station 5+25 LT to a crossing at approximately Station 6+00 RT. From here the new facility will continue along the right side of Townline Road to a crossing at approximately Station 8+50 (existing utility vault). The facility will then continue along the left side of CTH J to a new ped at Station 11+25 LT then continue to a crossing at approximately Station 13+60 RT. The facility will then back track along the right side of CTH J to approximately Station 12+15 RT / Station 99+50 LT of Packing Plant Road.

Frontier will complete the work described above after the WisDOT contractor has removed the pavement and completed the highway excavation. Frontier will have to complete this work prior to discontinuing the facilities in this area. Except from Station 8+50 (existing utility vault) to the new ped at Station 11+25 LT – work will be done during Stage 1 of traffic control to accommodate the rquired splicing time in the utility vault.

Frontier has underground facilities starting at a pedestal on the left side of proposed CTH J. The facility heads down station to approximately Station 10+00 LT where it crosses CTH J and heads right to a point out of the construction limits.

Frontier plans to discontinue in place the facility described above.

Frontier plans to install new underground facilities along the left side of proposed Packing Plant Road from approximately Station 99+50 LT to Station 93+50 LT. The facility then continues along the right side of Old Packing Plant Road to Station 104+00 RT.

For the facility described above, Frontier will work with the WisDOT contractor to protect facilities around the storm sewer manholes at approximately Station 96+85 LT and Station 93+30 LT.

Frontier has underground facilities along the left side of Old Packing Plant Road from approximately Station 103+00 LT to north of the cul de sac.

Frontier plans to discontinue in place the facility described above.

Frontier plans to install a new underground crossing at approximately Station 102+65.

Frontier plans to start the work described above when the WisDOT contractor begins work.

WisDOT contractor to notify Frontier of work noted above according to traffic control staging.

Give Frontier 15 calendar days notice of when they're needed on site. Provide reminders 5 days prior and 72 hours prior.

Frontier contact: Calvin Klade, (715) 573-2110.

18. Coordination with Businesses.

The contractor shall arrange and conduct a meeting between the contractor, the department, local officials and business people to discuss the project schedule of operations including vehicular and pedestrian access during construction operations. Hold the first meeting prior to the start of work under this contract and hold two meetings per month thereafter.
108-060 (20030820)

19. Removing Buildings Right-of-Way Plat 1174-10-21, Parcels 602, 603, 604, 606, 608, 713.

This special provision describes removing buildings in accordance with the pertinent requirements of standard spec 204 and as hereinafter provided. All structures to be demolished as shown on the plans, as a part of this contract will be inspected for the presence of asbestos containing materials (ACMs) by others prior to demolition. The treatment of ACMs will be in accordance to Chapter NR 447, Wis. Adm. Code.

If any friable ACMs or Category II Non-friable ACMs should be discovered, they will be abated by others, prior to demolition, unless the contractor should request otherwise.

If any structure contains Category I Non-friable ACMs, it may be demolished by keeping the material wet using demolition methods that minimize the fracturing of ACMs. WisDNR Form 4500-113 (Notification of Demolition and Application for Permit Exemption) must be completed and submitted to WisDNR and DFS and a fee must be paid, even if there are no ACMs identified in the inspection.

A copy of the inspection and/or abatement report and a copy of WisDNR Form 4500-113 will be provided to the contractor with portions that document the inspection and/or abatement completed by the asbestos inspector and/or abatement contractor.

It is the responsibility of the contractor to pay any fees and complete the rest of the form needed to provide the ten day notification to the WisDNR and the DFS, as appropriate.

If the contractor should seek to burn any structure as a fire training exercise, they shall submit DNR form 4500-113, pay any fees and, at their expense, remove all ACMs and dispose of all ash and debris according to Chapter NR 500.

The contractor shall remove these buildings including foundations and basements in their entirety.

20. Backfill Granular.

Conform to the requirements of standard spec 209 and as hereinafter provided.

Material
Furnish and use material that consists of granular material meeting the following requirements: Standard spec 209.2.2 Grade 1.

21. Asphaltic Surface.

Replace standard spec 465.2 (1) with the following:

Under the Asphaltic Surface bid item submit a mix design. Furnish asphaltic mixture meeting the requirements specified for HMA Pavement Type E-10 under standard spec 460.2; except the engineer will not require the contractor to conform to the quality management program specified under standard spec 460.2.8.
(NCR 465.02-10052011)

22. 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)

23. QMP Base Aggregate Lab Location.

Add the following as paragraph 2 to "B.3 Laboratory" of the QMP Base Aggregate special provision:

(2) Locate the QC laboratory for base aggregate placement sample testing within 30 miles of the project.

301-020 (20080902)

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

A Description

(1) This special provision describes profiling pavements with a non-contact profiler, locating areas of localized roughness, and determining the International Roughness Index (IRI) for each wheel path segment.

(2) Profile the final riding surface of all mainline pavements**.** Include auxiliary lanes in Category I and II segments; crossroads with county, state or U.S. highway designations greater than 1500 feet in continuous length; bridges, bridge approaches; and railroad crossings. Exclude roundabouts and pavements within 150 feet of the points of curvature of roundabout intersections.

(3) The engineer may direct straightedging under standard spec 415.3.10 for pavement excluded from localized roughness under C.5.2 (1); for bridges; and for roundabouts and pavements within 150 feet of the points of curvature of roundabout intersections. Other surfaces being tested under this provision are exempt from straightedging requirements.

B (Vacant)

C Construction

C.1 Quality Control Plan

(1) Submit a written quality control plan to the engineer at or before the pre-pave meeting. Ensure that the plan provides the following elements:

1. An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of all quality control personnel.
2. The process by which quality control information and corrective action efforts will be disseminated to the appropriate persons. Include a list of recipients, the communication means that will be used, and action time frames.
3. The methods and timing used for monitoring and/or testing ride quality throughout the paving process. Also indicate the approximate timing of acceptance testing in relation to the paving operations.
4. The segment locations of each profile run used for acceptance testing.
5. Traffic Control Plan

C.2 Personnel

(1) Have a profiler operator, certified under the department's highway technician certification program (HTCP), operate the equipment, collect the required data, and analyze the results using the methods taught in the HTCP profiling course. Ensure that an HTCP-certified profiler operator supervises data entry into the material records system (MRS).

C.3 Equipment

(1) Furnish a profile-measuring device capable of measuring IRI from the list of department-approved devices published on the department's web site:
http://roadwaystandards.dot.wi.gov/standards/qmp/index.htm

(2) Unless the engineer and contractor mutually agree otherwise, arrange to have a calibrated profiler available when paving the final riding surface.

(3) Perform daily calibration verification of the profiler using test methods according to the manufacturer's recommendations. Notify the engineer before performing the calibration verification. If the engineer requests, arrange to have the engineer observe the calibration verification and operation. Maintain records of the calibration verification activities, and provide the records to the engineer upon request.

C.4 Testing

C.4.1 Run and Reduction Parameters

(1) Enter the equipment-specific department-approved filter settings and parameters given in the approved profilers list on the department's QMP ride web site.
http://roadwaystandards.dot.wi.gov/standards/qmp/profilers.pdf

C.4.2 Contractor Testing

(1) Operate profilers within the manufacturer's recommended speed tolerances. Perform all profile runs in the direction of travel. Measure the longitudinal profile of each wheel track of each lane. The wheel tracks are 6.0 feet apart and centered in the traveled way of the lane.

(2) Coordinate with the engineer to schedule profile runs for acceptance. The department may require testing to accommodate staged construction or if corrective action may be required.

(3) Measure the profiles of each standard or partial segment. Define primary segments starting at a project terminus and running contiguously along the mainline to the other project terminus. Field-locate the beginning and ending points for each profile run. When applicable, align segment limits with the sublot limits used for testing under the QMP Concrete Pavement specification. Define segments one wheel path wide and distinguished by length as follows:

1. Standard segments are 500 feet long.
2. Partial segments are less than 500 feet long.

(4) Treat partial segments as independent segments.

The department will categorize each standard or partial segment as follows:

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

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

C.4.3 Verification Testing

(1) The department may conduct verification testing (QV) to validate the quality of the product. A HTCP certified profiler operator will perform the QV testing. The department will provide the contractor with a listing of the names and telephone numbers of all verification personnel for the project.

(2) The department will notify the contractor before testing so the contractor can observe the QV testing. Verification testing will be performed independent of the contractor's QC work using separate equipment from the contractor's QC tests. The department will provide test results to the contractor within 1 business day after the department completes the testing.

(3) The engineer and contractor will jointly investigate any testing discrepancies. The investigation may include additional testing as well as review and observation of both the department's and contractor's testing procedures and equipment. Both parties will document all investigative work.

(4) If the contractor does not respond to an engineer request to resolve a testing discrepancy, the engineer may suspend production until action is taken. Resolve disputes as specified in C.6.

C.4.4 Documenting Profile Runs

(1) Compute the IRI for each segment and analyze areas of localized roughness using the ProVAL software. Also, the contractor shall prepare the ProVAL Ride Quality Module Reports, showing the IRI for each segment and the areas of localized roughness exceeding an IRI of 200 in/mile. Use ride quality module report as follows:

	Fixed Interval	**Continuous (Localized Roughness)**
Base-length	500’	25’
Threshold	140”/Mile	200”/Mile

The ProVAL software is available for download at:
http://www.roadprofile.com.

(2) As part of the profiler software outputs and ProVAL reports, document the areas of localized roughness. Field-locate the areas of localized roughness prior to the engineer’s assessment for corrective actions. Document the reasons for areas excluded and submit to the engineer.

(3) Within 5 business days after completing profiling of the pavement covered under this special provision, unless the engineer and contractor mutually agree to a different timeline, submit the electronic ProVAL project file containing the .ppf files for each profiler acceptance run data and Ride Quality Module Reports, in .pdf format using the department’s Materials Reporting System (MRS) software available on the department’s web site:
http://www.atwoodsystems.com/mrs

Notify the engineer when the Profiler Acceptance Run data and the Ride Quality Report have been submitted to the MRS system.

C.5 Corrective Actions

C.5.1 General

(1) Analyze the data from the PROVAL reports and make corrective action recommendations to the department. The department will independently assess whether a repair will help or hurt the long-term pavement performance before deciding on corrective action. Correct the ride as the engineer directs in writing.

C.5.2 Corrective Actions for Localized Roughness

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

(2) The engineer will review each individual wheel track for areas of localized roughness. The engineer will assess areas of localized roughness within 5 business days of receiving notification that the reports were uploaded. The engineer will analyze the report documenting areas that exceed an IRI of 200 in/mile and do one of the following for each location:

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

Localized Roughness IRI (in/mile)	**Pay Reduction[1] (dollars)**
> 200	(Length in Feet) x (IRI –200)

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

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

(4) Re-profile corrected areas to verify that the IRI is less than 140 in/mile after correction. Submit a revised ProVAL ride quality module report to the reference documents section of the MRS for the corrected areas to validate the results.

C.5.3 Corrective Actions for Excessive IRI

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

HMA I:	Correct to an IRI of 60 in/mile using whichever of the following methods as approved by the engineer: Mill and replace the full lane width of the riding surface excluding the paved shoulder. Continuous diamond grinding or fine-tooth milling the full lane width, if required, of the riding surface including adjustment of the paved shoulders.
HMA II:	Correct to an IRI of 85 in/mile using whichever of the following methods as approved by the engineer: Mill and replace the full lane width of the riding surface excluding the paved shoulder. Continuous diamond grinding or fine-tooth milling of the full lane width, if required, of the riding surface including adjustment of the paved shoulders
PCC II:	Correct to an IRI of 85 in/mile using whichever of the following methods as approved by the engineer: Continuous diamond grinding of the full lane width, if required, of the riding surface including adjustment of the paved shoulders. Conform to sections C.1 through C.4 of Concrete Pavement Continuous Diamond Grinding Special provision contained elsewhere in the contract. Remove and replace the full lane width of the riding surface.

(2) Re-profile corrected segments to verify that the final IRI meets the above correction limits and there are no areas of localized roughness. Enter a revised ProVAL ride quality module report for the corrected areas to the reference documents section of the MRS. Segments failing these criteria after correction are subject to the engineer's right to adjust pay for non-conforming work under standard spec 105.3.

C.6 Dispute Resolution

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

(2) If the project personnel cannot resolve a dispute and the dispute affects payment or could result in incorporating nonconforming pavement, the department will use third party testing to resolve the dispute. The department's Quality Assurance Unit, or a mutually agreed on independent testing company, will provide this testing. The engineer and contractor will abide by the results of the third party tests. The party in

error will pay service charges incurred for testing by an independent tester. The department may use third party tests to evaluate the quality of questionable pavement and determine the appropriate payment.

D Measurement

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

E Payment

E.1 Payment for Profiling

(1) Costs for furnishing and operating the profiler, documenting profile results, and correcting the final pavement surface are incidental to the contract. The department will pay separately for engineer-directed corrective action performed within the 25-foot exclusionary zones under C.5.2 as extra work.

E.2 Pay Adjustment

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

ITEM NUMBER	DESCRIPTION	UNIT
440.4410.S	Incentive IRI Ride	DOL

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

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

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

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

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

(6) The department will adjust pay for 500-foot long standard segments nominally one wheel path wide using equation “QMP 1.04” as follows:

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

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

HMA IV and PCC IV	
Initial IRI (inches/mile)	**Pay Adjustment[1] [2] (dollars per standard segment)**
< 35	250
≥ 35 to < 45	1125-(25xIRI)
≥ 45	0

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

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

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

440-010 (20130615)

25. QMP HMA Pavement Nuclear Density.

A Description

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

(1) This special provision describes density testing of in-place HMA pavement with the use of nuclear density gauges. Conform to standard spec 460 as modified in this special provision.

(2) Provide and maintain a quality control program defined as all activities and documentation of the following:
1. Selection of test sites.
2. Testing.
3. Necessary adjustments in the process.
4. Process control inspection.

(3) Chapter 8 of the department's construction and materials manual (CMM) provides additional detailed guidance for QMP work and describes required procedures. Obtain the CMM from the department's web site at:
http://roadwaystandards.dot.wi.gov/standards/cmm/index.htm

(4) The department's Materials Reporting System (MRS) software allows contractors to submit data to the department electronically, estimate pay adjustments, and print selected reports. Qualified personnel may obtain MRS software from the department's web site at:
http://www.atwoodsystems.com/mrs

B Materials

B.1 Personnel

(1) Perform HMA pavement density (QC, QV) testing using a HTCP certified nuclear technician I, or a nuclear assistant certified technician (ACT-NUC) working under a certified technician.

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

B.2 Testing

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

B.3 Equipment

B.3.1 General

(1) Furnish nuclear gauges from the department's approved product list at http://www.dot.wisconsin.gov/business/engrserv/approvedprod.htm.

(2) Have the gauge calibrated by the manufacturer or an approved calibration service within 12 months of its use on the project. Retain a copy of the manufacturer's calibration certificate with the gauge.

(3) Prior to each construction season, and following any calibration of the gauge, the contractor must perform calibration verification for each gauge using the reference blocks located in the department's central office materials laboratory. To obtain information or schedule a time to perform calibration verification, contact the department's Radiation Safety Officer at:

Materials Management Section
3502 Kinsman Blvd.
Madison, Wisconsin 53704
Telephone: (608) 243-5998

B.3.2 Correlation of Nuclear Gauges

B.3.2.1 Correlation of QC and QV Nuclear Gauges

(1) Select a representative section of the compacted pavement prior to or on the first day of paving for the correlation process. The section does not have to be the same mix design.

(2) Correlate the 2 or more gauges used for density measurement (QC, QV). The QC and QV gauge operators will perform the correlation on 5 test sites jointly located. Record each density measurement of each test site for the QC, QV and back up gauges.

(3) Calculate the average of the difference in density of the 5 test sites between the QC and QV gauges. Locate an additional 5 test sites if the average difference exceeds 1.0 lb/ft^3. Measure and record the density on the 5 additional test sites for each gauge.

(4) Calculate the average of the difference in density of the 10 test sites between the QC and QV gauges. Replace one or both gauges if the average difference of the 10 tests exceeds 1.0 lb/ft^3 and repeat correlation process from B.3.2.1 (2).

(5) Furnish one of the QC gauges passing the allowable correlation tolerances to perform density testing on the project.

B.3.2.2 Correlation Monitoring

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

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

(3) Check each gauge on the project reference site a minimum of one test per day if paving on the project. Calculate the difference between the gauge's daily test result and its reference value. Investigate if a daily test result is not within 1.5 lb/ft^3 of its reference

value. Conduct 5 additional tests at the reference site once the cause of deviation is corrected. Calculate and record the average of the 5 additional tests. Remove the gauge from the project if the 5-test average is not within 1.5 lb/ft^3 of its reference value established in B.3.2.2(2).

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

B.4 Quality Control Testing and Documentation

B.4.1 Lot and Sublot Requirements

B.4.1.1 Mainline Traffic Lanes, Shoulders, and Appurtenances

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

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

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

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

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

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

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

Table 1

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

(1) A lot represents a combination of the total daily tonnage for each layer and target density.

(2) Each side road, crossover, turn lane, ramp, and roundabout must contain at least one sublot for each layer.

(3) If a side road, crossover, turn lane, or ramp is 1500 feet or longer, determine sublots and random test locations as specified in B.4.1.1.

(4) If a side road, crossover, turn lane, or ramp is less than 1500 feet long, determine sublots using a maximum of 750 tons per sublot and perform the number of random tests as specified in Table 2.

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

Table 2

B.4.2 Pavement Density Determination

B.4.2.1 Mainline Traffic Lanes and Appurtenances

(1) Calculate the average sublot densities using the individual test results in each sublot.

(2) If all sublot averages are no more than one percent below the target density, calculate the daily lot density by averaging the results of each random QC test taken on that day's material.

(3) If any sublot average is more than one percent below the target density, do not include the individual test results from that sublot when computing the lot average density and remove that sublot's tonnage from the daily quantity for incentive. The tonnage from any such sublot is subject to disincentive pay according to standard spec 460.5.2.2.

B.4.2.2 Mainline Shoulders

B.4.2.2.1 Width Greater Than 5 Feet

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

B.4.2.2.2 Width of 5 Feet or Less

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

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

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

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

B.4.2.4 Documentation

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

B.4.3 Corrective Action

(1) Notify the engineer immediately when an individual test is more than 3.0 percent below the specified minimum in standard spec 460.3.3.1. Investigate and determine the cause of the unacceptable test result.

(2) The engineer may require unacceptable material specified in B.4.3(1) to be removed and replaced with acceptable material or allow the nonconforming material to remain in place with a 50 percent pay reduction. Determine limits of the unacceptable area by measuring density of the layer at 50-foot increments both ahead and behind the point of unacceptable density and at the same offset as the original test site. Continue testing at 50-foot increments until a point of acceptable density is found as specified in standard spec 460.5.2.2(1). Removal and replacement of material may be required if extended testing is in a previously accepted sublot. Testing in a previously accepted sublot will not be used to recalculate a new lot density.

(3) Compute unacceptable pavement area using the product of the longitudinal limits of the unacceptable density and the full sublot width within the traffic lanes or shoulders.

(4) Retesting and acceptance of replaced pavement will be according to standard spec 105.3.

(5) Tests indicating density more than 3.0 percent below the specified minimum, and further tests taken to determine the limits of unacceptable area, are excluded from the computations of the sublot and lot densities.

(6) If 2 consecutive sublot averages within the same paving pass and same target density are more than one percent below the specified target density, notify the engineer and take necessary corrective action. Document the locations of such sublots and the corrective action that was taken.

B.5 Department Testing

B.5.1 Verification Testing

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

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

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

(4) If the verification sublot average is more than one percent below the specified target density, compare the QC and QV sublot averages. If the QV sublot average is within 1.0 lb/ft^3 of the QC sublot average, use the QC tests for acceptance.

(5) If the first QV/QC sublot average comparison shows a difference of more than 1.0 lb/ft^3 each tester will perform an additional set of tests within that sublot. Combine the additional tests with the original set of tests to compute a new sublot average for each tester. If the new QV and QC sublot averages compare to within 1.0 lb/ft^3, use the original QC tests for acceptance.

(6) If the QV and QC sublot averages differ by more than 1.0 lb/ft^3 after a second set of tests, resolve the difference with dispute resolution specified in B.6. The engineer will notify the contractor immediately when density deficiencies or testing precision exceeding the allowable differences are observed.

B.5.2 Independent Assurance Testing

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

B.6 Dispute Resolution

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

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

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

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

B.7 Acceptance

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

C (Vacant)

D (Vacant)

E Payment

E.1 QMP Testing

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

E.2 Disincentive for HMA Pavement Density

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

E.3 Incentive for HMA Pavement Density

(1) Delete standard spec 460.5.2.3.

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

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

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

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

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

460-020 (20100709)

26. Riprap.

Modify standard spec 606.2(2) with the following:

0% for <1 inch

Replace standard spec 606.2(3) with the following:

Do not substitute waste concrete for stones.

27. Catch Basins, Manholes, and Inlets.

onstruct catch basins, manholes, and inlets in accordance to standard spec 611 except as hereinafter modified:

Construct catch basins, manholes and inlets using only precast or cast in place concrete masonry options. The brick masonry or concrete brick or block masonry options shall not be used.
(NCR-01182012)

28. Seeding Temporary.

Supplement standard spec 630.3.3 as follows:

Apply Seeding Temporary separately from the application of other seed mixtures to ensure uniform application rates due to the varying seed sizes.
(NCR-02142012)

29. Abatement of Asbestos Containing Material Sanitary Sewer and Forcemain Pipe, Item 203.0210.S.01.

A Description
This special provision describes abating asbestos containing material sanitary sewer in accordance to the plans, the pertinent provisions of the standard specifications, and as hereinafter provided.

