# *SOUTH MONROE STREET FLOODPLAIN IMPROVMENTS CDBG-EAP #08-63*

## *City of Waterloo, Wisconsin*

*Prepared For:*

*City of Waterloo*

*January, 2012*

**SAA Design Group, Inc.**
Madison, Wisconsin

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**ADVERTISEMENT FOR BIDS**
**South Monroe Street Floodplain Improvements**

Project Number: **CDBG-EAP #08-63** Owner: **City of Waterloo, WI**

Separate sealed bids for flood plain improvements on South Monroe Street in the City of Waterloo including pulverization of the existing asphalt surface, a new asphalt surface, slope grading, storm sewer, matting, seeding, signage and pavement marking, will be received by

the City of Waterloo at the office of:

Waterloo City Hall
C/O Mo Hansen Clerk/Treasurer
136 North Monroe Street
Waterloo, WI 53594

until 2:00 o'clock PM February 3rd, 2012 and then at said office publicly opened and read aloud.

The information for Bidders, Form of Bid, Form of Contract, Plans, Specifications, and Forms of Bid Bond, Performance and Payment Bond, and other contract documents will be available by January 10th, 2012 and may be examined at the following:

| | | |
|---|---|---|
| Waterloo City Hall | or | SAA Design Group |
| 136 North Monroe Street | | 717 John Nolen Drive |
| Waterloo, WI 53594 | | Madison, WI 53713 |

Copies may be obtained at the office of SAA Design Group upon payment of $30 for each set which is non-refundable.

The owner reserves the right to waive any informality or to reject any or all bids.

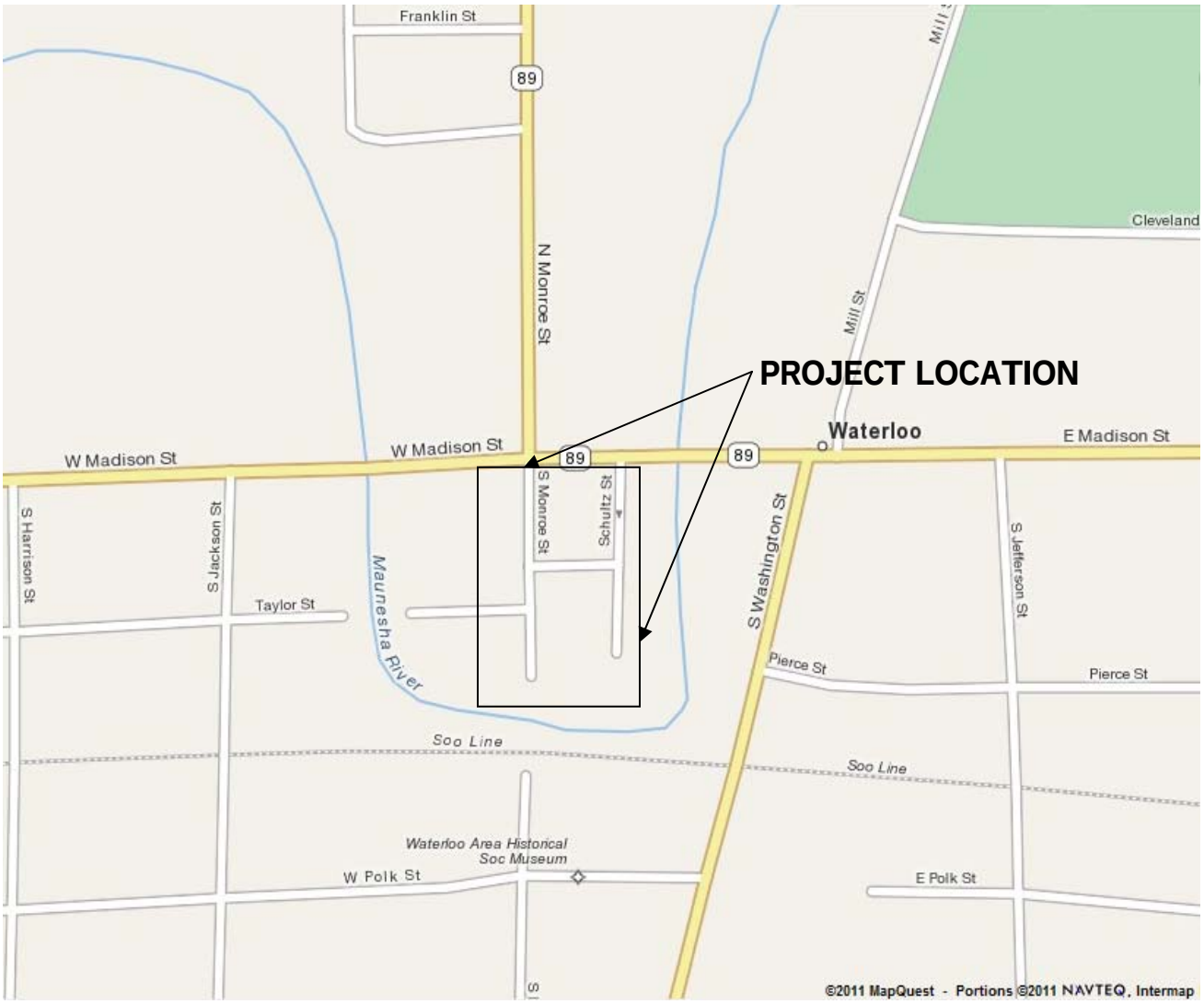
Each bidder must deposit with his/her bid, an amount to secure the bid and subject to the conditions provided in the Information for Bidders.