B (Vacant)

C Construction
The Lakeland Sanitary District No. 1 has indicated the sanitary sewer pipe installed in 1965 is asbestos cement pipe. Regulated Asbestos Containing Material (RACM) is found in the following locations and quantities:

Item	Station	Offset	Station	Offset	LF
10 inch sanitary sewer	494+66	50LT	494+74	50LT	8
10 inch sanitary sewer	500+33	33LT	500+41	33LT	8

The RACM on this structure must be abated by a licensed abatement contractor. In accordance to NR447 and DHS159, ensure that DNR or DHS receives a completed Notification of Demolition and/or Renovation (DNR Form 4500-113 (R 4/11), or subsequent revision) via U.S. mail, hand-delivery, or using the online notification system at least 10 working days prior to beginning any construction or demolition. Pay all associated fees. Provide a copy of the completed 4500-113 form and the abatement report to DOT NC Region Rhinelander Office, Rich Simon, PE, 510 Hanson Lake Road, Rhinelander, WI 54501, (715) 365-5775 and DOT BTS-ESS attn: Hazardous Materials

Specialist PO Box 7965, Madison, WI. 53707-7965. In addition, comply with all local or municipal asbestos requirements.

Use the following information to complete WisDNR form 4500-113 :
Site Name: USH 51 over underground asbestos cement pipe for sanitary forcemain
Site Address: USH 51Town 39N, Range 6E, Minocqua, Oneida County
Ownership Information: Lakeland Sanitary District, 8780 Morgan Road, Minocqua, WI
Contact: Rich Simon, PE WDOT NC Region Rhinelander
Phone: (715) 365-5775
Age: 49 years old. This structure was constructed in 1965.
Area: 340

Insert the following paragraph in Section 6.g.:
If asbestos not previously identified is found or previously non-friable asbestos becomes crumbled, pulverized, or reduced to a powder, stop work immediately, notify the engineer, and the engineer will notify the department's Bureau of Technical Services at (608) 266-1476 for an emergency response in accordance to standard spec 107.24. Keep material wet until it is abated or until it is determined to be non-asbestos containing material.

D Measurement
The department will measure Abatement of Asbestos Containing Material Sanitary Sewer and Forcemain Pipe, completed in accordance to the contract and accepted, as a single complete lump sum unit of work.

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

ITEM NUMBER	DESCRIPTION	UNIT
203.0210.S.01	Abatement of Asbestos Containing Material Sanitary Sewer and Forcemain Pipe	LS

Payment is full compensation for submitting necessary forms; removing all asbestos; properly disposing of all waste materials.

30. Pipe Grates, Item 611.9800.S.

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

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

Furnish pipe grates galvanized according to ASTM A123.

Furnish angles and brackets galvanized according to ASTM A123.

Furnish required hardware galvanized according to ASTM A153.

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

D Measurement
The department will measure Pipe Grates in units of work, where one unit is one grate, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
611.9800.S	Pipe Grates	Each

Payment is full compensation for furnishing and installing all materials; and for drilling and connecting grates to pipes.
611-010 (20030820)

31. 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 1 – 3" 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)

32. Electrical Service Meter Breaker Pedestal, USH 51 and STH 70 West, Item 656.0200.01, USH 51 and CTH J/ Townline Road, Item 656.0200.02.

Append standard spec 656.3.4 with the following:

The contractor will be responsible for requesting the installation or relocation of the traffic signal electrical service from the power utility. New service installations shall be 120V/240V 100A service.

Electrical utility company service installation costs will be paid by the contractor. Arrange for the electrical service to be established in the maintaining authority's name.

Install the cabinet base and meter breaker pedestal first, so the electrical 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 electrical utility company.

Append standard spec 656.5(3) with the following:

Payment is full compensation for grading the service trench; replacing topsoil; and for fertilizing, seeding, and mulching to restore the disturbed area of the service trench.

33. Portable Changeable Message Sign (PCMS) Cellular Communications, SPV.0045.01.

A Description

This special provision describes cellular communications requirements for use with PCMS. Cellular communication allows the department to control PCMS during incidents or other emergencies through Trans Suite software. The department will notify contractor of message changes.

B Materials
Provide a cellular modem and antenna that enables the department to communicate and control PCMS conforming to standard spec 643.2.7.

B.1 Cellular Modem and Antenna
Furnish an EV-DO Cellular modem registered to a 3G Cellular carrier. The cellular modem must include 1 or more external antennas, 1 or more 10/100 Ethernet ports, and 1 or more db9 Serial RS-232 interfaces. The device must be able to handle -30° C to +75° C and powered by a 12VDC power supply. The cellular modem must have a built-in secure router with NAT, port forwarding and IP pass-through capabilities.

Provide management IP and passwords for the cellular modem to the department.

Access includes IP address, serial port setting, and password(s). Antenna cable shall be continuous without splices. Mount the antenna at the highest practical location on the PCMS.

C Construction
Conform to standard spec 643.3.7. Install cellular modem in a lockable, weatherproof compartment in the PCMS trailer.

A minimum of 14 days prior to deployment, demonstrate to the department that the cellular modem is capable of communications with Trans Suite software.

If remote communications are interrupted or temporarily unavailable, contractor will be notified by the department to change the message.

D Measurement
The department will measure Portable Changeable Message Sign (PCMS) Cellular Communications by the day, acceptably completed, measured as the number of calendar days each cellular modem for PCMS is available for exclusive use under the contract. The department will deduct one day for each calendar day the sign communications are required but out of service for more than 2 hours.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0045.01	Portable Changeable Message Sign (PCMS) Cellular Communications	DAY

Payment is full compensation for providing, operating and maintaining a cellular modem and antenna, and for making message changes if cellular communications are interrupted or temporarily unavailable.

34. Salvage Hydrant, Item SPV.0060.01.

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

A Description
This work shall consist of Salvage Hydrants as shown on the plans and as herein provided.

B (Vacant)

C Construction
Remove hydrants in one piece at the connection to the hydrant lead. Cap or plug hydrant lead as shown on the plans. Transport and stockpile the salvaged hydrants at Lakeland Sanitary District No. 1, 8680 Morgan Road, Minocqua.

D Measurement
The department will measure Salvage Hydrant as each individual Salvage Hydrant, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.01	Salvage Hydrant	Each

Payment is full compensation for excavating, backfilling, dewatering, sheeting, shoring. The department will pay capping/plugging hydrant leads separately.

35. Remove Watermain Valve Box, Item SPV.0060.02.

A Description
This work shall consist of Removing Watermain Valve Boxes as shown on the plans and as herein provided. Watermain valve boxes include 5-1/4” shaft valve boxes and 1-1/2” shaft curb stop boxes.

B (Vacant)

C Construction
Remove watermain valve box to five feet below finish grade. Dispose of removed valve boxes.

D Measurement
The department will measure Remove Watermain Valve Boxes as each individual Remove Watermain Valve Box acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.02	Remove Watermain Valve Box	Each

Payment is full compensation for excavating, backfilling, dewatering, sheeting, shoring and disposal.

36. Plug Watermain Abandoned in Place, Item SPV.0060.03, Plug Sanitary Sewer Abandoned in Place, Item SPV.0060.04.

A Description
This work shall consist of inserting a 24 inch long concrete plug into the open end of the pipeline to be abandoned in place as shown on the plans.

B (Vacant)

C Construction
Plug for pipelines to be abandoned in place shall be as shown on the plans and as herein provided.

D Measurement
The department will measure Plug Watermain Abandoned in Place, and Plug Sanitary Sewer Abandoned in Place, as each individual plug, 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.0060.03	Plug Watermain Abandoned in Place	Each
SPV.0060.04	Plug Sanitary Sewer Abandoned in Place	Each

Payment is full compensation for excavating, backfilling, dewatering, sheeting, shoring, furnishing and installing the plug, regardless of pipe size.

37. Cap Watermain To Remain in Service, Item SPV.0060.05.

A Description
This work shall consist of furnishing or installing a pipeline cap manufactured of materials specifically intended for use as a pipeline cap on the open end of the pipeline to remain in service as shown on the plans.

B (Vacant)

C Construction
Cap on pipelines to remain in service shall be as shown on the plans and as herein provided. Install thrust block on capped pipelines.

D Measurement
The department will measure Cap Watermain to Remain in Service as each individual cap acceptably completed, regardless of size.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.05	Cap Watermain to Remain in Service	Each

Payment is full compensation for excavating, backfilling, dewatering, sheeting, shoring, furnishing and installing the cap, regardless of pipe size. The installation of thrust blocks are considered an incidental cost to the cap work.

38. Remove Sanitary Manhole, Item SPV.0060.06.

A Description
This work shall consist of Removing Sanitary Manhole.

B (Vacant)

C Construction
Remove entire manhole structure. Fill excavation with Class B bedding materials. Salvage the casting for the Owner and transport and stock pile the salvaged casting to Lakeland Sanitary District No. 1, 8680 Morgan Road, Minocqua. Dispose the removed manhole.

D Measurement
The department will measure Remove Sanitary Manhole as each individual removed manhole, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.06	Remove Sanitary Manhole	Each

Payment is full compensation for excavating, backfilling, dewatering, sheeting, shoring, regardless of manhole size. The department will pay plugging sanitary sewers at the manhole separately.

Class B bedding materials required for filling the manhole is incidental to the work.

39. Adjust Watermain Valve Box, Item SPV.0060.07.

A Description
Adjust existing watermain valve box to the required elevation. Watermain valve boxes include 5-1/4” shaft valve boxes and 1-1/2” shaft curb stop boxes.

B (Vacant)

C Construction
Excavate around the existing watermain valve box as necessary and rotate the valve box assembly to position top at the required elevation. Furnish and install valve box extensions as necessary.

D Measurement
The department will measure Adjust Watermain Valve Box as each adjustment, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.07	Adjust Watermain Valve Box	Each

Payment is full compensation for excavating, backfilling, dewatering, sheeting, shoring.

40. Adjust Sanitary Manhole Casting, Item SPV.0060.08.

A Description
Adjust existing sanitary manhole frame to the required elevation (less than one foot vertical adjustment) furnishing and installing precast concrete adjustment rings.

B (Vacant)

C Construction
Remove the existing frame and existing adjustment rings (if necessary) and reinstall at required elevation. Support the frame on a collar of precast concrete adjustment ring(s) and mortar.

D Measurement
The department will measure Adjust Sanitary Manhole Casting as each individual Adjust Sanitary Manhole acceptably completed, regardless of frame size.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.08	Adjust Sanitary Manhole Casting	Each

Payment is full compensation for excavating, backfilling, dewatering, sheeting, shoring, furnishing and installing precast concrete adjustment rings. Reinstallation of existing sanitary manhole castings on the adjustment rings is an incidental cost to the manhole casting adjustment.

41. Reconstruct Sanitary Manhole, Item SPV.0060.09.

A Description
Reconstruct existing sanitary manholes when top of casting must be adjusted by more than one vertical foot to meet the required elevation, furnish and install manhole materials.

B Materials
Use 48 inch Type A reinforced concrete precast manhole wall sections, ASTM C-478.

C Construction
Remove the existing casting, adjustment rings and cone section. Install concrete precast manhole wall sections. Reinstall cone section, adjustment rings and casting to the required elevation.

D Measurement
The department will measure Reconstruct Sanitary Manholes as each individual Reconstruct Sanitary Manhole, acceptably completed, regardless of vertical height adjustment.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.09	Reconstruct Sanitary Manhole	Each

Payment is full compensation for excavating, backfilling, dewatering, sheeting, shoring, furnishing and installing materials to reconstruct sanitary manholes. Removal and reinstallation of existing sanitary manhole castings and adjustment rings is an incidental cost to the manhole reconstruction.

42. Sanitary Manhole Casting, Item SPV.0060.10, Sanitary Manhole, Item SPV.0060.11.

A Description
This work shall consist of furnishing and installing precast concrete sanitary manholes and sanitary manhole castings as shown on the plans and as hereinafter provided.

B Materials
B.1. Cone, reinforced flat tops and flat slab reducing sections ASTM C-478, with adequate reinforcement to support the dead weight load and highway live loadings.

B.1.a) For manholes in unpaved areas, provide two 3/4 inch threaded anchor bolts embedded in the top of the cone section.

B.1.b) Cast the 3/4 inch bolts the cone section during fabrication by or installed in the field utilizing expansion bolts.

B.1.c) Bolts: Type 303 or 304 stainless steel. McCullough Industries, Hilti or equal.

B.1.d) Nuts and washers: Type 18-8 stainless steel.

B.2. Barrel section: 48 or 60 inch (as shown on the Drawings), Type A reinforced concrete, ASTM C-478.

B.3. Precast base section: Complete with integral, monolithic two foot eight inch (minimum) barrel section, manhole wall/pipe junction waterstops and grouted bench.

B.4. Where a new manhole is constructed over an existing sewer, or where used as a valve manhole or storm sewer manhole, the precast base section may be separate from the precast barrel section (i.e. integral monolithic construction is waived).

B.5. Provide an adequate opening in the grouted bench for pipe insertion into manhole base section.

B.6. Opening thickness: 2 inches minimum, extending the full length of the manhole.

B.7. Final grout to provide a smooth transition across the manhole flow line. Grouted bench is not required for valve manholes.

B.8. Waterstops - PSX Boot manufactured by Press Seal Gasket Corporation, or approved equal.

B.9. Water stops are not required for storm sewer pipe.

B.10. Base Section: reinforced concrete ASTM C-478.

B.10.a) In the event that the location of the invert of a sewer is changed in the field or a new manhole is constructed over an existing sewer, such that the integral waterstops cannot be utilized, other waterstops shall be furnished and installed at the junction of the sewer pipe and the manhole wall.

B.10.b) Waterstops - Armco waterstop gaskets and clamp, Fernco concrete manhole adaptor or equal.

B.11. Use rubber gaskets or a mastic sealant at the manhole wall section joints.

B.11.a) Gaskets: AASHO Designation M-198 and ASTM C-443.

B.11.b) Mastic sealant shall be "Kent Seal", or equal.

B.12. Adjusting rings, 2 and 4 inches high, precast concrete with two strands reinforcement, set in a mastic sealant.

B.12.a) Place mortar around the outside of the joints.

B.12.b) Adjustment rings for manholes in unpaved areas require two ¾-inch diameter holes for the insertion of the ½ inch threaded anchor rods.

B.13. Manhole steps: Copolymer polypropylene, meeting the requirements of ASTM Designation 2146 Type II Grade 49108, reinforced with a deformed 3/8 inch steel reinforcing bar which conforms to ASTM A-615 Grade 60.

B.13.a) Steps by M.A. Industries, Inc., Kelley and Dividend Drive, Peachtree City, Georgia 30269, Plastic Step No. PS-1, or equal.

B.14. Sealant and waterproofing Thoro-seal foundation coating, as manufactured by Standard Drywall Products, Inc., West Chemical Company or Xypex Crystalline Waterproofing Products as manufactured by Xypex Chemical Corporation, or equal.

B.15. Manhole frames and covers: Heavy duty castings with machined bearing surfaces, self-sealing lids.

B.15.a) Neenah Foundry Company, Edition 12 and R-1550 with Type C lid for standard installations, R-1556-A with Type C Lid for shallow manhole installations, or approved equal.

B.15.b) Lids – two concealed pick holes.

B.15.c) Off pavement manhole location – provide two ¾-inch holes for bolting casting to cone/adjustment rings.

B.16. Mortar used at manhole joints or rings one part Portland Cement, Type I, conforming to ASTM Specification C-91, to two parts of clean sand and water.

C Construction

C.1. General

C.1.a) Manholes are to be constructed as shown on the drawings. Unless approved by the engineer, all manholes to have monolithic wall section base construction.

C.1.b) Provide clearance for pipe positioning through the manhole wall and precast bench.

C.1.c) Constructed the manhole bench utilizing ballast concrete with final bench grout.

C.1.d) Smooth and shaped the manhole flowline as shown on the drawings.

C.1.e) Position an approved manhole waterstop with the wall of the manhole to be attached to the pipe, according to the manufacturer’s instructions, prior to pouring a concrete base, and for pre-cast bases also.

C.1.f) Keep concrete blocks or bricks used to support the pipe outside of these waterstops and not within the manhole perimeter.

C.1.g) Properly work the concrete to ensure maximum contact with these waterstops.

C.1.h) Where future connections are planned, install manhole stubs sealed with an approved plug.

C.1.i) Build up manhole so that the cover, when placed, will be at the required grade.

C.1.j) Provide a minimum of two inches and a maximum of 12 inches of concrete adjusting rings at the top of the manhole to permit future adjustment of the frame and cover.

C.1.k) Groove concrete rings, where necessary to receive a manhole step.

C.1.l) Contractors are cautioned to observe this requirement for adjusting rings when ordering the manholes.

C.1.m) To the extent possible, the engineer has determined the final manhole elevation, as shown on the plans.

C.1.n) Where the sewers are not within a paved roadway for which road grades have been established, the final ground elevation may vary from that shown on the plans.

C.1.o) Construct the complete length of the barrel of the manhole, including the cone section, within one day after the manhole base has been completed.

C.1.p) Install the top of the manhole casting flush with the finish grade. In sloping grade areas, match the existing slope or modify the existing grade to provide a smooth transition to the manhole.

C.1.q) Where the location of the invert of a sewer is changed in the field or a connection is made to an existing manhole, core drill new opening into the manhole wall. Core opening large enough to permit water stop to be installed.

C.2. Preparation of Subgrade

C.2.a) Maintain the bottom of the trench in a stable condition, and free of water, during the time required to install the manhole.

C.2.b) Limit the excavation to the size required for the manhole to be constructed. Over excavate the trench bottom to a depth of 4 inches below the manhole bottom, clear the loose soil.

C.2.c) Bed the manhole base section with 4 inches of crushed aggregate, in order to assure that adequate and uniform support is provided under the manhole and to avoid differential settlement.

The gradation of the crushed aggregate shall be as follows:

Sieve Size and Number	**Percentage Passing By Weight**
½ inch	100
3/8 inch	90 – 100
No. 8	0 – 15
No. 30	0 – 3

C.3. Precast Concrete Manholes and Wetwells.

C.3.a) Placed the base section in such a manner that (a) the invert of the sleeve or gasket is at the proper elevation, (b) the center of the manhole is in the proper location, and (c) the base section is plumb and level.

C.3.b) Since the pipe will enter the manhole above the base, support the pipe with bedding material, extended from beneath the base section, as detailed in the plans.

C.3.c) If a precast base slab, without monolithic cast wall section is utilized, place it in such a manner that the top of the base section is below the invert of the pipe, to permit the proper installation of the pipe waterstop.

C.3.d) Constructed the manhole floor using ballast concrete to be placed up to the springline of the pipe and sloped up to the manhole walls at 3 inches/foot.

C.3.e) Shape and smooth, the manhole flow line, and in accordance to the plans.

C.3.f) After the first manhole wall section is installed, paint and seal the outer joint between the base and the manhole walls with Thoroseal Foundation Coating, as manufacturered by Standard Dry Wall Products, Inc., or Xypex Crystalline Waterproofing Products as manufactured by Xypex Chemical Corporation, or equal to provide a watertight joint.

C.3.g) Make the manhole section joints watertight by using rubber gaskets or mastic sealant.

C.3.h) Mortar may also be placed over the exterior joint to ensure its watertightness.

C.3.i) Manholes must be watertight.

C.4. Other Manholes and Base Sections

C.4.a) Concrete block, reinforced concrete, or poured-in-place manholes may be substituted for the above described manholes when

C.4.a)(1) The contractor submits a satisfactory design for such substitute manholes.

C.4.a)(2) Written approval is obtained.

C.5. Drop Manholes

C.5.a) Provide a drop pipe as shown on the Plans for a sewer entering a manhole at an invert elevation of 24 inches or more above the springline of the exiting sewer.

C.5.b) Where the difference in elevation between incoming sewer and the exiting sewer invert is less than 24 inches, fillet the transition to prevent solids deposition.

C.5.c) Where a precast manhole with a drop connection is constructed, the footing for the portion of the manhole under the drop may be attached to the monolithic base section during a separate concrete pour.

C.5.d) A minimum of four 1/2-inch reinforcing rods shall be placed as dowels into the footing from the manhole base section.

C.5.e) Extend these rods as the vertical part of the drop is constructed either of masonry or monolithic concrete.

C.5.f) In addition, tie the drop into each joint of the precast manhole with a minimum 1/4-inch rod to prevent any separation of the drop from the precast manhole.

C.5.g) Drill additional horizontal ties from the envelopes of the outside drop drill into the wall of the precast manhole as directed.

C.5.h) Refer to detail on the drawings.

C.6. Adjusting Rings

C.6.a) Place a minimum of one two-inch adjusting ring and a maximum of six 2-inch adjusting rings on the cone section of the manhole.

C.6.b) Place a continuous bead of mastic sealant around the top of the cone section and between all adjusting rings, to ensure water tightness.

C.6.c) Place mortar around the outside of the joints.

C.7. Manhole Frames and Covers

C.7.a) Place a continuous bead of mastic sealant around the entire circumference of the top most adjusting ring.

C.7.b) Centered the manhole frame into place, and pressed firmly into the mastic to assure an even distribution of the sealant.

C.7.c) Secured the manhole frame to the manhole via the two anchor bolts in the cone section.

D Measurement
The department will measure Sanitary Manhole Castings as each individual sanitary manhole casting, acceptably completed. The department will measure Sanitary Manholes as each sanitary manhole, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.10	Sanitary Manhole Casting	Each
SPV.0060.11	Sanitary Manhole	Each

Payment is full compensation for excavating, backfilling, dewatering, sheeting, shoring, for furnishing and installing all materials for the complete manhole installation.

43. Hydrant, Item SPV.0060.12.

A Description
This work consist of furnishing and installing hydrants, furnishing and installing electrical continuity connections, furnishing and installing drainage stone for hydrants and furnishing and installing thrust blocking, in the locations as shown on the plan and as directed by the engineer.

B Materials
Hydrants shall be as follows:

B.1. AWWA Standard C-502 and the following specifications.

B.2. Traffic model, consisting of a safety barrel flange and a safety sleeve stem coupling, each designed to break away without water loss or damage to other parts of the hydrant.

B.3. Hydrant design will permit rotation of the nozzle section to position the nozzles in any direction.

B.4. The nozzle placement is not be restricted by bolt hole placements.

B.5. The center line of the nozzle to be 16 inches higher than the bury line.

B.6. Hydrant barrel, traffic flange to hydrant bottom: one or two piece of ductile or cast iron materials.

B.7. Hydrant barrel length: 7.5 feet from the bury line to the bottom of a six inch ductile iron hydrant lead.

B.8. Compression type hydrant, with the main valve closing with line pressure.

B.9. 150 psi working pressure.

B.10. The main valve opening: 5-1/4 inches in diameter.

B.11. The main valve and valve seat to be removable through the upper barrel from above grade without disassembly at the ground line flanges.

B.12. Bronze valve seat mated with a bronze seat ring.

B.13. 1-1/2 inch pentagon operating nut, opening left (counter clockwise).

B.14. Lubrication of the stem threads by removal of a screw located in the operating nut or permanent reservoir.

B.15. Stuffing box with "O" rings for seals.

B.16. Two 2-1/2 inch nozzles and one 4-1/2 inch pumper nozzle, all with National Standard Fire Hose Thread.

B.17. 1-1/2 inch pentagon lugs caps attached to the nozzle section with chains.

B.18. The inlet connection: 6-inch mechanical joint complete with accessories including gland, gaskets, nuts and bolts.

B.19. Self-draining and furnished with a positive acting drain valve.

B.20. All working parts of the drain valve shall be bronze.

B.21. Waterous Pacer WB-67 with 16 inch break off section.

C Construction

Excavate and install hydrants in accordance to the details on the plans. Support hydrant on a concrete block.

D Measurement

The department will measure Hydrant as each individual hydrant, 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.0060.12	Hydrant	Each

Payment is full compensation for excavating, backfilling, dewatering, sheeting, shoring, for furnishing and installing hydrants, drainage stone, thrust blocking and support block.

44. Watermain Gate Valve and Box 6-Inch, Item SPV.0060.13, and Watermain Gate Valve and Box 8-Inch, Item SPV.0060.14.

A Description

This work shall consist of furnishing and installing gate valves and valve boxes at the locations as shown on the plans and as directed by the engineer.

B Materials

B.1. Gate Valves

B.1.a) Valves 3 to 20 inch diameter resilient seated, fully encapsulated single wedge full-port gate valves with non-rising bronze stems and double synthetic rubber O-ring seals.

B.1.b) Valve open counter-clockwise. Valves designed for 200 psi working pressure with zero leakage, from both directions.

B.1.c) Valve have push-on or mechanical joints compatible with the pipe selected for use.

B.1.d) Valves: AWWA C-515 specifications.

B.1.e) Valve operator standard two inch square AWWA operating nut.

B.1.f) Provide electrical continuity across the valve joints for ductile iron pipe an approved conductor rated for a minimum 400 amps.

B.1.g) Where valve body is epoxy coated, provide electrical continuity from pipe end to pipe end by connection across the valve.

B.1.h) Electrical continuity may be provided via the Cadwell Shot method.

B.2. Plug Valves

B.2.a) Non-lubricated, eccentric type with resilient face plug, cast iron body, neoprene plug facing.

B.2.b) Port areas: 85% of pipe area

B.2.c) Provide shaft seals conforming to AWWA C-504.

B.2.d) 175 psi working pressure rating.

B.2.e.) Provide buried service gear operators packed with grease and sealed for submergence to 20 feet of water.

B.3. Valve Boxes

B.3.a) Install valve boxes on all buried valves.

B.3.b) Valve boxes: cast iron, five and one-quarter inch shaft screw type boxes.

B.3.c) Valve box length: 84 inches, adjustable over a range of 78 to 90 inches as referenced from finished grade to top of pipe elevation.

B.3.d) Mark watermain valve box covers "WATER". Mark forcemain valve box covers “SEWER”.

B.3.e) Where indicated on the drawings install valve manholes instead of valve boxes.

B.3.f) Valve box adapters to support the valve box.

B.3.f)(1) Valve box adapters: 1/4-inch steel members, coated with bitumastic paint, with a 1/2-inch neoprene gasket that shall be installed between the valve and valve box adapter.

B.3.f)(2) Gate valve adapters: as manufactured by Adaptor, Inc., or equal.

C Construction

C.1. Support valve on a concrete block.

C.2. Isolate valve so that no stress or shock is transferred to the valve by the valve box.

C.3. Center and plum the valve box over the operating nut.

C.4. Adjust the box cover flush with the surface of the finished pavement or such other level as may be directed.

C.5. Refer to the detail on the drawings.

C.6. Install valve box adapters per written instructions from the equipment manufacturer.

D Measurement

The department will measure Watermain Gate Valve and Box (Size) as each individual valve acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.13	Watermain Gate Valve and Box 6-Inch	Each
SPV.0060.14	Watermain Gate Valve and Box 8-Inch	Each

Payment is full compensation for excavating, backfilling, dewatering, sheeting, shoring, for furnishing and installing gate valves, adjusting valve box height, for furnishing and installing bolts, nuts, gaskets.

45. Watermain Corporation Stop 1-inch, Item SPV.0060.15, Watermain Curb Stop and Box 1-inch, Item SPV.0060.16, Watermain Corporation Stop 2-inch, Item SPV.00601.17, Watermain Curb Stop and Box 2-inch, Item SPV.0060.18.

A Description

This work consists of furnishing and installing corporation stops, curb stop and boxes at the locations shown on the plans and as directed by the engineer.

B Materials

B.1. Corporation stops, AWWA C-800, capable of withstanding a 150 psi working pressure and be bronze body ball valve corporation stops in sizes ¾" through 2" and/or tapered plug type in sizes 1 ½" and 2".

B.2. Provide stops with a compression or pack joint connection for Type "K" copper.

B.3. Corporation stops shall be tapped into PVC watermain using tapping saddles.

B.4. Tapping saddles: Ford FS202, Rockwell 317, Romac Style 202S or Mueller H13000.

B.5. Corporation stops shall be Ford FB1000 or Mueller H-15013.

B.6. Curb stops, AWWA C-800, capable of withstanding a 150 psi working pressure and be bronze body ball valve curb stops in sizes ¾" through 2" and/or tapered plug type in sizes ¾" and 1".

B.7. Provide stops with a compression or pack joint connection for Type "K" copper and Minneapolis pattern base connection.

B.8. Curb stops shall be Ford B44M or Mueller H15155 (in 1 inch size only).

B.9. Curb boxes cast iron boxes, 1¼ or 1½ inch diameter upper section.

B.10. Minneapolis pattern base.

B.11. Curb box length adjustable over a range of 84 to 96 inches as referenced from finish grade to top of pipe elevation.

B.12. Service reducers shall be straight three part union type with compressive connections.

C Construction

C.1. Support valve on a concrete block.

C.2. Center and plum the valve box.

C.3. Adjust the box cover flush with the surface of the finished pavement or such other level as may be directed.

C.4. Refer to the detail on the Drawings.

D Measurement

The department will measure Watermain Corporation Stop 1-Inch, Watermain Curb Stop and Box 1-inch, Watermain Corporation Stop 2-inch and Watermain Curb Stop And Box 2-inch as each individual valve, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.15	Watermain Corporation Stop 1-Inch	Each
SPV.0060.16	Watermain Curb Stop And Box 1-Inch	Each
SPV.0060.17	Watermain Corporation Stop 2-Inch	Each
SPV.0060.18	Watermain Curb Stop And Box 2-Inch	Each

Payment is full compensation for excavating, backfilling, dewatering, sheeting, shoring, for furnishing and installing corporation stops with saddle and curb stops and box, adjusting valve box height, for furnishing and installing bolts, nuts, gaskets, and for furnishing all labor, tools, equipment and incidentals necessary to complete the work. Furnishing and installing service reducers or transition fittings to connect to existing services is incidental to the work.

46. Watermain Coupling 6-Inch, Item SPV.0060.19, Watermain Coupling 8-Inch, Item SPV.0060.20, Watermain Bend 11-1/4 Degree 8-Inch, Item SPV.0060.21, Watermain Bend 22-1/2 Degree 6-inch, Item SPV.0060.22, Watermain Bend 22-1/2 Degree 8-Inch, Item SPV.0060.23, Watermain Bend 45 Degree 6-Inch, Item SPV.0060.24, Watermain Bend 45 Degree 8-Inch, Item SPV.0060.25, Watermain Bend 90 Degree 8-Inch Item SPV.0060.26, Watermain Reducer, 8 x 6-Inch, Item SPV.0060.27, Watermain Reducer 6 x 4-Inch, Item SPV.0060.28, Watermain Tee, 6x6-Inch, SPV.0060.29, Watermain Tee, 8 x 8-Inch, Item SPV.0060.30, Watermain Tee, 8 x 6-Inch, Item SPV.0060.31.

A Description

This work shall consist of furnishing and installing watermain fittings of various sizes and type with megalug joint restraint in the locations as shown on the plans and as directed by the engineer.

B Materials

B.1. Watermain fittings.

B.1.a) Utilize mechanical joint fittings.

B.1.b) Materials: Ductile iron, ANSI A 21.10/AWWA C-110 or ANSI A21.53-84/AWWA C-153, and designed structurally to withstand 250 psi working pressure plus water hammer, coal-tar coated with internal standard cement lining per ANSI A 21.4/AWWA C-104.

B.1.c) Bolts and associated hardware (nuts, washers) to be cold formed, high strength low alloy steel: 1.5-2.5% copper, nickel and chromium (Copper-0.5%, Nickel-0.5%, Chromium-1%).

B.1.d) Joints: ANSI A 21.11/AWWA C-111. For ductile iron pipe locations, provide electrical continuity across joints with an approved conductor rated for a minimum 400 amps. Electrical continuity may be provided via the Cadwell Shot method.

B.1.e) Use Megalug joint restraint at fittings and connecting pipelines.

C Construction

See Sanitary Sewer Lateral 4-inch, Item SPV.0090.02, Sanitary Sewer 8-Inch, Item SPV.0090.03 construction methods; Sanitary Sewer 10-Inch, Item SPV.0090.04.

D Measurement

The department will measure Watermain Coupling 6-Inch, Watermain Coupling 8-Inch, Watermain Bend 11-1/4 Degree 8-Inch, Watermain Bend 22-1/2 Degree 8-Inch, Watermain Bend 22-1/2 Degree 6-Inch, Watermain Bend 45 Degree 6-Inch, Watermain Bend 45 Degree 8-Inch, Watermain Bend 90 Degree 8-Inch, Watermain Reducer

8 x 6-Inch, Watermain Reducer 6 x 4- Inch, Watermain Tee 6 x 6-Inch, Watermain Tee 8 x 8-Inch, Watermain Tee 8 x 6-Inch, as each individual fitting, 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.0060.19	Watermain Coupling 6-Inch	Each
SPV.0060.20	Watermain Coupling 8-inch	Each
SPV.0060.21	Watermain Bend 11-1/4 Degree 8-Inch	Each
SPV.0060.22	Watermain Bend 22-1/2 Degree 6-Inch	Each
SPV.0060.23	Watermain Bend 22-1/2 Degree 8-Inch	Each
SPV.0060.24	Watermain Bend 45 Degree 6-Inch	Each
SPV.0060.25	Watermain Bend 45 Degree 8-Inch	Each
SPV.0060.26	Watermain Bend 90 Degree 8-Inch	Each
SPV.0060.27	Watermain Reducer, 8 x 6-Inch	Each
SPV.0060.28	Watermain Reducer, 6 x 4-Inch	Each
SPV.0060.29	Watermain Tee, 6 x 6-Inch	Each
SPV.0060.30	Watermain Tee, 8 x 8-Inch	Each
SPV.0060.31	Watermain Tee, 8 x 6-Inch	Each

Payment is full compensation for excavating, backfilling, dewatering, sheeting, shoring, for furnishing and installing watermain fittings. Megalug joint restraint are an incidental cost to the fitting installation.

47. Catch Basin 8-FT Diameter, Item SPV.0060.40.

A Description

This special provision describes catch basin 8-ft diameter in accordance to the requirements of standard spec 611, the details shown in the plans, and as hereinafter provided.

B Materials

In accordance to the requirements of standard spec 611.

C Construction

Supplement standard spec 611.3.1 to include 8-foot diameter structure with a 2 foot sump according to plan detail.

D Measurement

The department will measure Catch Basin 8-ft Diameter in accordance to the requirements of standard spec 611.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item in accordance to the requirements of standard spec 611.

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.40	Catch Basin 8-FT Diameter	Each

Payment is full compensation according to standard spec 611.

48. Catch Basin 10-FT Diameter, Item SPV.0060.41.

A Description
This special provision describes catch basin 10-ft diameter in accordance to the requirements of standard spec 611, the details shown in the plans, and as hereinafter provided.

B Materials
In accordance to the requirements of standard spec 611.

C Construction
Supplement standard spec 611.3.1 to include 10-foot diameter structure with a 2 foot sump according to plan detail.

D Measurement
The department will measure Catch Basin 10-FT Diameter in accordance to the requirements of standard spec 611.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item in accordance to the requirements of standard spec 611.

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.41	Catch Basin 10-FT Diameter	Each

Payment is full compensation according to standard spec 611.

49. Temporary Water Passage, Item SPV.0060.42.

A Description
This special provision describes building a temporary water passage in accordance to the plan, the standard specifications, and as hereinafter provided.

B (Vacant)

C Construction
Excavate to the size and depth specified in the plans, and backfill with washed aggregate conforming to the requirements specified in standard spec 501.2.5.4.4 for Size No. 1. Install the pipe under drain in accordance to the plan, and in accordance to the requirements specified in standard spec 612.2. The 4-inch diameter hole will be precast or constructed using a method acceptable to the engineer.

Prior to the placement of HMA pavement, remove the washed aggregate to a depth of 1.5 feet below the gutter flange elevation, and replace and compact with base aggregate dense. Compaction efforts will meet requirements specified in standard spec 305.3.2. Mortar the 4-inch diameter hole.

D Measurement

The department will measure Temporary Water Passage by each individual unit, acceptably completed in place.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.42	Temporary Water Passage	Each

Payment is full compensation for performing the excavation; furnishing and installing the washed aggregate; constructing the 4-inch diameter hole; installing the 4-inch pipe under drain; removing and disposing of the washed aggregate and pipe under drain; and mortaring the 4-inch diameter hole.

50. Contractor Provided High-Strength Bolt Assemblies for Monotube Arms (35-foot – 55-foot), Item SPV.0060.50.

A Description

This special provision describes furnishing and installing high-strength bolt assemblies for monotube mast arm to pole connection on type 9, 10, 12, and 13 signal poles as shown on the plans.

B Materials

Furnish same lot/heat high-strength bolts, hex nuts and DTI (Direct Tension Indicator) washers of the size as given on the plans, per pole manufacturer design requirements and that conform to standard specification 506.2.5. Also submit "Buy America" provision compliance material certification.

C Construction

Provide high-strength bolts, hex nuts and DTI washers for connection of monotube arm to pole upright flange connection plates. Install per standard specification 506.3.12. Ensure that spare bolt, nuts and washer for ready for field test requirements and stored well not exposed the environments. Lubricate the bolt/nut before test and install. Follow the bolt field tests procedures per standard specification section 506.2.5.6 and 506.3.12. Complete and submit DT2113 and DT2114 forms to project manager.

D Measurement

The department will measure Contractor Provided High Strength Bolt Assemblies for Monotube Arms 35 foot – 55 foot as each individual arm acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.50	Contractor Provided High-Strength Bolt Assemblies for Monotube Arms (35-foot – 55-FT)	Each

Payment is full compensation for furnishing, installing and field testing high-strength bolt assemblies. All contractor provided high-strength bolt assemblies required for acceptable installation, field testing, and quality verification testing are incidental to this bid item.

51. Lighting Control Cabinet Type Special, Item SPV.0060.60.

A Description

This special provision describes furnishing and installing lighting control cabinets as shown on the plans and as hereinafter provided.

B Materials

The cabinet type shall be detailed in the plans. A rigid steel conduit shall be stubbed out of the control cabinet base to accommodate the energy provider's service conduit and conductors.

C (Vacant)

D Measurement

The department will measure Lighting Control Cabinet Type Special, completed in accordance to the contract and accepted as each individual unit.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.60	Lighting Control Cabinet Type Special	Each

Payment is full compensation for furnishing and installing all materials, including lighting control cabinets, meter socket, hardware and fittings, and coordination with and/or any payments to energy provider necessary to complete the contract work.

52. Lighting Control Cabinet Base Type Special, Item SPV.0060.61.

A Description

This special provision describes furnishing and installing a concrete lighting control cabinet foundation as shown on the plans and as hereinafter provided.

B Materials

The concrete foundation shall be constructed with materials and methods as specified in the details in the plan.

C Construction
The Lighting Control Cabinet Base Type Special shall have an anchor bolt pattern, size, exposure and orientation that will accommodate the lighting control cabinet identified in the details in the plan.

D Measurement
The department will measure Lighting Control Cabinet Base Type Special, completed in accordance to the contract and accepted as each individual unit.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.61	Lighting Control Cabinet Base Type Special	Each

Payment is full compensation for furnishing and installing all materials, including anchor bolts, conduit, ground rods, hardware and fittings, and coordination to complete the contract work.

53. Receptacle Stanchion Type Special 1, Item SPV.0060.62; Type Special 2, Item SPV.0060.63.

A Description
This special provision describes furnishing and installing a receptacle stanchions as shown in the Plan details and as hereinafter provided.

B Materials
The receptacle stanchions shall be fabricated as shown in the plan details. The stanchion enclosure shall be fabricated of 3003 aluminum plate, and shall be hard anodized Duranodic Black. Povolny Specialties, Inc. is known to provide the fabrication and anodizing services necessary for these receptacle stanchions.

Type Special 1 receptacle stanchion shall be equipped with a 60-amp load center along with two 20-amp 2/pole branch breakers capable of landing two conductors per terminal. It shall also be equipped with two WR Listed GFCI receptacles mounted to the dead-front panel, and a weatherproof lockable door capable of passing multiple extension cords.

Type Special 2 receptacle stanchions shall be equipped with 20-amp WR Listed GFCI receptacles mounted within a deep metallic single-gang junction box and be equipped with weatherproof, lockable metallic in-use cover. The in-use cover and single-gang box and in-use cover shall be black in color, and have a minimum 3-year warranty against finish failure. Contractor shall mount the receptacle assembly to the black anodized aluminum stanchion using stainless steel hardware.

C Construction
Excavate for direct embedded receptacle stanchions as required. Backfill and compact to the satisfaction of the engineer. Stanchions shall be plumb.

Conductors shall be installed as a continuous circuit without splices from the control cabinet the receptacle stanchions.

D Measurement
The department will measure Receptacle Stanchion Type Special 1 and Receptacle Stanchion Type Special 2 as each individual stanchion, 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.0060.62	Receptacle Stanchion Type Special 1	Each
SPV.0060.63	Receptacle Stanchion Type Special 2	Each

Payment is full compensation for furnishing and installing all materials, including stanchions, receptacles, conduit, wiring, connections, junction boxes, in-use covers, panels circuit breakers, hardware, accessories, fittings, excavation, backfill and compaction necessary to install the receptacle stanchions in workable first class condition.

54. Remove Asbestos Cement Sanitary Sewer, Item SPV.0090.01, Remove Watermain, Item SPV.0090.10.

A Description
This work shall consist of removing asbestos cement sanitary sewer and watermain as shown on the plans and as herein provided.

B (Vacant)

C Construction
C.1. See Abatement of Asbestos Containing Material (Structure) Sanitary Sewer and Forcemain Pipe, Item 203.0210.S.

C.2. Remove pipe, fittings and appurtenances and plug ends as shown on the plans and as directed by the Owner or engineer. Dispose the removed pipe.

D Measurement
The department will Remove Asbestos Cement Sanitary Sewers and Remove Watermain by the linear foot, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.01	Remove Asbestos Cement Sanitary Sewer	LF
SPV.0090.10	Remove Watermain	LF

Payment is full compensation for furnishing all excavating, backfilling, dewatering, sheeting, shoring and disposalk. The department will pay plugging water main and sanitary sewer pipe ends separately.

55. Sanitary Sewer Service 4-Inch, Item SPV.0090.02; Sanitary Sewer 8-Inch, Item SPV.0090.03; Sanitary Sewer 10-Inch, Item SPV.0090.04.

A Description

This work shall consist of excavating required trenches, furnishing and installing 4 inch sanitary sewer laterals, tracer wires, 8 and 10-inch sanitary sewer pipes, and backfilling trenches all in accordance to the requirements of the plans, specifications and contract.

B Materials

B.1. Polyvinyl Chloride (PVC)

B.1.a) PVC sanitary sewer lateral pipe: ASTM D-3034, PSM SDR 35.

B.1.b) PVC sewer pipe: ASTM D-3034, PSM SDR 35

B.1.c) PVC pipe materials: Class 12454-B, 12454-C or 13364-B as defined in ASTM D-1784.

B.1.d) Produced by a continuous extrusion process, employing a prime grade of unplasticized polyvinyl chloride.

B.1.e) Use a grade highly resistant to hydrogen sulfide, sulfuric acid, gasoline, oil, detergents and other chemicals commonly found in sewage and industrial wastes.

B.1.f) Self-extinguishing flammability.

B.1.g) The minimum wall thickness in accordance to the respective ASTM governing the specific pipe manufacturer.

B.1.h) Maximum deflection of the installed PVC pipe, 5 percent.

B.1.i) Furnish mandrel for testing.

B.2. Connection to sewer.

B.2.a) Service laterals: Connect by PVC wye fittings.

B.2.b) Use same material as the mainline sewer for wye and fittings.

B.2.c) Sewer laterals shall be installed with tracer wire.

B.3 Tracer Wire

B.3.a) Tracer Wire shall be 12 gauge TW or THHN solid copper wire with 30 mil polyethylene coating, green color .

B.3.b) Tracer wire joints shall be wrapped splices with solder or cadweld bonding of the copper wire, split bolt connections, compression connections (wire nuts not permitted). All exposed areas should be wrapped to provide a watertight joint.

B.3.c) Use Valco tracer wire access box at tracer wire terminations. Include 5 foot length of 2 inch diameter schedule 40 PVC pipe box extension.

C Construction

C.1. Excavation

C.1.a) General

C.1.a)(1) Unless otherwise specified, install ductile iron pipe, in accordance to AWWA C-600 and "A Guide for the Installation of Ductile Iron Pipe" as published by the Ductile Iron Pipe Research Association.