Attention of bidders is particularly called to the requirements as to conditions of employment to be observed and minimum wage rates to be paid under contract, Section 3, Segregated Facility, Section 109 and E.O. 11246 (Davis-Bacon Act).

No bidder may withdraw his/her bid within 30 days after the actual day of the opening thereof.

Date: **01/06/2012** Chief Elected Official Signature: Mo Hansen

# PROJECT LOCATION MAP



# INSTRUCTIONS TO BIDDERS

Bids will be received by City of Waterloo (herein after called the OWNER) at 136 North Monroe Street, Waterloo, WI, until 2:00 p.m., February 3rd, 2012 for construction of the proposed project, at which time and place all bids will be publicly opened and read aloud. Bids shall be addressed to City of Waterloo, and shall be marked "Sealed Bid – South Monroe Street Floodplain Improvements."

Bidders are requested to submit their bids in accordance with the following conditions:

## PROPOSALS

All proposals are to be made on the forms herein provided. Prices are to be stated in writing and also by the use of figures. In case of conflict of stated prices, written prices shall apply. Only proposals which are made out on the original forms attached hereto will be considered. Proposal forms must not be separated from the specifications.

Bidders shall examine the plans, specifications, and the locality in which the said work is to be done and judge for themselves all the circumstances and surrounding conditions affecting the cost and nature of the work. Failure on the part of any bidder to make such examination and to investigate the premises, shall not be grounds for any declaration that bidder did not understand the conditions of this Proposal.

## DELIVERY OF BIDS

Each bid shall be placed in a sealed envelope. Envelopes shall be addressed to OWNER at the location indicated above, and are to be marked as shown in the Advertisement for Bids. Proposals will be received until the hour and date set for the opening thereof and must be by that time in the hands of the OWNER at the required location.

## WITHDRAWAL OF BIDS

A bidder may withdraw his proposal, providing the request, in writing, is in the hands of the OWNER by the time set for opening proposals. When such a proposal is reached, it will be returned unopened to the bidder. No bids shall be withdrawn after the opening of bids for a period of 60 days after scheduled time of closing bids without consent of the OWNER.

## REJECTION OF BIDS

The OWNER reserves the right to reject any or all bids or to waive any technicality and accept any bid which may be deemed to be in the best interests of the OWNER.

BASIS ON WHICH BIDS ARE REQUESTED

Bids are requested on the basis of unit and lump sum prices, including prices on alternate bid items, which are clearly set forth in the Proposal and Specifications.

BASIS ON WHICH BIDS WILL BE EVALUATED

Bids will be evaluated on the basis of base bid items only.