C.1.a)(2) Unless otherwise specified, install polyvinyl chloride pipe in accordance to the "Recommended Construction Practices for PVC Pipe", Handbook of PVC Pipe as published by UNI-Bell PVC Pipe Association.

C.1.a)(3) Utilize temporary pumps and discharge piping or vacuum pumper trucks to remove the contents of sanitary sewers and forcemains. Schedule work for non-peak flow time of day.

C.1.a)(4) Discharge removed wastewater into the sanitary sewer system where directed by the Lakeland Sanitary District No. 1.

C.1.b) Open Trench

C.1.b)(1) Maximum of 100 feet of trench opened in advance of pipe laying.

C.1.b)(2) Maximum of 200 feet of trench left open behind pipe laying.

C.1.c) Trench Width

C.1.c)(1) Trench width not to exceed 24 inches more than the outside pipe diameter at the top of the pipe.

C.1.c)(2) Trench slope above the pipe as required for safety.

C.1.c)(3) Pipe class must be sufficient for the conditions of the trench width and depth required.

C.1.d) Trench Shoring

C.1.d)(1) General

C.1.d)(1).a. Trench shoring or bracing in order to protect personnel, structures and utilities as well as to maintain the construction limits is encouraged.

C.1.d)(2) Trench Shoring or Bracing

C.1.d)(2).a. If trench shoring or bracing is required, furnish and install in accordance to the regulations of the Wisconsin Department of Industry, Labor and Human Relations.

C.1.d)(2).a.1) Prior to placing the sheeting or shoring, submit complete plans, and description of, proposed shoring system.

C.1.d)(2).a.2) Review of proposed the shoring system only with respect to the basic principles and methods.

C.1.d)(2)a.3) The engineer assumes no liability for the performance nor safety of the sheeting or shoring system.

C.1.d(3) Trench Box or Shield

C.1.d(3).a. A portable trench box or sliding trench shield may be used.

C.1.d(3).b. Used of either device as approved by the Wisconsin Department of Industry, Labor and Human Relations.

C.1.d(3).c. Use of the box or shield does not relieve the contractor of liability for damage to persons or property occurring from or on the work of constructing the pipelines or appurtenances occasioned by negligence or otherwise, growing out of a failure on the part of the contractor to leave in place in the trench sufficient sheeting or bracing to prevent the caving or moving of the ground, or disturbance of the completed work or any of the nearby surface or subsurface structures.

C.1.d(3).d. The bottom of the box or shield to be 12 to 24 inches above the bottom of the pipeline.

C.1.d(3).e. Take care when the trench box or shield is moved ahead so as not to pull the already jointed pipe apart or to leave voids around the pipe wall.

C.1.d.(3).f. An acceptable method of rechecking line, depth of pipe and horizontal location of the pipe after the box or shield has been moved ahead is required.

C.1.d(3).g. Reset disturbed pipe at the proper line and depth.

C.1.d(3).h. The width of the trench shield or box, equal to pipe O.D. plus, 12 inches.

C.1.d(3).i. Backfill voids between the trench box or shield and the undisturbed trench wall within the pipe zone (i.e. bottom of trench to top of cover material) with suitable material, immediately after the box or shield is positioned.

C.2. Line and Grade

C.2.a) Watermains and Forcemains

C.2.a)(1) Lay watermains with 8 feet of earth cover between the top of the pipe and the finished surface elevation unless shown different on the plans.

C.2.a)(2) This requirement will not be relaxed because of difficult excavation. Lay 6 inch hydrant lead and water service laterals with a minimum of 8 feet of cover exists over the entire length of the pipeline, including the horizontal "gooseneck" in the service lateral.

C.2.a)(3) Lay forcemains with 8 feet of earth cover between the top of the pipe and the finished surface elevation unless shown different on the plans.

C.2.a)(4) Lay forcemain at a level, continuously increasing grade or continuously decreasing grade to prevent "hills and valleys" in the pipeline profile, unless otherwise shown on the Drawings.

C.2.a)(5) This requirement will not be relaxed because of difficult excavation.

C.2.b) Sewers

C.2.b)(1) Laser Beam

C.2.b)(1).a. A Laser Beam-Aligner System, or equal, to maintain grade and alignment is recommended.

C.2.b)(1).b. A qualified operator is required handle the equipment during the course of construction.

C.2.b)(1).c. When "in the pipe" method is used, check the line and grade of the first 50 feet of pipe out of the manhole and additional points at which offset stakes have been placed.

C.2.b)(1).d. If bending of the beams due to air temperature variations becomes apparent with "in the pipe" units, provide a fan to circulate the air.

C.2.b)(1).e. Pulsating or vibrating of the beam by the air vocisity is not allowed.

C.2.b)(1).f. Verify the beam alignment at least once for every 100 feet of installed pipeline.

C.2.b)(1).g. More frequent checks of the beam may be ordered when warranted by job conditions.

C.3. Laying of Pipelines

C.3.a) Sewer

C.3.a)(1) Sewers are to be laid true to line and grade with bells upgrade.

C.3.a)(2) Lay pipe sections so the sewer will have a smooth and uniform invert.

C.3.a)(3) Changes in line or grade will be made only at manholes.

C.3.a)(4) Keep pipe so that jointing connectors and compounds will properly fit and adhere.

C.3.a)(5) Inspect each pipe for defects before lowering it into the trench. Keep the interior of the pipe sewer free from dirt, cement or superfluous material of every description as the work progresses.

C.3.a)(6) Protect the exposed end of the pipe to prevent earth or other substances from entering the pipe when installation is in progress.

C.3.a)(7) When pipe installation is not in progress, a watertight plug on the open pipe end is required.

C.3.a)(8) Provide watertight plug during the noon hour as well as overnight.

C.3.a)(9) The trench is to be dry prior to removal of the plug.

C.3.a)(10) Ensure the interior of the sewer is free of dirt, cement, etc., when pipe installation is complete.

C.3.a)(11) No extra payment will be made for flushing or balling of the sewer if required.

C.3.a)(12) Flushing and balling water and debris, removed from the sewer will not cause erosion or flooding and will not endanger public health, property, nor any portion of the work under construction or completed, and dispose of water and debris in a manner that will cause no inconvenience to the owner, engineer or others engaged on work about the site.

C.3.b) Watermains and Forcemains

C.3.b)(1) Handling Material Into Trench

C.3.b)(1).a. All pipe, fittings, valves, and hydrants will be carefully lowered into the trench piece-by-piece by means of a derrick, ropes, or other suitable tools or equipment, in such a manner as to prevent damage to the materials or their protective coatings.

C.3.b)(2) Inspection

C.3.b)(2).a. Inspect iron pipe and fittings for defects while suspended above grade, ring with a light hammer to detect cracks.

C.3.b)(3) Cleaning Pipe and Fittings

C.3.b)(3).a. Remove all lumps, blisters, and excess coating from the bell and spigot end of each pipe, valve, and fitting wire basin and wire clean. Clean the outside of the spigot and the inside of the bell of oil, grease, and other dirt before the pipe is laid.

C.3.b)(4) Cutting Pipe

C.3.b)(4).a. Cutting to be done with an approved mechanical cutter in a neat and workmanlike manner without damage to the pipe.

C.3.b)(4).b. Taper the cut end of the pipe by grinding or filing to match the factory finish beveled end. Remove any sharp or rough edge.

C.3.b)(5) Laying Pipe

C.3.b)(5).a. The spigot end is to be centered in the bell, the pipe forced home and brought to correct line and grade.

C.3.b)(5).b. Secured the pipe in place with approved backfill material tamped around it except at the bells.

C.3.b)(5).c. Remove and replace pipe and fittings not allowing a sufficient and uniform space for joints.

C.3.b)(5).d. Prevent dirt from entering the joint space.

C.3.b)(5).e. When pipe laying is not in progress, a water tight plug will close the open ends of the pipe and during the noon hour as well as overnight.

C.3.b)(5).f. Watertight plug: A mechanical joint male plug or female cap fitting with gaskets.

C.3.b)(5).g. The trench is to be dry prior to removal of the plug.

C.3.b)(6) Direction of Bell Ends.

C.3.b)(6).a. Lay pipe with the bell facing in the direction of laying.

C.3.b)(7) Permissible Deflection of Joints

C.3.b)(7).a. If necessary to deflect pipe from a straight line, either vertical or horizontal, the amount of the deflection allowed will not exceed that required for satisfactory jointing, as indicated by the pipe manufacturer.

C.3.b)(8) Number of Joints

C.3.b)(8).a. The allowable leakage, as defined in the Performance Tests section herein, is based on the number of joints in the length of the pipeline tested.

C.3.b)(8).b. Record the number of joints in the length of pipeline laid.

C.3.b)(9) Polyethylene Encasement

C.3.b)(9).a. AWWA C-105, Method A or B.

C.3.b)(9).b. In areas where polyethylene encasement is required, all fittings, valves, valve boxes, hydrant leads, hydrant barrels, tapping saddles, corporation stops, service laterals, curb stops/boxes and all other appurtenances are also to be wrapped with polyethylene.

C.3.b)(9).c. Wrap valves to the top of the bonnet, the wrap should not interfere with the operating nut.

C.4. Bedding and Initial Backfilling

C.4.a) General

C.4.a)(1) Add moisture on dry material as necessary, to achieve proper compaction of bedding and/or initial backfill material.

C.4.a)(2) Frozen materials will not be used, as bedding or initial backfill. Bedding material will not be placed upon frozen ground.

C.4.a)(3) Walking or working on the completed pipeline, except as necessary for tamping of backfilling, is prohibited until the trench has been backfilled to a height of 1 foot above the top of the pipe.

C.4.a)(4) Back filling of the trench is to be carried on simultaneously on both sides of the pipe to eliminate injurious side pressures.

C.4.b) Stable Trench Bottom

C.4.b)(1) Where the bottom of the trench can be maintained in a stable condition, and free of water, during the time required to install the pipe, the pipeline and/or service lateral may be bedded and be initially backfilled as specified in the following sections.

C.4.b)(1).a. Grade is defined as the elevation of the invert of the pipe.

C.4.c) Bedding and Initial Backfill

C.4.c)(1) Class "B" Bedding and Initial Backfill

C.4.c)(1).a. Bedding

C.4.c)(1)a.1) Over excavate the trench bottom, throughout its length to a depth of at least 6 inches below the bottom of the pipe, clear of loose soil, and bring back to grade with a cushion of sand, gravel, crushed stone or other approved material.

C.4.c)(1)a.2) The bedding material as follows:

Sieve Size or Number	**Percentage Passing by Weight**
¾ Inch	100
No. 40	15 - 35
No. 200	2 - 10

C.4.c)(1)a.3) Where the existing soil at the pipe invert elevation is of the specified size for bedding material, over-excavation is not required.

C.4.c)(1)a.4) Excavate the trench so the pipe invert is at grade and a uniform and continuous bearing and support for the pipe is provided on solid undisturbed ground.

C.4.c)(1)a.5) Compact and shape bedding material to the lower quadrant of the pipe (i.e. haunches), to provide a continuous and uniform bearing and support for the pipe at every point between bell holes.

C.4.c)(1)a.6) Shape bedding to accommodate pipe bells or couplings.

C.4.c)(1)a.7) No planking or blocks shall be used to support the pipe.

C.4.c)(1)a.8) Compaction of the bedding material to 90% of the maximum dry density ASTM D 1557 (Modified Proctor).

C.4.c)(1)a.9) The density of the compacted material, in-place, shall be determined in accordance to the latest revision of the Method of Test for Density of Soil-in-Place, ASTM D1556 (sand cone), D2167 (balloon) or D2922 (nuclear density meter).

C.4.c)(1)a.10) Field density tests will be conducted in-place by the engineer or his authorized representative to determine that this compacted density is achieved. The required compaction density shall be attained for each layer before any material for a succeeding layer is placed thereon.

C.4.c)(1)a.11) Placed bedding material to the spring line of the pipe and compacted. Percent compaction and density of the material to be determined as previously specified.

C.4.c)(1)a.12) During the initial stage of placing this material, assure that sufficient bedding material has been worked under the haunch of the pipe to provide adequate side support.

C.4.c)(1)a.13) Prevent movement of the pipe during the placement and compaction of the material beneath the pipe haunch.

C.4.c)(1).b. Initial Backfill

C.4.c)(1).b.1) After the bedding material has been placed and compacted, place the initial backfill material around and over the pipe. Initial backfill material may be sand, gravel, crushed stone, or other material approved by the engineer.

C.4.c)(1).b.2) Initial backfill material as follows.

Sieve Size Or Number	**Percentage Passing by Weight**
1 Inch	100
3/4 Inch	85 - 100
No. 40	15 - 35
No. 200	2 - 10

C.4.c)(1).b.3) Place the initial backfill material in uniform layers not exceeding 6 inches in depth after compaction.

C.4.c)(1).b.4) Place initial backfill material in the trench for its full width on each side of the pipe, fittings and appurtenances simultaneously.

C.4.c)(1).b.5) Compact each layer prior to placing the next layer.

C.4.c)(1).b.6) Meet the requirements for compaction and density determination of the compacted material as specified in the Bedding section.

C.4.c)(1).b.7) It is neither necessary nor desirable to compact the initial backfill directly over the pipe.

C.4.c)(1).b.8) Compacted the side fill out to the undisturbed trench walls.

C.4.c)(1).b.9) Place the initial backfill material to a height of 12 inches, after compaction, above the top of the pipe.

C.4.c)(1).b.10) Compaction up to, but not directly over the pipe.

C.4.c)(1).b.11) After the initial backfill material has been placed and compacted, backfilling operations may be begun.

C.4.c)(1).c. Materials

C.4.c)(1).c.1) When approved by the engineer existing in-place soils, suitable material taken from the excavation, on other excavations and/or clean granular on-site material, may be utilized as bedding and/or initial backfill material.

C.4.c)(1).c.2) Submit samples of proposed material(s) to be use as bedding and/or initial backfill to the engineer prior to the bid opening for approval.

C.5. Backfilling

C.5.a) After the pipe has been bedded and initially backfilled, perform mechanical backfilling operations.

C.5.b) Use material taken from the trench excavation as backfill, unless the engineer deems such material unsuitable and orders its disposal.

C.5.c) Carefully deposited, spread and leveled the materials in layers, layers not to exceed 18 inches in loose thickness.

C.5.d) A vibratory compactor will be on the job site, in operating condition, before starting the backfilling operations.

C.5.e) Compact each layer, prior to placing the next layer, utilizing suitable mechanical compacting equipment.

C.5.f) Meet percent compaction of the material in place as follows:

C.5.f)(1) Non-plastic soils – 90% of the maximum dry density ASTM 1557 Modified Proctor.

C.5.f)(2) Plastic soils – 95% of the maximum dry density – ASTM D698, Standard Proctor.

C.5.f)(3) Compact the upper three feet of trenches beneath road pavements or within County Trunk Highway, State Trunk Highway or Federal Highway rights-of-way to 95% of maximum dry density (ASTM D 1557) for non-plastic soils (sands and silts with a plastic index less than 4) and to 100% maximum dry density (ASTM D 698 - Standard Proctor) for plastic soils (clays, clayey silts and sands with a plastic index equal to or greater than 4).

C.5.g) Exclude stones, rocks or cobbles greater than 3 inches in diameter, boulders, bituminous pavement, timber, organic materials, excavated material which is frozen, or any other unsuitable material, from the backfill.

C.5.h) Materials disposal is an incidental cost to the pipeline construction.

C.5.i) n the event excavations have been sheeted or shored, conform the backfill to the requirements hereinbefore set forth. Carefully draw and remove the sheeting and braces in a manner which will not disturb the completed work.

C.5.j) Refill all openings left by pulling sheeting with approved backfill material and properly compacted.

C.5.k) Refill settlement of all backfilled areas until final acceptance of the work and the expiration of the warranty period.

C.5.l) Refill settlement of backfill material under gravel, granite, bituminous, or other surface material, with like surface material.

C.6. Installation of Carrier Pipes in Casings

C.6.a) Carrier pipes installed in casings must be supported in such a way that the beam strength of the pipe will not be exceeded as a result of either loads from the combined weight of pipe and contents completely full or buoyant forces with pipe completely empty.

C.6.b) Provided pipe supports at the crown and bottom.

C.6.c) If two pipelines are installed in a single casing, the contractor shall submit for the engineer's review details of the proposed method of supporting the pipelines.

C.6.d) Where watermains and other pipelines are installed in one casing, install the watermain above the other pipeline.

C.6.e) Fill the casing pipe with sand or pea gravel where indicated on the drawings.

C.7. Tracer Wire

C.7.a) Tracer Wire shall be 12 gauge AWG solid copper wire with 30 mil polyethylene coating, green color.

C.7.b) Tracer wire joints shall be wrapped splices with solder or cadweld bonding of the copper wire, split bolt connections or compression connections (wire nuts not permitted). All exposed areas should be wrapped to provide a watertight joint.

C.7.c) Tape the tracer wire to the top of the utility pipeline every 10 feet.

C.7.d) Use Valco tracer wire access box at tracer wire terminations. Provide tracer wire access points utilizing Valco tracer wire access boxes at least every 300 feet. Include five foot length of 2 inch diameter schedule 40 PVC pipe box extension. Extend tracer wire into box and connect to the stainless steel terminal bolts. Install wire with six inches of slack in the access box.

C.8. Sewer Laterals and Water Services

C.8.a) General

C.8.a)(1) Install sewer laterals and water services in accordance to Chapter COMM 82 of the Wisconsin Administrative Code (Plumbing Code) and all local plumbing codes and regulations.

C.8.a)(2) Place sewer and water service laterals in a common trench and installed concurrently. If not installed concurrently, a minimum 8 foot horizontal separation must be maintained between the sewer and water services.

C.8.a)(3) Raise the end of sewer laterals to one foot above the apparent ground water table.

C.9. Performance Test

C.9.a) General

C.9.a)(1) No performance testing will be done tests until the sanitary sewer, storm sewer and service laterals have been installed, backfilled and cleaned.

C.9.a)(2) Remove and replace any cracked or defective pipes, fittings or joints discovered as a consequence of the performance testing with sound material, until the results of the performance tests are satisfactory.

C.9.a)(3) Performance tests will be made on all sections of the system.

C.9.a)(4) Supply all labor and materials necessary to install devices or otherwise prepare for the performance of the tests.

C.9.a)(5) Leakage tests shall consist of an air test and/or an infiltration test as follows:

C.9.a)(5).a. Perform air test on all sanitary sewers and service laterals.

C.9.a)(5).b. An infiltration test will be performed, in addition to the air test, on all sanitary sewers where groundwater level is above sewer pipe invert.

C,8,a)(6) Perform an alignment test on all sewers. Perform a deflection test on all PVC sewers.

C.9.a)(7) A section of sanitary sewer acceptable if it satisfactorily passes:

C.9.a)(7).a. The deflection test.

C.9.a)(7).b. The low pressure air test and infiltration test.

C.9.a)(7).c. The alignment test.

C.9.b) Deflection Test for PVC Pipe

C.9.b)(1) PVC sewers will be tested for deflection.

C.9.b)(2) Devices used consist of rigid ball or mandrel.

C.9.b)(3) Any length of pipe which indicates a deflection of more than 5 percent will be and replaced.

C.9.b)(4) Attempts to reshape in place will not be allowed.

C.9.b)(5) Perform deflection tests after backfilling is completed but prior to conducting other performance tests.

C.9.b)(6) For acceptance, the device must pass through the entire section between manholes in one pass when pulled BY HAND, without the use of excessive force.

C.9.b)(7) Maximum deflection of the installed pipe: 5 percent of the "Base I.D.".

C.9.b)(8) "Base I.D." is the minimum pipe I.D. calculated by subtracting the square root of the sum of the squared standard manufacturing tolerances (tolerance package) from the average I.D.

C.9.b)(9) The "Base I.D." shall be calculated by the following formula:

Base I.D. = Avg. I.D. - $(A^2 + 2B^2 + C^2)^{½}$

Where: Avg. I.D. = Avg. O.D. - 2t -2(0.06)t

With: Avg. O.D. = Average outside diameter as per ASTM D3034

t = minimum wall thickness as per ASTM D3034
0.06 = customary wall thickness tolerance of 6%

A = O.D. tolerance average as per ASTM D3034

B = Customary excess wall thickness tolerance of 6% of the minimum wall thickness = 0.06t

C = out of roundness tolerance as per ASTM D3034, Table XI.I or other values supplied by the manufacturer and approved by the engineer.

C.10.c) Low Pressure Air Test

C.10.c)(1) General

C.10.c)(1).a. Test all sewers tested using the low pressure air test.

C.10.c)(1).b. Furnish the equipment for the low pressure air test, and perform the test under the observation of the engineer.

C.10.c)(1).c. Test sewer between adjacent manholes in accordance to Uni-Bell Plastic Pipe Association UNI-B-6-82, "Recommended Practice for Low Pressure Air Testing of Installed Sewer Pipe".

C.10.c)(1).d. In all cases, ignore the length of laterals.

C.10.c)(2) Low Pressure Air Test Procedure

C.10.c)(2).a. Isolate the section of sewer line to be tested by means of inflatable stoppers or other suitable test plugs.

C.10.c)(2).b. One of the plugs will have an inlet tap, or other provision for connecting a hose to a portable air control source.

C.10.c)(2).c. If the test section is below the groundwater level, determine the height of the groundwater above the spring line of the pipe at each end of the test section and compute the average.

C.10c)(2).d. For every foot of ground water above the pipe spring line, increase the gage test pressures by 0.43 pounds per square inch.

C.10.c)(2).e. Connect the air hose to the inlet tap and a portable air control source.

C.10.c)(2).f. The air equipment shall consist of necessary valves and pressure gages to control the rate at which air flows into the test section and to enable monitoring of the air pressure within the test section.

C.10.c)(2).g. Equip the testing apparatus with a pressure relief device to prevent the possibility of loading the test section with the full capacity of the compressor.

C.10.c)(2).h. Add air slowly to the test section until the pressure inside the pipe is raised to 4.0 psig greater than the average back pressure of any groundwater that may be over the pipe.

C.10.c)(2).i. After a pressure of 4.0 psig is obtained, regulate the air supply so that the pressure is maintained between 3.5 and 4.0 psig (above the average groundwater back pressure) for a period of two minutes. This allows the air temperature to stabilize in equilibrium with the temperature of the pipe walls.

C.10.c)(2).j. The pressure will normally drop slightly until temperature equilibrium is obtained.

C.10.c)(2).k. During this period all plugs should be checked with a soap solution to detect any plug leakage.

C.10.c)(2).l. Determine the rate of air loss by the time-pressure drop method.

C.10.c)(2).m. After the two minute air stabilization period, disconnect the air supply shall and the test pressure allowed to decrease to 3.5 psig (greater than the average groundwater back pressure).

C.10.c)(2).n. The time required for the test pressure to drop from 3.5 to 2.5 psig is determined by means of a stopwatch and this time interval is then compared to the required time in the Air Test Time table (see Plan Detail Sheets) to determine if the rate of air loss is within the allowable time limit. If the time is equal to or greater than the times indicated in the table, the pipe line is acceptable.

C.10.c)(2).o. The test may be discontinued once the prescribed time has elapsed, even though the 1.0 psig drop has not occurred.

C.10.c)(2).p. If the time is less than the times indicated in the table, the sewer as required and retest.

C.10.c)(2).q. Upon completion of the test, the bleeder valve is opened and all air is allowed to escape.

C.10.c)(2).r. Do not remove plugs until all air pressure in the test section has been released.

C.10.c)(2).s. During this time allowe no one in the trench or manhole while the pipe is being decompressed.

C.11.c)(3) Infiltration

C.11.c)(3).a. In areas with existing ground water, conduct an infiltration test. Conduct the infiltration tests using a 60 degree V-notch weir.

C.11.c)(3).b. The flow rate of water measured from the sewer section being tested may not exceed a rate of 50 gallons per inch of pipe diameter per mile per day, for the sewer section being tested, ignoring the length of service laterals and manholes.

C.11.c)(3).c. Have the manufacturer or independent testing laboratory calibrate the V-notch weir.

C.11.c)(4) Alignment

C.11.c)(4).a. Tests for pipe alignment.

C.11.c)(4).b. Look through the pipe, from one manhole, at the light of a large flashlight or spotlight positioned in the next manhole.

C.11.c)(4).c. Repair or remove any sewer segment wherein a "3/4 moon" or more is not visible.

C.11.c)(5) Continuity Test

C.11.c)(5).a. Perform tracer wire continuity testing utilizing a standard 5 watt generator to provide an AC current restricted to 33 kHz or less.

C.11.c)(6) Presentation of Test Results

C.11.c).(6).a. At the conclusion of the Performance Tests, furnish the owner with a written report of the results of the tests.

C.11.c).(6).b. Such a report shall identify the specific type and length of pipe tested, the pressures, the duration of the test, the amount of leakage, etc.

C.11.c).(6).c. The report will be signed by the contractor and the engineer or their authorized representatives.

D Measurement
The department will measure Sanitary Sewer Service 4-inch, Sanitary Sewer Pipe 8 and 10-inch, by the linear foot, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.02	Sanitary Sewer Service 4-Inch	LF
SPV.0090.03	Sanitary Sewer 8-Inch	LF
SPV.0090.04	Sanitary Sewer 10-Inch	LF

Payment is full compensation for furnishing all excavating, backfilling, dewatering, wastewater removal, sheeting, shoring, furnishing and installing sanitary sewer lateral and sanitary sewers, tracer wire, bedding materials, initial backfill, all test procedures, all fittings not otherwise specified. Fittings to connect to the wye, are an incidental cost to the sewer lateral installation.

56. Water Service 1-Inch, Item SPV.0090.05, Water Service 2-Inch, Item SPV.0090.06, Watermain 6-Inch, Item SPV.0090.07, Watermain 8-Inch, Item SPV.0090.08.

A Description
This work shall consist of excavating required trenches, augering water services, furnishing and installing watermains and water services and backfilling the trenches, as shown on the plans and contract as hereinafter provided.

B Material
B.1. General. Watermains installed in trenches shall be ductile iron with push on and restrained joints. Use concrete thrust blocks, Megalug joints, or restrained joints at fittings as indicated on the plans.

B.2. Ductile Iron (DI) Pipe.

B.2.a) Ductile iron pipe shall conform to ANSI A 21.51/AWWA C-151 and shall be coal tar coated and shall have an internal standard thickness cement lining in accordance to ANSI A 21.4/AWWA C-104.

B.2.b) Ductile iron pipe shall be thickness Class 50.

B.3. Polyethylene (PE)

B.3.a) Meet requirements of AWWA C906.

B.3.b) PE pipe materials and fittings: Type III, Class C, Category 5, Grade P-34 (pipe designation PE 3406 or PE 3408) pipe materials as defined in ASTM D-1248 and ASTM F-714 and other ASTM Standards referenced therein.

B.3.c) Cell classification limits: meet minimum requirements as follows: 324433C, D or E (for PE 3408) as defined in ASTM D-3350.

B.3.d) Clean polyethylene compound reclaimed from the manufacturer's own pipe production may be re-extruded into pipe, blended with new compound of the same cell classification.

B.3.e) Pipe containing the reclaimed material must meet all the material and product requirements of this specification.

B.3.f) P.E. pipe: DR 11, 160 psi, pressure class (ductile iron sizing system) 1600 psi hydrostatic design basis, 800 psi hydrostatic design stress.

B.3.g) Installed in conformance with ASTM D2774 or better.

B.3.h) Provide fittings as required to accommodate changes in grade.

B.3.i) Manufacture pipe and fittings from identical material.

B.3.j) Certify that samples of the production pipe have been tested in accordance to ASTM D-2837 and validated in accordance to Plastic Pipe Institute standards TR-3 and TR-4.

B.4. Copper Pipe

B.4.a) Use ASTM B-88 AWWA C-800 ANSI/NSF 61, Type K soft annealed seamless copper tubing. At each service, provide pipe as a single run of pipe without intermediate couplings.

B.5. Ductile Iron Pipe Joints.

B.5.a) Joints for ductile iron pipe shall meet ANSI A 21.11/AWWA C-111, and shall be push on type with rubber gaskets. Use mechanical joint at fittings.

B.5.b) At fittings, also restrain pipeline joints for the following length from fittings:

Restrained Length (feet)

Pipe Size (In)	45° Bend	90° Bend	Tee Hydrant or Dead End
6	11	20	14
8	19	34	24
10	28	51	36
12	39	73	51
14	53	98	69

B.5.c) Joints for ductile iron watermain and sanitary forcemain pipe shall be provided with a conductivity connector to provide electrical continuity across the joint. Conductivity connector shall be rated for 600 amps. Conductivity connector may be a gasket containing copper clips or a cable connector.

B.5.d) Assemble joints per AWWA C 600

B.6 Polyethylene Pipe Joint

B.6.a) Joints and fittings: by the"butt fusion or socket fusion" methods in accordance to the manufacturer's recommendations and ASTM D 2657.

B.6.b) Joint strength must be equal to that of adjacent pipe as demonstrated by tensile test.

B.6.c) Results of tensile impact testing of joints should indicate a ductile rather than a brittle fracture.

B.6.d) External appearance of fusion bead should be smooth without significant juncture groove.

B.6.e) Threaded or solvent-cement joints and connections are not permitted.

B.6.f) All jointing must be done by properly trained personnel.

B.6.g) Provide a representative of the pipe manufacturer on the site during the entire jointing process to assure proper jointing techniques are being utilized or provide a certificate from the pipe manufacturer that the jointing personnel have adequate knowledge and ability to properly join PE pipe.

B.6.h) Use ductile iron mechanical joint sleeve to transition from PE to DI pipe. Use HDPE MJ adapter kit on PE side and Mega-lug MJ on DI pipe. Install pipe stiffeners on ID of PE pipe joints.

B.6.i) At each end of the PE pipeline before transition to other pipe materials, install wall anchor restraint intended for encapsulation by poured-concrete. Install pipe stiffeners in ID of PE pipe each side of wall anchor.

B.7 Joints for copper pipe shall be compression fitting type joints.

B.8 Tracer Wire

B.8.a) Tracer Wire shall be 12 gauge AWG solid copper wire with 30 mil polyethylene coating, blue color for watermains, green color for forcemains.

B.8.b) Tracer wire joints shall be wrapped splices with solder or cadweld bonding of the copper wire, split bolt connections or compression connections (wire nuts not permitted). All exposed areas should be wrapped to provide a watertight joint.

B.8.c) Tape the tracer wire to the top of the polyethylene pipeline every 10 feet.

B.8.d) Use Valco tracer wire access box at tracer wire terminations. Provide tracer wire access points utilizing Valco tracer wire access boxes. Include five foot length of 2 inch diameter schedule 40 PVC pipe box extension. Extend tracer wire into box and connect to the stainless steel terminal bolts. Install wire with six inches of slack in the access box.

B.9) Connections to existing services shall be a transition coupling or reducer consisting of a three part union with compression connections.

C Construction

C.1. General. See Sanitary Sewer Lateral 4-Inch, Item SPV.0090.02; Sanitary Sewer 8-Inch, Item SPV.0090.03; Sanitary Sewer 10-Inch, Item SPV.0090.04, construction methods.

C.2. Directional Boring.

C.2.a) Use three phase process: pilot hole, reaming and pullback – pipe installation.

C.2.b) Use fluid assisted drilling methods.

1) Use mixture of premium Wyoming bentonite, water and polymer.
2) Maintain borehole integrity.
3) Remove and dispose cuttings.

C.2.c) Use directional control drill head.

C.2.d) Determine bend radius to install pipeline at design grade.

C.2.e) Use pullhead or pulley eye and swivel to pull back pipeline.

C.2.f) Contain the drilling – circulation fluid and properly dispose. Use pit or trench at drill rig. Submit drilling fluid disposal plan before stat of drilling. Maintain ready access to pumps, vacuum trucks, floating baffles, and hole caps to contain blowouts and minimize damage to the environment from the blowout.

C.2.g) Maintain daily drill log. List date, time, location, soil conditions, depth and horizontal location, and angle and rate of penetration. Turn over logs to engineer.

C.2.h) Re-drill hole at no additional cost to the owner that is not in condition to carry the pipelines as designed.

C.3. Peformance Tests.

C.3.a) Hydrostatic Pressure Test

C.3.a)(1) After pipe and appurtenances have been constructed, perform a hydrostatic pressure test.

C.3.a)(1).a. Necessary equipment include: Test plugs, reaction blocking, hoses, pressure gauges, measuring devices, and hand pumps, to perform the work required in connection with the tests.

C.3.a)(2) Slowly fill each test section with water, care being taken to expel all air from the pipes.

C.3.a)(3) Tap the pipe, if necessary, at high points to vent the air.

C.3.a)(4) Maintained at 150 P.S.I. for at least one hour.

C.3.a)(5) Tighten leaks found at mechanical joints, until the leaking stops.

C.3.a)(5).a. Remove and replace any cracked or defective pipes, fittings, valves or joints discovered as a consequence of the pressure test with sound material, and the test shall be repeated until satisfactory.

C.3.a)(5).b Leakage Test

C.1.a)(5).b)(1) After the pipe has been subjected to the above pressure test, a leakage test as described herein shall be performed.

C.3.a)(5).b)(2) If water does not have to be added to the pipeline during the pressure test, to maintain 150 psi, the requirement for the leakage test may be waived.

C.3.a)(5)(b)(2).a. Necessary equipment include: Test plugs, reaction blocking, hoses, pressure gauges, measuring devices and hand pumps, to perform the work required in connection with the tests.

C.3.a)(5).b.(3) The duration of each leakage test is two hours.

C.3.a)(5).b.(4) The main pressure during the test is 150 P.S.I.

C.3.a)(5).b.(5) Leakage is defined as the quantity of water to be supplied into the newly laid pipe, or any valved section thereof necessary to maintain the specified test pressure after the pipe has been filled with water and the air expelled.

C.3.a)(5).b.(6) The engineer will approve. The system of measuring this volume of water prior to commencement of the test.

C.3.a)(5).b.(7) The maximum leakage in gallons per hour is determined by the following equation:

$$L = \frac{SD \times (P)^{1/2}}{133{,}200}$$

L = allowable leakage in gallons per hour

S = length of pipeline tested in feet

D = nominal diameter of the pipe in inches
P = test pressure in psig

*Based on 11.65 gpd per mile of pipe per inch of nominal diameter, at 150 psi.

C.3.a)(5).b.(7).a. The allowable leakage per 1,000 feet of pipeline is as follows:

Pipe Size (in.)	**Allowable Leakage (gpd)**
4	0.37
6	0.55
8	0.74
10	0.92
12	1.10
14	1.29
18	1.66

C.3.a)(5).b.(7).b. In case the section under test contains joints of various diameters, the allowable leakage will be the sum of the computed leakage for each size of joint.

C.3.a)(5).b.(8) Should the test disclose leakage greater than that permitted, locate and repair the defective pipe until the leakage is within the specified allowance.

C.3.a)(5).c. Continuity Test

C.3.a)(5).c.1 Perform tracer wire continuity testing utilizing a standard 5 watt generator to provide an AC current restricted to 33 kHz or less.

C.3.b) Presentation of Test Results

C.1.b)(1) At the conclusion of the performance tests, the owner or owners furnish a written report or the results of the tests.

C.3.b)(2) The report will identify the specific type and length of pipe tested, the pressures, the duration of the test, the amount of leakage, etc.

C.3.b)(3) The report will be signed by the contractor.

C.4. Disinfection of Complete Watermains

C.4.a) AWWA C-651 Standard for Disinfecting Watermains.

C.4.b) Clean the main prior to disinfection, except when using the tablet method.

C.4.c) Chlorinate main using one of the following forms of chlorine.

C.4.c)(1) Liquid Chlorine in combination with a solution feed, vacuum operated chlorinator and a booster pump.

C.4.c)(2) Calcium or Sodium Hypochlorite solution injected into the main with a chemical feed pump.

C.4.c)(3) Calcium Hypochlorite tablets, 5 grams each containing approximately 65 percent available chlorine by weight.

C.4.c)(4) Calcium Hypochlorite tablets may not be used on solvent-welded plastic or on screw-joint steel pipe.

C.4.d) Methods of Chlorine Application

C.4.d)(1) Continuous Feed Method

C.4.d(1).a. Flow water from the existing distribution system at a constant, measured rate into the newly-laid pipeline.

C.4.d(1).b. Feed the chlorine dose at a constant, measured rate.

C.4.d(1).c. Proportion the two rates to deliver chlorine concentration at a minimum of 25 mg/l available chlorine. Fill the entire main is with chlorine solution.

C.4.d(1).d. Retain the chlorinated water in the main for at least 24 hours, operate all valves and hydrants in the section treated to disinfect the appurtenances.

C.4.d(1).e. At the end of the 24 hour period, a 10 mg/l free chlorine residual throughout the length of the main is required.

C.4.d(1).f. If the initial disinfection fails to produce a free chlorine residual of 10 mg/l, rechlorinated the main with 25 mg/l available chlorine until a residual of 10 mg/l is obtained.

C.4.d(2) Slug Method

C.4.d(2).a. Flow water from the existing distribution system at a constant, measured rate into the newly laid pipeline.

C.4.d(2).b. Feed the chlorine dose at a constant, measured rate.

C.4.d(2).c. Proportion the two rates so that the chlorine concentration in the water entering the pipeline is maintained at no less than 100 mg/l.

C.4.d(2).d. Apply the chlorine continuously and for a sufficient period to develop a solid column or "slug" or chlorinated water that will, as it passes along the line, expose all interior surfaces to a chlorine concentration of at least 100 mg/l for at least 3 hours.

C.4.d(2).e. As the chlorinated water flows past tees and crosses, operate related valves and hydrants to disinfect appurtenances.

C.4.d.(3) Tablet Method

C.4.d.(3).a. During construction place, 5 gram calcium hypochlorite tablets in each section of pipe.

C.4.d.(3).b. Place one such tablet in each hydrant, hydrant branch and other appurtenance.

C.4.d.(3).c. The number of 5 gram tablets required for each pipe section to provide a dose of 25 mg/l shall be 0.0012 d^2L rounded to the next higher integer, where d is the inside pipe diameter, in inches, and L is the length of the pipe section, in feet.

C.4.d.(3).d. The number of tablets required for various pipe diameters is as follows:

Pipe Diameter (in.)	Number of Tablets 13 Ft. Pipe Length	20 Ft. Pipe Length
4	1	1
6	1	1
8	1	2
10	2	3
12	3	4
16	4	7

C.4.d.(3).e. Attach the tablets with a food-grade adhesive.

C.4.d.(3).f. Tablet adhesive only on the broadside attached to the surface of the pipe.

C.4.d.(3).g. Attach all the tablets inside and at the top of the main, with approximately equal numbers of tablets at each end of a given pipe length.

C.4.d.(3).h. If the tablets are attached before the pipe section is placed in the trench, their position mark their position on the section so it can be readily determined that the pipe is installed with the tablets at the top.

C.4.d.(3).i. When installation has been completed, fill the main at a velocity no greater than 1 foot per second.

C.4.d.(3).j. Take precautions to eliminate air pockets.

C.4.d.(3).k. Chlorinate pipe for at least 24 hours.

C.4.d.(3).l. If the water temperature is less than 41^{o}F, chlorinate the pipe for at least 48 hours.

C.4.d.(3).m. After the applicable retention period, flush the heavily chlorinated water from the main until chlorine concentration in the water leaving the main is no higher than 1 mg/l.

C.4.d.(3).n. Direct discharge from the watermain to the ground or surface waters may not be allowable. A WPDES (Wisconsin Pollutant Discharge Eliminate System) general permit is required for discharges of chlorinated water out of hydrants or watermains.

C.4.d.(3).o. WPDES general permits are available from the DNR area district wastewater engineer.

C.4.e) Following a satisfactorily observed chlorine residual and flushing, two successive sets of samples taken at 24 hour intervals, will be tested for bacteriological analysis.

C.4.e)(1) Funish a sampling tap consisting of a standard corporation cock installed in the main with a copper tube gooseneck assembly.

C.4.e)(2) After sampling remove the gooseneck assembly and retained for future use.

C.4.e)(3) Obtain one bacteriologically safe water sample from each location prior to the main being placed into service.

C.4.e)f) After disinfection has been completed open all valves and the facilities be placed in operation.

D Measurement
The department will measure Water Service 1-inch, Water Service 2-inch, Watermain 6-inch, and Watermain 8-inch by the linear foot, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.05	Water Service 1-Inch	LF
SPV.0090.06	Water Service 2-Inch	LF
SPV.0090.07	Watermain 6-Inch	LF
SPV.0090.08	Watermain 8-Inch	LF

Payment is full compensation for furnishing all excavating, backfilling, dewatering, wastewater removal, sheeting, shoring, for furnishing and installing water services, watermains, bedding material, initial backfill, all test procedures. Connecting fittings used at existing water services are considered incidental to the water service work.

57. Pipeline Sheet Insulation, Item SPV.0090.09.

A Description
This work consists of excavating and installing 4 foot wide sheet insulation over pipelines in the locations shown on the plans and as directed by the engineer.

B Material
B.1. One inch foam board insulation, two inch total thickness of two layers of board insulation.

B.2. Average density of 2.1#/cu. ft.

B.3. Average compressive strength of 20 psi.

B.4. “K” factor of .185 at 40°F.

B.5. Moister absorption of 0.02% by volume.

C Construction
Excavate and install insulation board in accordance to manufacturer's recommendations. Use two layers of one inch thick boards. Offset ends of boards from one layer to the next.

D Measurement
The department will measure Pipeline Sheet Insulation by the linear foot, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.09	Pipeline Sheet Insulation	LF

Payment is full compensation for furnishing all excavation, dewatering, sheeting, shoring, furnishing and installing the sheet insulation, bedding material, and backfill.

58. Remove and Salvage Traffic Signals USH 51 and STH 70 West, Item SPV.0105.01; USH 51 and CTH J / Townline Rd, Item SPV.0105.02.

A Description
This special provision describes removing and salvaging traffic signals in accordance to the pertinent provisions of standard spec 204 and as hereinafter provided.

B (Vacant)

C Construction
Inventory the quantity and condition of the traffic signals, lighting equipment, and pull box frames and covers prior to removal. Provide the engineer and the department's North Central Region electrician with a copy of the inventory.

Notify the department's electrician at least five working days prior to the desired starting date for the removal of the traffic signals. The department's electrical unit will arrange for de-energizing the signals with the local electrical utility. The department's electrical unit will verify that the traffic signals have been de-energized and will then notify the engineer.

Remove and salvage the traffic signals and pull box frames and covers, following notification by the engineer to do so, in such a manner that they are not damaged.

If the traffic signal cabinet requires removal, contact the department's electrician at least five working days prior to the desired starting date for the cabinet removal. The department's electrical unit will be responsible for all work to remove the traffic signal cabinet and its internal modules.

Remove the traffic signal standards and poles from their concrete bases. Remove the attached transformer bases, trombone arms, and luminaire arms from the standards or poles. Access hand hole doors and hardware shall remain intact. Remove the pull box frames and covers from the corrugated pipe.

Notify the department's electrician at least five working days prior, to make arrangements for delivering the salvaged traffic signals to the region's electrical shop. No deliveries shall be made on Fridays.

Load, transport and unload the salvaged materials from the construction site to the designated location. Dispose of the underground cable, wires, and conduits properly.

Department's electrical contact information:

Department's electrician:	Rick McCaigue, (715)365-5789
Region's electrical shop:	North Central Region Rhinelander Shop 501 N. Hanson Lake Road Rhinelander, WI

D Measurement

The department will measure Remove and Salvage Traffic Signals USH 51 and STH 70 West and USH 51 and CTH J / Townline Rod, 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.0105.01	Remove and Salvage Traffic Signals USH 51 and STH 70 West	LS
SPV.0105.02	Remove and Salvage Traffic Signals USH 51 and CTH J / Townline Road	LS

Payment is full compensation for inventorying; disconnecting the wiring of the traffic signals; removing and disassembling the traffic signals; removing the pull box frames and covers; loading, transporting and unloading the salvaged traffic signal materials from the construction site to the designated location.

The removal of concrete bases will be paid for separately under the pertinent items provided in the contract.
(NCR-10052011)

59. Transport Traffic Signal Monotube Materials, USH 51 and STH 70 West, Item SPV.0105.03; USH 51 and CTH J / Townline Road, Item SPV.0105.04.

A Description

This special provision describes the transporting of department furnished monotube materials in accordance to standard specs 651 through 660, as shown on the plans, and as hereinafter provided.

B Materials

The department will furnish the traffic signal monotube materials to include the equipment listed in the plans, such as, poles, arms, luminaire arms, anchor bolts, and bolt templates.

C Construction

Contact North Central Region electrician Rick McCaigue at (715) 365-5789 at least five working days prior to make arrangements for picking up the department furnished materials. The pickup shall not be done on Fridays.

Load and transport the department furnished monotube materials, from the North Central Region Electrical Shop located at 501 N. Hanson Lake Road, Rhinelander to the installation site.

Provide, assemble and install all other traffic signal and lighting materials at the specified location in accordance to the pertinent provisions of the standard specifications and the plan details for each item.

Request a signal inspection of the completed signal installation. Make this request to the engineer at least five working days prior to the date of the requested inspection. The department's ~~e~~lectricians will perform the inspection. The inspection will not be done on Fridays.

D Measurement

The department will measure Transport Traffic Signal Monotube Materials, USH 51 and STH 70 West and USH 51 and CTH J / Townline Road, as a single lump sum unit of work for each location, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.03	Transport Traffic Signal Monotube Materials, USH 51 and STH 70 West	LS
SPV.0105.04	Transport Traffic Signal Monotube Materials, USH 51 and CTH J / Townline Road	LS

Payment is full compensation for loading and transporting department furnished traffic signal monotube materials as listed in the plans.

60. Temporary Vehicle Detection USH 51 and STH 70 West, Item SPV.0105.05; USH 51 and CTH J / Townline Road, Item SPV.0105.06.

A Description

This special provision describes furnishing, installing, and maintaining vehicle detection systems at the temporary signalized intersection, in conjunction with temporary traffic signals, as shown in the plans. This work also includes maintaining existing detectors and using newly constructed detectors in conjunction with the temporary traffic signals.

B Materials

With prior approval of the engineer, select the vehicle detection technology best suited for the site conditions and the anticipated construction work zones and activities. The engineer reserves the right to request a demonstration of any or all temporary vehicle detection technologies prior to said approval. Vehicle detection technologies considered shall include, but are not limited to, temporary inductive loops, microwave detection, or video detection. Damage to new pavement for temporary detection loops will not be allowed.

The temporary vehicle detection system shall be considered part of the temporary traffic signals and is subject to the same maintenance and repair requirements as described in the Temporary Traffic Signal for Intersections (location) bid item.

Provide all necessary equipment for the approved method of temporary vehicle detection.

C Construction

Make all connections necessary to use existing loop detectors when required.

Make all temporary connections necessary to use newly constructed loop detectors when required. Do not use new signal conduit when using newly constructed loop detectors.

Use temporary vehicle detection in place of any existing loop detectors or newly constructed loop detectors that are inoperable or if desired.

D Measurement

The department will measure Temporary Vehicle Detection (Location), demonstrated, furnished, installed, and completely operational, as a single complete lump sum unit of work per intersection, complete in place and accepted.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.05	Temporary Vehicle Detection, USH 51 and STH 70 West	LS
SPV.0105.06	Temporary Vehicle Detection, USH 51 and CTH J / Townline Road	LS

Payment is full compensation for demonstrating and selecting the vehicle detector technology; furnishing and installing the equipment including all required materials and supplies; cleaning up and properly disposing of waste; using existing or newly constructed loop detectors.

61. Water for Seeded Areas, Item SPV.0120.01.

A Description
This special provision describes furnishing, hauling and applying water to seeded areas as directed by the engineer, and as hereinafter provided.

B Materials
Furnish water that is in accordance to the pertinent requirements of standard spec 624.

Use clean water, free of impurities or substances that might injure the seed.

C Construction
Water the seeded area in accordance to standard spec 624 except as hereinafter modified.

If rainfall is not sufficient, keep all seeded areas thoroughly moist by watering or sprinkling to maintain a moist soil condition for the first 30 days after seeding. Apply water in a manner to preclude washing or erosion. Do not leave topsoil un-watered for more than 3 days during this 30-day period unless the engineer determines that it is excessively wet and does not require watering. The equivalent of one inch of rainfall per week shall be considered the minimum.

D Measurement
The department will measure Water for Seeded Areas by volume in thousand gallon units (MGAL), acceptably completed. The department will determine volume by engineer-approved meters or from tanks of known capacity.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0120.01	Water for Seeded Areas	MGAL

Payment is full compensation for furnishing, hauling, and applying the water.
(NCR-01182012)

62. Colored Textured Concrete Terrace 6-Inch, Item SPV.0165.01.

A Description

This special provision describes furnishing materials and installing patterned Colored Textured Concrete Terrace 6-Inch for all areas detailed on the plans in accordance to standard specs 405 and 602 and the plan details, as directed by the engineer, and as hereinafter provided.

B Materials

Replace standard spec 405.2.1(1) with the following:

Integrally color concrete using non-fading pigments conforming to ASTM C979 as follows:

Present the Federal Standard 595 Color Server, Red color palette to the Town of Minocqua for color selection prior to any work. Match the concrete color in reasonably close conformity to the FS color selected by the town. (http://www.colorserver.net/browse/)

Provide pattern dimensions that vary no more than ±1/8 inch from the standard values published by the manufacturer, and forms in accordance to the standard spec 602.3.2.2. Decorative Treatment shall conform to plan requirements for color, texture, and patterns.

Pattern must have a minimum depth of ¼-inch. Check grades and correct all areas that vary from tolerance by adding or removing concrete while the material is still plastic.

C Construction

Construct decorative portion of the terrace as a separate pour from remainder of the sidewalk and provide construction joints conforming to all requirements described in standard spec 602.3.2.5.

Conduct installation operations consistent to standard spec 602.3.2.6 in such a manner as to prevent damage to the concrete surface. At no expense to the department, correct any such damage as directed by the engineer.

Do not operate tracked or wheeled equipment within 8 feet of the decorative treatment for a period of 7 days. The engineer may order the removal of any large or heavy equipment that may cause damage to the treatment areas.

D Measurement

The department will measure Colored Textured Concrete Terrace 6-inch in area by the square foot, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.01	Colored Textured Concrete Terrace 6-inch	SF

Payment is full compensation for preparing the site, including all necessary materials, including concrete; supplying all necessary components to produce a patterned colored textured concrete terrace.

63. Colored Concrete Terrace 6-Inch, Item SPV.0165.02.

A Description

This special provision describes furnishing materials and installing patterned Colored Concrete Terrace 6-Inch for all areas detailed on the plans in accordance to standard specs 405 and 602 and the plan details, as directed by the engineer, and as hereinafter provided.

B Materials

Supplement standard spec 405.2.1(1) with the following:

For green: Present the Federal Standard 595 Color Server, Green color palette to the Town of Woodruff for color selection prior to any work. Match the concrete color in reasonably close conformity to the FS color selected by the town. (http://www.colorserver.net/browse/)

C Construction

Construct the terrace as a separate pour from remainder of the sidewalk and provide construction joints conforming to all requirements described in standard spec 602.3.2.5.

Conduct installation operations consistent to standard spec 602.3.2.6 in such a manner as to prevent damage to the concrete surface. At no expense to the department, correct any such damage as directed by the engineer.

Do not operate tracked or wheeled equipment within 8 feet of the decorative treatment for a period of 7 days. The engineer may order the removal of any large or heavy equipment that may cause damage to the treatment areas.

D Measurement

The department will measure Colored Concrete Terrace 6-inch in area by the square foot, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.02	Colored Concrete Terrace 6-inch	SF

Payment is full compensation for preparing the site, including all necessary materials, including the concrete; supplying all necessary components to produce a colored concrete terrace.

64. Playground Surfacing Poured-In-Place, Item SPV.0165.03.

A Description

This special provision describes furnishing materials and installing poured-in-place playground surfacing for all areas detailed on the plans, and as hereinafter provided.

B Materials

B.1 Playground Surface

Provide PlayBound poured-in-place playground surface from the following manufacturer:

Surface America, Inc.
Contact: PO Box 157, Williamsville, NY 14231;
Telephone: (800) 999-0555, (716) 632-8413; Fax: (716) 632-8324;
E-mail: info@surfaceamerica.com; website: http://www.surfaceamerica.com.

B.2 Design Requirements

PlayBound poured-in-place playground surfacing basemat:
Thickness: 3 ½", 2 ½", 2" per plan

PlayBound poured-in-place playground surfacing top surface:
Thickness: Nominal 1/2", minimum 3/8", maximum 5/8"

Color: Standard Combination - 50% Hunter Green / 50% Black (speckled look)

C Construction

Comply with the instructions, specifications and recommendations of the playground surfacing manufacturer on base material prepared by the Town of Minocqua.

The borders of the new surfacing will be constructed with a beveled edge. Cut the beveled edge on existing rubber surfacing to match up with the new surfacing installation.

D Measurement

The department will measure Playground Surfacing Poured-In-Place in area by the square foot, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.03	Playground Surfacing Poured-In-Place	SF

Payment is full compensation for supplying all necessary materials and supplying all necessary components to produce a poured–in-place playground surfacing system; for preparing foundation for playground surface; and for cutting existing playground surface edge.

65. Preparing Topsoil for Lawn Type Turf, Item SPV.0180.01.

A Description
This special provision describes preparing the bed of topsoil or salvaged topsoil, for seeding or sodding, in areas designated by the engineer where a lawn type turf is desired.

B (Vacant)

C Construction
Prepare and finish the subgrade so that rocks, concrete debris, or wood larger than three inches in diameter are not present within 1 foot of the finished surface of the topsoil.

Remove or break down all clods and lumps in the topsoil by using harrows or discs, screening, or other appropriate methods to provide a uniformly textured soil, in which 100 percent of the topsoil passes a one-inch sieve and at least 90 percent passes a No. 10 sieve.

Remove rocks, twigs, clods, and other foreign material that will not break down, and dress the entire surface to present a uniform appearance.

Shape the topsoil so that the horizontal or sloped surface between any two points ten feet apart does not vary by more than one inch. Roll with a turf type roller to a uniform minimum compacted depth of 4 inches or as the plans show.

Shape and compact the topsoil adjacent to pavements, sidewalks and curbs to 1 inch below the top of the abutting surface. Before seeding, correct locations that vary by more than ¼-inch.

D Measurement
The department will measure Preparing Topsoil for Lawn Type Turf in area by the square yard, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.01.	Preparing Topsoil for Lawn Type Turf	SY

Payment is full compensation for preparing the subgrade and topsoil bed for sod or seed as described above.
(NCR-01182012)

66. QMP Base Aggregate Dense 1 1/4-inch Compaction, Item SPV.0195.01.

A Description

(1) This special provision modifies the compaction and density testing documentation requirements of work done under the Base Aggregate Dense 1 1/4-inch bid items. Conform to standard specification 305 as modified in this special provision and to the contract QMP Base Aggregate article.

(2) Provide and maintain a quality management program. A quality management program is defined as all activities, including process control, inspection, sampling and testing, and necessary adjustments in the process related to construction of dense graded base which meets all the requirements of this provision.

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

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

(4) This special provision applies to Base Aggregate Dense 1 1/4-inch material placed on both the mainline traveled way and its adjacent mainline shoulders in accordance to the typical finished sections. Unless otherwise specified by the contract; all Base Aggregate Dense 1 1/4-inch material placed on side roads, private and public entrances, ramps, tapers, turn lanes, and other locations not described as the mainline traveled way and its adjacent mainline shoulders is exempt from the compaction and density requirement modifications and testing contained within this special provision.

B (Vacant)

C Construction

C.1 General

(1) The engineer shall approve the grade prior to placement of the base. Approval of the grade shall be in accordance to applicable provisions of the Standard Specifications.

Supplement standard spec 305.3.2.2 with the following:

(3) Compact the 1 1/4-inch dense graded base to a minimum of 93.0% of the material target density. Ensure that adequate moisture is present during placement and compaction operations to prevent segregation and to help achieve compaction. (4) The material target density will be identified using one of the following methods:

1. For 1 1/4-inch dense graded base composed of ≤20% reclaimed asphaltic pavement (RAP) or crushed concrete (RCA); as determined by classification of material (aggregate or RAP and/or RCA), and percentage by weight of each material type, retained on the No. 4 Sieve; maximum dry density as determined by AASHTO T-180, Method D, with correction for coarse particles as determined by AASHTO T224; modified to require determination of Bulk Specific Gravity (G_m) in accordance to AASHTO T 85, Bulk Specific Gravities determined in accordance to Standard Specification 106.3.4.2.2 for aggregate source approval may be utilized

2. For 1 1/4-inch dense graded base composed of >20% RAP or RCA; as determined by classification of material (aggregate or RAP and/or RCA), and percentage by weight of each material type, retained on the No. 4 Sieve; the contractor's option of:

    a. Maximum dry density as determined by AASHTO T-180, Method D, with correction for coarse particles as determined by AASHTO T224; modified to require determination of Bulk Specific Gravity (G_m) in accordance to AASHTO T 85.

    b. Maximum wet density as determined by AASHTO T-180, Method D, modified to define *Maximum Density* as the wet density in pounds per cubic foot of soil at optimum moisture content under the Method D specified compaction, and with correction for coarse particles as determined by AASHTO T224; modified to require determination of Bulk Specific Gravity (G_m) in accordance to AASHTO T 85.

    c. Average of 10 random control strip wet density measurements as described in section C.2.4.1.

(4) Base aggregate dense 1 1/4-inch will be accepted for compaction on a target density lot basis.

(5) Field density tests on materials using contractor elected target density methods C.1(4).2.b or C.1(4).2.c will not be considered for lot acceptance on the basis of compaction under the requirements of this provisions until the moisture content of the in-place material is less than 2.0 percentage points above of the maximum wet density optimum moisture or 2.0 percentage points of the average moisture content of the 10 density tests representing a control strip, respectively.

C.2 Quality Management Program

C.2.1 Quality Control Plan

(1) Submit a comprehensive written quality control plan to the engineer no later than 10 business days before placement of material. Do not place any dense graded base before the engineer reviews and accepts the plan. Construct the project as the plan provides.

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

1. An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of QC personnel.
2. The process used to disseminate QC information and corrective action efforts to the appropriate persons. Include a list of recipients, the communication process that will be used, and action time frames.
3. A list of source locations, section and quarter descriptions, for all aggregate materials requiring QC testing.
4. Descriptions of stockpiling and hauling methods.
5. An outline for resolving a process control problem. Include responsible personnel, required documentation, and appropriate communication steps.
6. Location of the QC laboratory, retained sample storage, and other documentation.
7. A summary of the locations and calculated quantities to be tested under this provision.

C.2.2 Personnel

(1) Perform the quality control sampling, testing, and documentation required under this provision using technicians certified by the department's Highway Technician Certification Program (HTCP). Have a HTCP Nuclear Density Technician I, or ACT certified technician, perform field density and field moisture content testing.

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

C.2.3 Equipment

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

(2) Furnish nuclear gauges from the department's approved product list at:
http://www.dot.wisconsin.gov/business/engrserv/approvedprod.htm

(3) Ensure that the nuclear gauge manufacturer or an approved calibration service calibrates the gauge the same calendar year it is used on the project. Retain a copy of the calibration certificate with the gauge.

(4) For all target density methods; conform to ASTM D 6938 and CMM 8.15 for wet density testing and gauge monitoring methods.

(5) For the specified target density method C.1(4).1 compute dry densities for dense graded base composed of ≤20% RAP or RCA, according to ASTM D 6938.

(6) For contractor elected target density method C.1(4).2.a compute dry densities of dense graded base composed of >20% RAP or RCA using a moisture correction factor and the nuclear wet density value. Determine the moisture correction value; for each Proctor produced under the requirements of C.2.4.2; using the moisture bias, as shown in CMM 8.15.4.1, except the one-point Proctor tests of the 5 random tests is not required. Determine natural moistures in the laboratory.

(7) Perform nuclear gauge measurements using gamma radiation in the backscatter or direct transmission position. Backscatter may be used only if the material being tested cannot reliably maintain an undistorted Direct Transmission test hole. Direct transmission tests must be performed at the greatest possible probe depth of 2 inches, 4 inches, or 6 inches; not to exceed the depth of the compacted layer being tested. Perform each test for 4 minutes of nuclear gauge count time.

C.2.4 Contractor Testing

(1) Perform compaction testing on the mainline dense graded base material, as defined by A.(4). Perform the quality control sampling, testing, and documentation required under this provision using HTCP certified technicians as required in C.2.2. Conform to CMM 8.15 for testing and gauge monitoring methods.

(2) Select test sites randomly using ASTM Method D3665. Do not test less than 1 ½ feet from the unsupported edge of the dense graded base layer. Test sites must be located within the mainline traveled way or the traveled way's adjacent mainline shoulder.

C.2.4.1 Contractor Required Quality Control (QC) Testing

(1) Conduct testing at a minimum frequency of one test per lot. A lot will consist of each 1500 tons, of each layer with a minimum lift thickness of 2", of base aggregate dense 1 1/4-inch material placed; regardless of location of placement. Each lot of in-place mainline, as defined by A.(4), 1 1/4-inch base aggregate dense material will be accepted for compaction when the lot field density meets the required minimum 93.0% of target density, or for lots not achieving 93.0% of target density in accordance to C.2.6.

(2) Notify the engineer, if a lot field density test falls below the required minimum value. Document and perform corrective action in accordance to C.2.6. Deliver documentation of all compaction testing results to the engineer at the time of testing.

C.2.4.1.1 Target Density Determination

C.2.4.1.1.1 Density Control Strip Method

(1) For contractor elected target density method C.1(4).2.c; construct a control strip for each layer of placement to identify the target wet density for the base aggregate dense material. The control strip construction and density testing will occur under the direct observation and/or assistance of the department QV personnel.

(2) Unless the engineer approves otherwise, construct control strips to a minimum dimension of 300 feet long and one full lane width.

(3) Completed control strips may remain in-place to be incorporated into the final roadway cross-section.

(4) Construct additional control strips, at a minimum, when:

1. The gradation on any one sieve differs from the original gradation test result for that sieve, by more than 10 percentage points. The original gradation test is defined as the gradation of the material used to construct the control strip.

2. The source of base aggregate changes.

3. The percentage of blended recycled materials; from classification of material retained on the No. 4 sieve; in the original gradation test, differs by more than 10 percentage points. The original gradation test is defined as the gradation of the material used to construct the control strip.

4. The layer thickness changes in excess of 2.0 inches.

5. The percent target density exceeds 103.0% on two consecutive density measurements.

(5) Construct control strips using equipment and methods representative of the operations to be used to place and compact the remaining 1 1/4–inch base aggregate dense material. Wet the base, as mutually agreed upon by the contractor and engineer, to obtain and/or maintain adequate moisture content to ensure proper compaction. Discontinue water placement if the base begins to exhibit signs of saturation or instability.

(6) After compacting the control strip with a minimum of 2 passes, mark and take density measurements at 3 random locations, at least 1 ½ feet from the edge of the base. Subsequent density measurements will be taken at the same 3 locations.

(7) After each subsequent pass of compaction equipment over the entirety of the control strip, take density measurements at the 3 marked locations. Continue compacting and testing until the increase in density measurements is less than 2.0 lb/ft^3, or the density measurements begin to decrease.

(8) Upon completion of control strip compaction, take 10 randomly located density measurements within the limits of the control strip, at least 1 ½ feet from the edge of the base. The final measurements recorded at the 3 locations under article C.2.4.1.1(6) may be included as 3 of the 10 measurements. Average the 10 measurements to obtain the control strip target density and target moisture for use in contractor elected method C.1(4).2.c.

C.2.4.1.1.2 Maximum Wet and/or Dry Density Methods

(1) For contractor elected target density methods C.1(4).2.a, C.1(4).2.b, and contractually specified target density method C.1(4).1; perform one gradation and 5-point Proctor test before placement of 1 1/4-inch dense graded base. Perform additional gradations every 3000 tons. If sampling requirements are identical, samples/testing performed for the QMP Base Aggregate specification may be used to fulfill the gradation testing requirements of this specification.

(2) Perform additional 5-point Proctor tests, at a minimum, when:

1. The gradation on any one sieve differs from the original gradation test result for that sieve, by more than 10 percentage points. The original gradation test is defined as the gradation of the material used to create a 5-point Proctor. Each 5-point Proctor test will remain valid for any material with gradation for all sieves within 10.0 percentage points of that Proctor's original gradation test.

2. The source of base aggregate changes.

3. The percentage of blended recycled materials ; from classification of material retained on the No. 4 sieve; in the original gradation test, differs by more than 10 percentage points. The original gradation test is defined as the gradation of the material used to construct the control strip.

4. Percent target density exceeds 103.0% on two consecutive density tests.

(3) Provide Proctor test results to the engineer within 48 hours of sampling. Provide gradation test results to the engineer within 24 hours of sampling.

(4) 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.

C.2.4.2 Optional Contractor Assurance (CA) Testing

(1) CA Testing is optional and is conducted to further validate QC testing. The contractor may submit recorded CA data to provide additional information for the following:

1. Process control decisions
2. Troubleshooting possible sampling, splitting, or equipment problems.

3. Limiting liability and/or corrective action limits as a result of QV or QC testing. These provisions do not supersede the department's rights under 107.16
4. CA testing used to limit liability and/or corrective action limits must conform to all the requirements of required contractor QC testing, with the exclusion of a required test frequency.

C.2.5 Department Testing

C.2.5.1 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.

C.2.5.2 Quality Verification (QV) Testing

(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 C.2.2 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 at the minimum frequency of 30% of the required gradation, density and proctor contractor tests.

(3) The department will locate gradation, proctor and nuclear density test samples, at locations independent of the contractor's QC work, collecting one sample at each QV location. The department will split each QV sample, test half for QV, and retain the remaining half for 7 calendar days.

(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 utilize control strip target density testing results in lieu of QV proctor sampling and testing when the contractor elected C.1(4).2.c target density method is used.

(6) The department will assess QV results by comparing to the appropriate specification limits. If QV test results conform to this special provision, the department will take no further action. If QV test results are nonconforming, take corrective actions in accordance to C.2.6 until the requirements of this special provision are met. Differing QC and QV nuclear density values of more than 2.0 pcf will be investigated and resolved.

C.2.5.3 Independent Assurance (IA)

(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. 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 C.2.5.4.

C.2.5.4 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 shall review the data, examine data reduction and analysis methods, evaluate sampling and testing methods/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 project personnel cannot resolve a dispute, and the dispute affects payment or could result in incorporating non-conforming product or work, 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.2.6 Corrective Action

(1) Lots not achieving 93.0% of target density may be addressed and accepted for compaction in accordance to the requirements of this section. Unless otherwise stated, the actions taken to address an unacceptable lot must be applied to the entire lot.

Passing CA test results in accordance to section C.2.4.2, will reduce the limits of lot investigations and/or corrective actions.

(2) At no additional cost to the department, investigate the moisture content of material in an unacceptable lot. Moisture content testing/samples collected under the QC and/or QV testing articles of this specification may be used to complete this investigation. Obtain moisture content readings in accordance to ASTM D 6938. For material composed of >20% RAP or RCA, correct the moisture content with the moisture correction value using the moisture bias, as shown in CMM 8.15.4.1, except the one-point Proctor tests of the 5 random tests is not required.

(3) Lots with moisture contents within 2.0 percentage points of optimum moisture for target density methods C.1(4).1, C.1(4).2.a, or C.1(4).2.b ; or within 2.0 percentage points of the target moisture content for target density method C.1(4).2.c; and exhibiting no signs of deflection when subjected to loading by the heaviest roller used in the placement and compaction operations; will be, at no additional cost to the department, compacted a minimum of one more pass using equipment and methods representative of the operations used to place and compact the base aggregate dense; and density tested at the same location (station and offset) as the failing QC and/or QV density tests. If the change in density exceeds 2.0 lb/ft^3 continue subsequent compactive efforts and density testing on that lot, at no additional cost to the department. If the change in density is less than or equal to 2.0 lb/ft^3, the lot is accepted as satisfying the compaction requirements of this provision.

(4) Lots with moisture contents within 2.0 percentage points of optimum moisture for target density methods C.1(4).1, C.1(4).2.a, or C.1(4).2.b ; or within 2.0 percentage points of the target moisture content for target density method C.1(4).2.c; and exhibiting signs of deflection when subjected to loading by the heaviest roller used in the placement and compaction operations; will be reviewed by the engineer. The engineer may request subgrade improvement methods, such as excavation below subgrade (EBS), installation of geotextile fabrics, installation of breaker run material or others to be completed and paid for in accordance to 301.5; or may request, at no additional cost to the department, an additional pass of compactive effort using equipment and methods representative of the operations used to place and compact the base aggregate dense and density test.

1. If, after an additional pass, the change in density at the same location (station and offset) as the failing QC and/or QV density tests exceeds 2.0 lb/ft^3 in a lot continue subsequent compactive efforts and density testing on that lot, at no additional cost to the department. If the change in density at the same location (station and offset) as the failing QC and/or QV density tests is less than or equal to 2.0 lb/ft^3, and subgrade improvement methods are not requested by the engineer, the lot is accepted as satisfying the compaction requirements of this provision.

2. If subgrade improvement methods are requested by the engineer, upon completion, including compaction of the restored base material, conduct a density test within the improved subgrade limits. This density test result will replace the prior field density value. If the lot field density equals or exceeds 93.0% of target density the lot is accepted as satisfying the compaction requirements of this provision. If the lot field density fails to achieve 93.0% of target density, at no additional cost to the department, compact the lot a minimum of one more pass using equipment and methods representative of the operations used to place and compact the base aggregate dense; and density test at the same location (station and offset) as the failing QC and/or QV density tests. If the change in density exceeds 2.0 lb/ft^3 continue subsequent compactive efforts and density testing on that lot, at no additional cost to the department. If the change in density is less than or equal to 2.0 lb/ft^3, the lot is accepted as satisfying the compaction requirements of this provision.

(5) Lots with moisture contents in excess of 2.0 percentage points above or below optimum moisture for target density methods C.1(4).1, C.1(4).2.a, or C.1(4).2.b ; or within 2.0 percentage points of the target moisture content for target density method C.1(4).2.c; shall receive contractor performed and documented corrective action; including additional density testing; at no additional cost to the department.

(6) Density tests completed subsequent to any corrective action will replace previous field density test results for that lot. Continue corrective actions until 93.0% of target density is achieved; or an alternate compaction acceptance criteria is met in accordance to this section.

(7) Field moisture contents of materials tested using contractor elected target density methods C.1(4).2.b or C.1(4).2.c cannot exceed 2.0 percentage points of the optimum moisture content or 2.0 percentage points of the target moisture content, respectively. Density tests on materials using contractor elected target density methods C.1(4).2.b or C.1(4).2.c will not be considered for lot compaction acceptance until the moisture content of the corresponding density test of the in-place material is less than 2.0 percentage points above of the optimum moisture content or 2.0 percentage points of the target moisture content, respectively.

D Measurement

(1) The department will measure QMP Base Aggregate Dense 1 1/4-inch Compaction by the ton. The measured tons of QMP Base Aggregate Dense 1 ¼-inch Compaction equals the tons of Base Aggregate Dense 1 1/4-inch acceptably completed, regardless of placement location and density testing eligibility.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0195.01	QMP Base Aggregate Dense 1 1/4-inch Compaction	TON

(2) Payment is full compensation for performing compaction testing; for sampling and laboratory testing; and for developing, completing, and documenting the compaction quality management program. The department will pay separately for providing the aggregate under the Base Aggregate Dense 1 1/4-inch bid item.

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://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm

(2) Ensure that all tiers of subcontractors, as well as all trucking firms, submit their weekly certified payrolls electronically through CRCS. These payrolls are due within seven calendar days following the close of the payroll period. Every firm providing physical labor towards completing the project is a subcontractor under this special provision.

(3) Upon receipt of contract execution, promptly make all affected firms aware of the requirements under this special provision and arrange for them to receive CRCS training as they are about to begin payrolls. The department will provide training either in a classroom setting at one of our regional offices or by telephone. Contact Tess Mulrooney at 608-267-4489 to schedule the training.

(4) The department will reject all paper submittals of forms DT-1816 and DT-1929 for information required under this special provision. All costs for conforming to this special provision are incidental to the contract.

(5) Firms wishing to export payroll data from their computer system into CRCS should have their payroll coordinator send several sample electronic files to Tess two months before a payroll needs to be submitted. Not every contractor's payroll system is capable of producing export files. For details, see pages 17-22 of the CRCS System Background Information manual available online on the Labor, Wages, and EEO Information page at: http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/crc-basic-info.pdf

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
ONEIDA COUNTY

Compiled by the State of Wisconsin - Department of Workforce Development
for the Department of Transportation
Pursuant to s. 103.50, Stats.
Issued on September 1, 2013

CLASSIFICATION: Contractors are required to call the Department of Workforce Development if there are any questions reqarding the proper trade or classification to be used for any worker on a public works project.

OVERTIME: Time and one-half must be paid for all hours worked over 10 hours per day and 40 hours per calendar week and for all hours worked on Saturday, Sunday and the following six (6) holidays: January 1; the last Monday in May; July 4; the 1st Monday in September; the 4th Thursday in November; December 25; the day before if January 1, July 4 or December 25 falls on a Saturday; the day following if January 1, July 4 or December 25 falls on a Sunday.

FUTURE INCREASE: If indicated for a specific trade or occupation, the full amount of such increase MUST be added to the "TOTAL" indicated for such trade or occupation on the date(s) such increase(s) becomes effective.

PREMIUM PAY: If indicated for a specific trade or occupation, the full amount of such pay MUST be added to the "HOURLY BASIC RATE OF PAY" indicated for such trade or occupation, whenever such pay is applicable.

SUBJOURNEY: Wage rates may be available for some of the classifications indicated below. Any employer that desires to use any subjourney classification on a project MUST request the applicable wage rate from the Department of Workforce Development PRIOR to the date such classification is used on such project. Form ERD-10880 is available for this purpose and can be obtained by writing to the Department of Workforce Development, Equal Rights Division, P.O. Box 8928, Madison, WI 53708.

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Bricklayer, Blocklayer or Stonemason	35.58	19.20	54.78
Carpenter	30.16	15.31	45.47
Cement Finisher	31.52	16.60	48.12
Future Increase(s): Add $1.87 on 6/1/13; Add $1.87 on 6/1/14; Add $1.87 on 6/1/15;Add $1.75 on 6/1/16. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.40/hr when the Wisconsin Department of Transportation or responsible governing agency requires that work be performed at night under artificial illumination with traffic control and the work is completed after sunset and before sunrise.			
Electrician	28.61	16.60	45.21
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	28.00	4.50	32.50
Ironworker	30.90	19.11	50.01
Line Constructor (Electrical)	31.29	15.34	46.63
Painter	28.00	13.48	41.48
Pavement Marking Operator	24.10	17.94	42.04
Piledriver	30.66	15.31	45.97
Roofer or Waterproofer	17.00	3.40	20.40
Teledata Technician or Installer	21.26	11.75	33.01
Tuckpointer, Caulker or Cleaner	30.76	15.10	45.86
Underwater Diver (Except on Great Lakes)	37.45	19.45	56.90
Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	33.35	14.21	47.56
Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY	35.50	13.75	49.25
Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	25.94	13.57	39.51
Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	24.08	12.96	37.04

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Groundman - ELECTRICAL LINE CONSTRUCTION ONLY	21.75	11.90	33.65
TRUCK DRIVERS			
Single Axle or Two Axle	33.22	18.90	52.12
Three or More Axle	23.60	16.50	40.10
Articulated, Euclid, Dumptor, Off Road Material Hauler Future Increase(s): Add $1.85/hr on 6/1/2013. Premium Pay: DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.	23.31	17.13	40.44
Pavement Marking Vehicle	23.84	14.86	38.70
Shadow or Pilot Vehicle	33.22	18.90	52.12
Truck Mechanic	23.60	16.50	40.10
LABORERS			
General Laborer Future Increase(s): Add $1.70/hr on 6/1/2013; Add $1.60/hr on 6/1/2014. Premium Pay: Add $.10/hr for topman, air tool operator, vibrator or tamper operator (mechanical hand operated), chain saw operator and demolition burning torch laborer; Add $.15/hr for bituminous worker (raker and luteman), formsetter (curb, sidewalk and pavement) and strike off man; Add $.20/hr for blaster and powderman; Add $.25/hr for bottomman; Add $.35/hr for line and grade specialist; Add $.45/hr for pipelayer. DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).	28.07	13.90	41.97
Asbestos Abatement Worker	24.51	14.98	39.49
Landscaper Future Increase(s): Add $1.70/hr on 6/1/13; Add $1.60/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).	28.07	13.90	41.97
Flagperson or Traffic Control Person Future Increase(s): Add $1.70/hr on 6/1/2013; Add $1.60/hr on 6/1/2014. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year’s Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr when the Wisconsin Department of Transportation or responsible governing agency requires that work be performed at night under artificial illumination with traffic control and the work is completed after sunset and before sunrise.	24.70	13.90	38.60
Fiber Optic Laborer (Outside, Other Than Concrete Encased)	15.00	2.62	17.62
Railroad Track Laborer	23.41	8.11	31.52
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	35.22	19.90	55.12

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
Derrick, With or Without Attachments, With a Lifting Capacity of Over 100 Tons, Self-Erecting Tower Crane With a Lifting Capacity Of Over 4,000 Lbs., Crane With Boom Dollies; Traveling Crane (Bridge Type). Future Increase(s): Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT's website for details about the applicability of this night work premium at: http://roadwaystandards.dot.wi.gov/hcci/labor- wages- eeo/ index. shtm.			
Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of 130,000 Lbs. or Over; Caisson Rig; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 175 Ft or Under; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of 100 Tons or Under, Self-Erecting Tower Crane With A Lifting Capacity Of 4,000 Lbs., & Under; Dredge (NOT Performing Work on the Great Lakes); Licensed Boat Pilot (NOT Performing Work on the Great Lakes); Pile Driver. Future Increase(s): Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT's website for details about the applicability of this night work premium at: http://roadwaystandards.dot.wi.gov/hcci/labor- wages- eeo/ index. shtm.	34.72	19.90	54.62
Air Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Asphalt Heater, Planer & Scarifier; Asphalt Milling Machine; Asphalt Screed; Automatic Subgrader (Concrete); Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. & Under); Bituminous (Asphalt) Plant & Paver, Screed; Boatmen (NOT Performing Work on the Great Lakes); Boring Machine (Directional, Horizontal or Vertical); Bridge (Bidwell) Paver; Bulldozer or Endloader; Concrete Batch Plant, Batch Hopper; Concrete Breaker (Large, Auto, VIbratory/Sonic, Manual or Remote); Concrete Bump Cutter, Grinder, Planing or Grooving Machine; Concrete Conveyor System; Concrete Laser/Screed; Concrete Paver (Slipform); Concrete Pump, Concrete Conveyor (Rotec or Bidwell Type); Concrete Slipform Placer Curb & Gutter Machine; Concrete Spreader & Distributor; Crane (Carry Deck, Mini) or Truck Mounted Hydraulic Crane (10 Tons or Under); Crane WIth a Lifting Capacity of 25 Tons or Under; Forestry Equipment, Timbco, Tree Shear, Tub Grinder, Processor; Gradall (Cruz-Aire Type); Grader or Motor Patrol; Grout Pump; Hydro-Blaster (10,000 PSI or Over); Loading Machine (Conveyor); Material or Stack Hoist; Mechanic or Welder; Milling Machine; Post Hole Digger or Driver; Roller (Over 5 Ton); Scraper (Self Propelled or Tractor Drawn) 5 cu yds or More Capacity; Shoulder Widener; Sideboom; Skid Rig; Stabilizing or Concrete Mixer (Self-Propelled or 14S or Over); Straddle Carrier or Travel Lift; Tractor (Scraper, Dozer, Pusher, Loader); Tractor or Truck Mounted Hydraulic Backhoe; Trencher (Wheel Type or Chain Type); Tube Finisher; Tugger (NOT Performing Work on the Great Lakes); Winches & A- Frames. Future Increase(s): Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT's website for details about the applicability of this night work premium at: http://roadwaystandards.dot.wi.gov/hcci/labor- wages- eeo/ index. shtm.	34.22	19.90	54.12
Belting, Burlap, Texturing Machine; Broom or Sweeper; Compactor (Self-Propelled or Tractor Mounted, Towed & Light Equipment); Concrete	33.96	19.90	53.86

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Finishing Machine (Road Type); Environmental Burner; Farm or Industrial Type Tractor; Fireman (Asphalt Plant, Pile Driver & Derrick NOT Performing Work on the Great Lakes); Forklift; Greaser; Hoist (Tugger, Automatic); Jeep Digger; Joint Sawer (Multiple Blade); Launch (NOT Performing Work on the Great Lakes); Lift Slab Machine; Mechanical Float; Mulcher; Power Subgrader; Robotic Tool Carrier (With or Without Attachments); Roller (Rubber Tire, 5 Ton or Under); Self Propelled Chip Spreader; Shouldering Machine; Skid Steer Loader (With or WIthout Attachments); Telehandler; Tining or Curing Machine. Future Increase(s): Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT's website for details about the applicability of this night work premium at: http://roadwaystandards.dot.wi.gov/hcci/labor- wages- eeo/ index. shtm.			
Air Compressor (&/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; Augers (Vertical & Horizontal); Automatic Belt Conveyor & Surge Bin; Boiler (Temporary Heat); Concrete Proportioning Plant; Crusher, Screening or Wash Plant; Generator (&/or 150 KW or Over); Heaters (Mechanical); High Pressure Utility Locating Machine (Daylighting Machine); Mudjack; Oiler; Prestress Machine; Pug Mill; Pump (3 Inch or Over) or Well Points; Rock, Stone Breaker; Screed (Milling Machine); Stump Chipper; Tank Car Heaters; Vibratory Hammer or Extractor, Power Pack. Future Increase(s): Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT's website for details about the applicability of this night work premium at: http://roadwaystandards.dot.wi.gov/hcci/labor- wages- eeo/ index. shtm.	33.67	19.90	53.57
Fiber Optic Cable Equipment.	16.00	2.85	18.85

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

CONTRACT: 20140211016
PROJECT(S): 1174-10-72, 1174-10-73
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
	SECTION 0001 CONTRACT ITEMS					
0010	201.0105 CLEARING	16.000 STA		.		.
0020	201.0110 CLEARING	475.000 SY		.		.
0030	201.0205 GRUBBING	16.000 STA		.		.
0040	201.0210 GRUBBING	475.000 SY		.		.
0050	203.0210.S ABATEMENT OF ASBESTOS CONTAINING MATERIAL (STRUCTURE) 01. SANITARY SEWER AND FORCEMAIN PIPE	LUMP	LUMP			.
0060	204.0110 REMOVING ASPHALTIC SURFACE	5,665.000 SY		.		.
0070	204.0120 REMOVING ASPHALTIC SURFACE MILLING	6,442.000 SY		.		.
0080	204.0150 REMOVING CURB & GUTTER	8,155.000 LF		.		.
0090	204.0155 REMOVING CONCRETE SIDEWALK	131.000 SY		.		.

CONTRACT: 20140211016
PROJECT(S): 1174-10-72, 1174-10-73
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0100	204.0195 REMOVING CONCRETE BASES	21.000 EACH		.		.
0110	204.0210 REMOVING MANHOLES	20.000 EACH		.		.
0120	204.0220 REMOVING INLETS	30.000 EACH		.		.
0130	204.0235 REMOVING BUILDINGS (PARCEL) 01. PARCEL 602	LUMP	LUMP			.
0140	204.0235 REMOVING BUILDINGS (PARCEL) 02. PARCEL 603	LUMP	LUMP			.
0150	204.0235 REMOVING BUILDINGS (PARCEL) 03. PARCEL 604	LUMP	LUMP			.
0160	204.0235 REMOVING BUILDINGS (PARCEL) 04. PARCEL 606	LUMP	LUMP			.
0170	204.0235 REMOVING BUILDINGS (PARCEL) 05. PARCEL 608	LUMP	LUMP			.
0180	204.0235 REMOVING BUILDINGS (PARCEL) 06. PARCEL 713	LUMP	LUMP			.
0190	204.0245 REMOVING STORM SEWER (SIZE) 01. 12 - INCH	1,064.000 LF		.		.

CONTRACT: 20140211016
PROJECT(S): 1174-10-72, 1174-10-73
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0200	204.0245 REMOVING STORM SEWER (SIZE) 02. 15 - INCH	205.000 LF		.		.
0210	204.0245 REMOVING STORM SEWER (SIZE) 03. 18 - INCH	435.000 LF		.		.
0220	204.0245 REMOVING STORM SEWER (SIZE) 04. 27 - INCH	276.000 LF		.		.
0230	204.0245 REMOVING STORM SEWER (SIZE) 05. 30 - INCH	221.000 LF		.		.
0240	204.0245 REMOVING STORM SEWER (SIZE) 06. 36 - INCH	2,301.000 LF		.		.
0250	205.0100 EXCAVATION COMMON	28,558.000 CY		.		.
0260	208.0100 BORROW	4,324.000 CY		.		.
0270	209.0100 BACKFILL GRANULAR	100.000 CY		.		.
0280	213.0100 FINISHING ROADWAY (PROJECT) 01. 1174-10-72	1.000 EACH		.		.
0290	214.0100 OBLITERATING OLD ROAD	3.000 STA		.		.
0300	305.0110 BASE AGGREGATE DENSE 3/4-INCH	504.000 TON		.		.

CONTRACT: 20140211016
PROJECT(S): 1174-10-72, 1174-10-73
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0310	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH	43,334.000 TON	.		.	
0320	416.0160 CONCRETE DRIVEWAY 6-INCH	1,421.000 SY	.		.	
0330	440.4410.S INCENTIVE IRI RIDE	5,340.000 DOL	1.00000		5340.00	
0340	455.0115 ASPHALTIC MATERIAL PG64-22	241.000 TON	.		.	
0350	455.0122 ASPHALTIC MATERIAL PG64-34	258.000 TON	.		.	
0360	455.0605 TACK COAT	2,117.000 GAL	.		.	
0370	460.1110 HMA PAVEMENT TYPE E-10	9,085.000 TON	.		.	
0380	460.2000 INCENTIVE DENSITY HMA PAVEMENT	5,820.000 DOL	1.00000		5820.00	
0390	465.0105 ASPHALTIC SURFACE	530.000 TON	.		.	
0400	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	630.000 TON	.		.	
0410	465.0315 ASPHALTIC FLUMES	35.000 SY	.		.	

CONTRACT: 20140211016
PROJECT(S): 1174-10-72, 1174-10-73
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0420	522.1072 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 72-INCH	1.000 EACH		.		.
0430	601.0407 CONCRETE CURB & GUTTER 18-INCH TYPE D	2,881.000 LF		.		.
0440	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D	11,494.000 LF		.		.
0450	602.0405 CONCRETE SIDEWALK 4-INCH	13,315.000 SF		.		.
0460	602.0415 CONCRETE SIDEWALK 6-INCH	37,053.000 SF		.		.
0470	602.0505 CURB RAMP DETECTABLE WARNING FIELD YELLOW	144.000 SF		.		.
0480	606.0200 RIPRAP MEDIUM	147.000 CY		.		.
0490	608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	1,177.000 LF		.		.
0500	608.0315 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH	157.000 LF		.		.
0510	608.0318 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH	45.000 LF		.		.

CONTRACT: 20140211016
PROJECT(S): 1174-10-72, 1174-10-73
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0520	608.0324 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH	1,933.000 LF		.		.
0530	608.0330 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 30-INCH	69.000 LF		.		.
0540	608.0336 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 36-INCH	962.000 LF		.		.
0550	608.0348 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 48-INCH	2,267.000 LF		.		.
0560	608.0354 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 54-INCH	1,079.000 LF		.		.
0570	608.0372 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 72-INCH	249.000 LF		.		.
0580	610.0129 STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 29X45-INCH	450.000 LF		.		.
0590	610.0138 STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 38X60-INCH	416.000 LF		.		.
0600	611.0540 MANHOLE COVERS TYPE K	3.000 EACH		.		.
0610	611.0612 INLET COVERS TYPE C	3.000 EACH		.		.

CONTRACT: 20140211016
PROJECT(S): 1174-10-72, 1174-10-73
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0620	611.0624 INLET COVERS TYPE H	55.000 EACH		.		.
0630	611.0639 INLET COVERS TYPE H-S	23.000 EACH		.		.
0640	611.0645 INLET COVERS TYPE MS-A	10.000 EACH		.		.
0650	611.1004 CATCH BASINS 4-FT DIAMETER	22.000 EACH		.		.
0660	611.1006 CATCH BASINS 6-FT DIAMETER	7.000 EACH		.		.
0670	611.1230 CATCH BASINS 2X3-FT	18.000 EACH		.		.
0680	611.2004 MANHOLES 4-FT DIAMETER	2.000 EACH		.		.
0690	611.3901 INLETS MEDIAN 1 GRATE	10.000 EACH		.		.
0700	611.9800.S PIPE GRATES	1.000 EACH		.		.
0710	612.0208 PIPE UNDERDRAIN UNPERFORATED 8-INCH	60.000 LF		.		.
0720	619.1000 MOBILIZATION	1.000 EACH		.		.

CONTRACT: 20140211016
PROJECT(S): 1174-10-72, 1174-10-73
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0730	620.0300 CONCRETE MEDIAN SLOPED NOSE	440.000 SF		.		.
0740	624.0100 WATER	100.000 MGAL		.		.
0750	625.0100 TOPSOIL	12,645.000 SY		.		.
0760	628.1504 SILT FENCE	144.000 LF		.		.
0770	628.1520 SILT FENCE MAINTENANCE	100.000 LF		.		.
0780	628.1905 MOBILIZATIONS EROSION CONTROL	13.000 EACH		.		.
0790	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL	13.000 EACH		.		.
0800	628.2008 EROSION MAT URBAN CLASS I TYPE B	12,645.000 SY		.		.
0810	628.7005 INLET PROTECTION TYPE A	94.000 EACH		.		.
0820	628.7010 INLET PROTECTION TYPE B	14.000 EACH		.		.
0830	628.7015 INLET PROTECTION TYPE C	80.000 EACH		.		.

CONTRACT: 20140211016
PROJECT(S): 1174-10-72, 1174-10-73
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS		UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0840	628.7504 TEMPORARY DITCH CHECKS	40.000	LF	.		.	
0850	629.0210 FERTILIZER TYPE B	8.000	CWT	.		.	
0860	630.0140 SEEDING MIXTURE NO. 40	227.000	LB	.		.	
0870	630.0200 SEEDING TEMPORARY	340.000	LB	.		.	
0880	634.0808 POSTS TUBULAR STEEL 2X2-INCH X 8-FT	2.000	EACH	.		.	
0890	634.0814 POSTS TUBULAR STEEL 2X2-INCH X 14-FT	42.000	EACH	.		.	
0900	634.0816 POSTS TUBULAR STEEL 2X2-INCH X 16-FT	21.000	EACH	.		.	
0910	637.2210 SIGNS TYPE II REFLECTIVE H	439.000	SF	.		.	
0920	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING	75.000	SF	.		.	
0930	637.2230 SIGNS TYPE II REFLECTIVE F	17.000	SF	.		.	
0940	638.2602 REMOVING SIGNS TYPE II	67.000	EACH	.		.	

CONTRACT: 20140211016
PROJECT(S): 1174-10-72, 1174-10-73
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0950	638.3000 REMOVING SMALL SIGN SUPPORTS	43.000 EACH		.		.
0960	638.3100 REMOVING STRUCTURAL STEEL SIGN SUPPORTS	2.000 EACH		.		.
0970	642.5201 FIELD OFFICE TYPE C	1.000 EACH		.		.
0980	643.0200 TRAFFIC CONTROL SURVEILLANCE AND MAINTENANCE (PROJECT) 01. 1174-10-72	120.000 DAY		.		.
0990	643.0300 TRAFFIC CONTROL DRUMS	31,985.000 DAY		.		.
1000	643.0420 TRAFFIC CONTROL BARRICADES TYPE III	840.000 DAY		.		.
1010	643.0500 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS	70.000 EACH		.		.
1020	643.0600 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES	70.000 EACH		.		.
1030	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C	840.000 DAY		.		.
1040	643.0800 TRAFFIC CONTROL ARROW BOARDS	170.000 DAY		.		.

CONTRACT: 20140211016
PROJECT(S): 1174-10-72, 1174-10-73
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1050	643.0900 TRAFFIC CONTROL SIGNS	5,630.000 DAY		.		.
1060	643.1050 TRAFFIC CONTROL SIGNS PCMS	360.000 DAY		.		.
1070	645.0120 GEOTEXTILE FABRIC TYPE HR	293.000 SY		.		.
1080	646.0106 PAVEMENT MARKING EPOXY 4-INCH	9,393.000 LF		.		.
1090	646.0126 PAVEMENT MARKING EPOXY 8-INCH	3,706.000 LF		.		.
1100	646.0600 REMOVING PAVEMENT MARKINGS	8,656.000 LF		.		.
1110	647.0156 PAVEMENT MARKING ARROWS EPOXY TYPE 1	4.000 EACH		.		.
1120	647.0166 PAVEMENT MARKING ARROWS EPOXY TYPE 2	38.000 EACH		.		.
1130	647.0356 PAVEMENT MARKING WORDS EPOXY	16.000 EACH		.		.
1140	647.0456 PAVEMENT MARKING CURB EPOXY	434.000 LF		.		.

CONTRACT: 20140211016
PROJECT(S): 1174-10-72, 1174-10-73
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1150	647.0566 PAVEMENT MARKING STOP LINE EPOXY 18-INCH	428.000 LF		.		.
1160	647.0606 PAVEMENT MARKING ISLAND NOSE EPOXY	14.000 EACH		.		.
1170	647.0716 PAVEMENT MARKING DIAGONAL EPOXY 8-INCH	30.000 LF		.		.
1180	647.0726 PAVEMENT MARKING DIAGONAL EPOXY 12-INCH	1,190.000 LF		.		.
1190	647.0766 PAVEMENT MARKING CROSSWALK EPOXY 6-INCH	1,295.000 LF		.		.
1200	649.0200 TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH	26,140.000 LF		.		.
1210	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	2,990.000 LF		.		.
1220	649.1200 TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 18-INCH	180.000 LF		.		.
1230	650.4000 CONSTRUCTION STAKING STORM SEWER	94.000 EACH		.		.
1240	650.4500 CONSTRUCTION STAKING SUBGRADE	6,450.000 LF		.		.

CONTRACT: 20140211016
PROJECT(S): 1174-10-72, 1174-10-73
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1250	650.5000 CONSTRUCTION STAKING BASE	6,450.000 LF		.		.
1260	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	14,982.000 LF		.		.
1270	650.8500 CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (PROJECT) 01. 1174-10-72	LUMP	LUMP			.
1280	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 1174-10-72	LUMP	LUMP			.
1290	650.9920 CONSTRUCTION STAKING SLOPE STAKES	6,590.000 LF		.		.
1300	652.0205 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3/4-INCH	15.000 LF		.		.
1310	652.0215 CONDUIT RIGID NONMETALLIC SCHEDULE 40 1 1/4-INCH	49.000 LF		.		.
1320	652.0220 CONDUIT RIGID NONMETALLIC SCHEDULE 40 1 1/2-INCH	10.000 LF		.		.
1330	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	3,863.000 LF		.		.
1340	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	5,719.000 LF		.		.

CONTRACT: 20140211016
PROJECT(S): 1174-10-72, 1174-10-73
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1350	652.0615 CONDUIT SPECIAL 3-INCH	314.000 LF		.		.
1360	652.0700.S INSTALL CONDUIT INTO EXISTING ITEM	1.000 EACH		.		.
1370	652.0800 CONDUIT LOOP DETECTOR	4,662.000 LF		.		.
1380	653.0130 PULL BOXES STEEL 18X36-INCH	2.000 EACH		.		.
1390	653.0135 PULL BOXES STEEL 24X36-INCH	21.000 EACH		.		.
1400	653.0140 PULL BOXES STEEL 24X42-INCH	30.000 EACH		.		.
1410	653.0905 REMOVING PULL BOXES	29.000 EACH		.		.
1420	654.0101 CONCRETE BASES TYPE 1	17.000 EACH		.		.
1430	654.0102 CONCRETE BASES TYPE 2	8.000 EACH		.		.
1440	654.0113 CONCRETE BASES TYPE 13	6.000 EACH		.		.

CONTRACT: 20140211016
PROJECT(S): 1174-10-72, 1174-10-73
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1450	654.0217 CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL	2.000 EACH		.		.
1460	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG	1,569.000 LF		.		.
1470	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG	2,416.000 LF		.		.
1480	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG	1,604.000 LF		.		.
1490	655.0270 CABLE TRAFFIC SIGNAL 15-14 AWG	2,518.000 LF		.		.
1500	655.0305 CABLE TYPE UF 2-12 AWG GROUNDED	1,771.000 LF		.		.
1510	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG	4,158.000 LF		.		.
1520	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG	1,707.000 LF		.		.
1530	655.0625 ELECTRICAL WIRE LIGHTING 6 AWG	900.000 LF		.		.
1540	655.0700 LOOP DETECTOR LEAD IN CABLE	16,015.000 LF		.		.
1550	655.0800 LOOP DETECTOR WIRE	17,202.000 LF		.		.

CONTRACT: 20140211016
PROJECT(S): 1174-10-72, 1174-10-73
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1560	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 01. USH 51 & STH 70	LUMP	LUMP			.
1570	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 02. USH 51 & CTH J/TOWNLINE	LUMP	LUMP			.
1580	657.0100 PEDESTAL BASES	17.000 EACH		.		.
1590	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE	8.000 EACH		.		.
1600	657.0315 POLES TYPE 4	8.000 EACH		.		.
1610	657.0410 TRAFFIC SIGNAL STANDARDS ALUMINUM 9-FT	6.000 EACH		.		.
1620	657.0420 TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT	7.000 EACH		.		.
1630	657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT	4.000 EACH		.		.
1640	657.0609 LUMINAIRE ARMS SINGLE MEMBER 4-INCH CLAMP 6-FT	9.000 EACH		.		.
1650	657.1355 INSTALL POLES TYPE 12	1.000 EACH		.		.

CONTRACT: 20140211016
PROJECT(S): 1174-10-72, 1174-10-73
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1660	657.1360 INSTALL POLES TYPE 13	5.000 EACH		.		.
1670	657.1535 INSTALL MONOTUBE ARMS 35-FT	2.000 EACH		.		.
1680	657.1540 INSTALL MONOTUBE ARMS 40-FT	2.000 EACH		.		.
1690	657.1545 INSTALL MONOTUBE ARMS 45-FT	1.000 EACH		.		.
1700	657.1550 INSTALL MONOTUBE ARMS 50-FT	1.000 EACH		.		.
1710	657.1808 INSTALL LUMINAIRE ARMS STEEL 8-FT	5.000 EACH		.		.
1720	658.0110 TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL	31.000 EACH		.		.
1730	658.0115 TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL	12.000 EACH		.		.
1740	658.0215 BACKPLATES SIGNAL FACE 3 SECTION 12-INCH	31.000 EACH		.		.
1750	658.0220 BACKPLATES SIGNAL FACE 4 SECTION 12-INCH	12.000 EACH		.		.
1760	658.0416 PEDESTRIAN SIGNAL FACE 16-INCH	16.000 EACH		.		.

CONTRACT: 20140211016
PROJECT(S): 1174-10-72, 1174-10-73
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1770	658.0500 PEDESTRIAN PUSH BUTTONS	15.000 EACH		.		.
1780	658.0600 LED MODULES 12-INCH RED BALL	27.000 EACH		.		.
1790	658.0605 LED MODULES 12-INCH YELLOW BALL	19.000 EACH		.		.
1800	658.0610 LED MODULES 12-INCH GREEN BALL	19.000 EACH		.		.
1810	658.0615 LED MODULES 12-INCH RED ARROW	16.000 EACH		.		.
1820	658.0620 LED MODULES 12-INCH YELLOW ARROW	36.000 EACH		.		.
1830	658.0625 LED MODULES 12-INCH GREEN ARROW	24.000 EACH		.		.
1840	658.0635 LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH	16.000 EACH		.		.
1850	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 01. USH 51 & STH 70	LUMP	LUMP			.
1860	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 02. USH 51 & CTH J/TOWNLINE	LUMP	LUMP			.
1870	659.1125 LUMINAIRES UTILITY LED C	14.000 EACH		.		.

CONTRACT: 20140211016
PROJECT(S): 1174-10-72, 1174-10-73
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1880	661.0200 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 01. USH 51 & STH 70	LUMP	LUMP			.
1890	661.0200 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 02. USH 51 & CTH J/TOWNLINE	LUMP	LUMP			.
1900	661.0300 GENERATORS	4.000 DAY		.		.
1910	673.0105 COMMUNICATION VAULT TYPE 1	5.000 EACH		.		.
1920	690.0150 SAWING ASPHALT	2,113.000 LF		.		.
1930	690.0250 SAWING CONCRETE	55.000 LF		.		.
1940	SPV.0045 SPECIAL 01. PCMS CELLULAR COMMUNICATION	360.000 DAY		.		.
1950	SPV.0060 SPECIAL 01. SALVAGE HYDRANT	3.000 EACH		.		.
1960	SPV.0060 SPECIAL 02. REMOVE WATERMAIN VALVE BOX	31.000 EACH		.		.
1970	SPV.0060 SPECIAL 03. PLUG WATERMAIN ABANDONED IN PLACE	8.000 EACH		.		.

CONTRACT: 20140211016
PROJECT(S): 1174-10-72, 1174-10-73
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1980	SPV.0060 SPECIAL 04. PLUG SANITARY SEWER ABANDONED IN PLACE	10.000 EACH		.		.
1990	SPV.0060 SPECIAL 05. CAP WATERMAIN TO REMAIN IN SERVICE	2.000 EACH		.		.
2000	SPV.0060 SPECIAL 06. REMOVE SANITARY MANHOLE	3.000 EACH		.		.
2010	SPV.0060 SPECIAL 07. ADJUST WATERMAIN VALVE BOX	1.000 EACH		.		.
2020	SPV.0060 SPECIAL 08. ADJUST SANITARY MANHOLE CASTING	18.000 EACH		.		.
2030	SPV.0060 SPECIAL 09. RECONSTRUCT SANITARY MANHOLE	2.000 EACH		.		.
2040	SPV.0060 SPECIAL 10. SANITARY MANHOLE CASTING	4.000 EACH		.		.
2050	SPV.0060 SPECIAL 11. SANITARY MANHOLE	4.000 EACH		.		.
2060	SPV.0060 SPECIAL 12. HYDRANT	8.000 EACH		.		.
2070	SPV.0060 SPECIAL 13. WATERMAIN GATE VALVE AND BOX 6-INCH	15.000 EACH		.		.

CONTRACT: 20140211016
PROJECT(S): 1174-10-72, 1174-10-73
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2080	SPV.0060 SPECIAL 14. WATERMAIN GATE VALVE AND BOX 8-INCH	7.000 EACH		.		.
2090	SPV.0060 SPECIAL 15. WATERMAIN CORPORATION STOP 1-INCH	12.000 EACH		.		.
2100	SPV.0060 SPECIAL 16. WATERMAIN CURB STOP AND BOX 1-INCH	11.000 EACH		.		.
2110	SPV.0060 SPECIAL 17. WATERMAIN CORPORATION STOP 2-INCH	4.000 EACH		.		.
2120	SPV.0060 SPECIAL 18. WATERMAIN CURB STOP AND BOX 2-INCH	4.000 EACH		.		.
2130	SPV.0060 SPECIAL 19. WATERMAIN COUPLING 6-INCH	4.000 EACH		.		.
2140	SPV.0060 SPECIAL 20. WATERMAIN COUPLING 8-INCH	5.000 EACH		.		.
2150	SPV.0060 SPECIAL 21. WATERMAIN BEND 11-1/4 DEGREE 8-INCH	1.000 EACH		.		.
2160	SPV.0060 SPECIAL 22. WATERMAIN BEND 22-1/2 DEGREE 6-INCH	1.000 EACH		.		.
2170	SPV.0060 SPECIAL 23. WATERMAIN BEND 22-1/2 DEGREE 8-INCH	2.000 EACH		.		.

CONTRACT: 20140211016
PROJECT(S): 1174-10-72, 1174-10-73
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2180	SPV.0060 SPECIAL 24. WATERMAIN BEND 45 DEGREE 6-INCH	8.000 EACH		.		.
2190	SPV.0060 SPECIAL 25. WATERMAIN BEND 45 DEGREE 8-INCH	11.000 EACH		.		.
2200	SPV.0060 SPECIAL 26. WATERMAIN BEND 90 DEGREE 8-INCH	1.000 EACH		.		.
2210	SPV.0060 SPECIAL 27. WATERMAIN REDUCER 8 X 6-INCH	4.000 EACH		.		.
2220	SPV.0060 SPECIAL 28. WATERMAIN REDUCER 6 X 4-INCH	1.000 EACH		.		.
2230	SPV.0060 SPECIAL 29. WATERMAIN TEE 6 X 6-INCH	2.000 EACH		.		.
2240	SPV.0060 SPECIAL 30. WATERMAIN TEE 8 X 8-INCH	6.000 EACH		.		.
2250	SPV.0060 SPECIAL 31. WATERMAIN TEE 8 X 6-INCH	8.000 EACH		.		.
2260	SPV.0060 SPECIAL 40. CATCH BASIN 8 FOOT DIAMETER	32.000 EACH		.		.
2270	SPV.0060 SPECIAL 41. CATCH BASIN 10 FOOT DIAMETER	3.000 EACH		.		.
2280	SPV.0060 SPECIAL 42. TEMPORARY WATER PASSAGE	94.000 EACH		.		.

CONTRACT: 20140211016
PROJECT(S): 1174-10-72, 1174-10-73
FEDERAL ID(S): N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2290	SPV.0060 SPECIAL 50. CONTRACTOR PROVIDED HIGH-STRENGTH BOLT ASSY'S FOR MONOTUBE ARMS 35FT-55FT	6.000 EACH		.		.
2300	SPV.0060 SPECIAL 60. LIGHTING CONTROL CABINET TYPE SPECIAL	1.000 EACH		.		.
2310	SPV.0060 SPECIAL 61. LIGHTING CONTROL CABINET BASE TYPE SPECIAL	1.000 EACH		.		.
2320	SPV.0060 SPECIAL 62. RECEPTACLE STANCHION TYPE SPECIAL 1	1.000 EACH		.		.
2330	SPV.0060 SPECIAL 63. RECEPTACLE STANCHION TYPE SPECIAL 2	2.000 EACH		.		.
2340	SPV.0090 SPECIAL 01. REMOVE ASBESTOS CEMENT SANITARY SEWER	16.000 LF		.		.
2350	SPV.0090 SPECIAL 02. SANITARY SEWER SERVICE 4-INCH	25.000 LF		.		.
2360	SPV.0090 SPECIAL 03. SANITARY SEWER 8-INCH	74.000 LF		.		.
2370	SPV.0090 SPECIAL 04. SANITARY SEWER 10-INCH	112.000 LF		.		.
2380	SPV.0090 SPECIAL 05. WATER SERVICE 1-INCH	359.000 LF		.		.

CONTRACT: 20140211016
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CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2390	SPV.0090 SPECIAL 06. WATER SERVICE 2-INCH SEWER	92.000 LF		.		.
2400	SPV.0090 SPECIAL 07. WATERMAIN 6-INCH	723.000 LF		.		.
2410	SPV.0090 SPECIAL 08. WATERMAIN 8-INCH	3,017.000 LF		.		.
2420	SPV.0090 SPECIAL 09. PIPELINE SHEET INSULATION	104.000 LF		.		.
2430	SPV.0090 SPECIAL 10. REMOVE WATERMAIN	830.000 LF		.		.
2440	SPV.0105 SPECIAL 01. REMOVE/SALVAGE TRAFFIC SIGNALS USH 5 1 AND STH 70 WEST	LUMP	LUMP			.
2450	SPV.0105 SPECIAL 02. REMOVE/SALVAGE TRAFFIC SIGNALS USH 51 AND CTH J/TOWNLINE	LUMP	LUMP			.
2460	SPV.0105 SPECIAL 03. TRANSPORT TRAFFIC SIGNAL MONOTUBE MATERIALS USH 51 & STH 70 WEST	LUMP	LUMP			.
2470	SPV.0105 SPECIAL 04. TRANSPORT TRAFFIC SIGNAL MONOTUBE MATERIALS USH51 & CTH J/TOWNLINE	LUMP	LUMP			.

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PROJECT(S): 1174-10-72, 1174-10-73
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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2480	SPV.0105 SPECIAL 05. TEMPORARY VEHICLE DETECTION USH 51 AND STH 70 W	LUMP	LUMP			.
2490	SPV.0105 SPECIAL 06. TEMPORARY VEHICLE DETECTION USH 51 AND CTH J/TOWNLINE	LUMP	LUMP			.
2500	SPV.0120 SPECIAL 01. WATER FOR SEEDED AREAS	37.000 MGAL	.			.
2510	SPV.0165 SPECIAL 01. COLORED TEXTURED CONCRETE TERRACE 6 INCH	8,315.000 SF	.			.
2520	SPV.0165 SPECIAL 02. COLORED CONCRETE TERRACE 6 INCH	5,909.000 SF	.			.
2530	SPV.0165 SPECIAL 03. PLAYGROUND SURFACING POURED-IN-PLACE	4,700.000 SF	.			.
2540	SPV.0180 SPECIAL 01. PREPARING TOPSOIL FOR LAWN TYPE TURF	12,385.000 SY	.			.
2550	SPV.0195 SPECIAL 01. QMP BASE AGGREGATE DENSE 1 1/4" COMPACTION	43,334.000 TON	.			.
	SECTION 0001 TOTAL					.
	TOTAL BID					.

PLEASE ATTACH SCHEDULE OF ITEMS HERE