BID GUARANTEES

No proposal will be considered unless accompanied by a bid deposit in the amount stated in the Advertisement in the form of a Bid Bond, Certified Check or Bank Draft. All forms of bid guarantee shall be made payable to the OWNER.

BIDDERS RESPONSIBILITY

Bidders are required to inform themselves of conditions under which the work is to be performed and all other relevant matters concerning the work to be performed.

INTERPRETATION OF CONTRACT DOCUMENTS

If the prospective bidder is in doubt as to the true meaning of any part of the specifications or other proposed contract document, he may submit to OWNER a written request for an interpretation thereof. Any interpretation of the proposed documents will be made only by an addendum duly issued.

REQUIREMENTS FOR SIGNING BIDS

Bids which are not signed by individuals making them shall have attached thereto a power of attorney with authority to sign the bid in the name of the person for whom it is signed.

Bids which are signed for a partnership shall be signed by all of the partners or by an attorney-in-fact. If signed by an attorney-in-fact, there shall be attached to the bid a power of attorney extending authority to sign the bid, executed by the partners.

Bids signed for a corporation shall have the correct corporate name thereon and the signature of the president or authorized officer of the corporation manually written below the corporate name, following the word "By __". Any bid manually signed by an official other than the president of the corporation shall have attached to it a certified copy of a resolution of the Board of Directors directing authority of such official to sign the bid. Such bid shall also bear the attesting signature of the secretary of the corporation and the impression of the corporate seal.

AWARD OF CONTRACT

Before award of any contract can be approved, the OWNER shall be satisfied that the bidder

involved:

1. Maintains a permanent place of business.
2. Has adequate plant equipment to do the work properly and expeditiously.
3. Has a suitable financial status to meet obligations incident to the work.
4. Has appropriate technical experience.
5. Can submit a satisfactory performance record.

The award, if made, will be made to a responsible bidder as recommended by the ENGINEER, subject to the decision of the OWNER.

WHEN AWARD EFFECTUAL

The Contract shall be deemed as having been awarded when formal notice of award shall have been duly served upon the awardee (i.e., the bidder to whom the OWNER intends awarding the contract) by an officer or agent of the OWNER duly authorized to give such notice.

NUMBER OF COPIES OF DOCUMENTS

There will be required three (3) executed counterparts of the Contract Documents, Performance Bond, and Payment Bond.

BONDS

The successful bidder will be required to execute a Performance Bond and a Payment Bond, the penalty of which shall not be less than the contract price, on the form attached, with good and sufficient sureties satisfactory to the OWNER. The penal amounts of Performance Bond and the Payment Bond for any contract will be determined by the total base bid as stated in the Proposal and Contract.

1. The forms of Performance Bond and Payment Bond attached hereto shall be used.

2. The forms contemplate one corporate surety only. In case co-sureties or individual sureties will be furnished, proper forms therefore shall be obtained at the office of SAA Design Group, Inc., Consulting Engineers.

3. Every bond must run to the OWNER.

4. The surety on the bonds shall be licensed to underwrite contracts in the State of Wisconsin and a certificate to that effect shall be attached to the bond.

5. If the principal is an individual, his full legal name and residence shall be inserted in the body thereof, and he shall sign the bond with his usual signature on the line opposite the scroll seal.

6. If the principals are partners, their individual names shall appear in the body of the bond, with the recital that they are partners comprising a firm, naming it, and all the members of the firm shall execute the bond as individuals.

7. The signature of a witness shall appear in the appropriate place attesting the signature of each individual party to the bond.

8. If the principal is a corporation, the name of the state in which incorporated shall be inserted in the appropriate place in the body of the bond and said instrument shall be executed and attested under the corporate seal as indicated on the form. If the corporation has no corporate seal, the fact shall be stated, in which case a scroll or adhesive seal shall appear following the corporate name. This also applies to execution by surety.

9. The date of the bond must not be prior to the date of the proposal for which it is given.

10. A power of attorney, authorizing execution of the bond by an attorney- in-fact or agent, shall be attached to one executed counterpart of the bond. If the bond is executed by an out-of-state agent, it shall be countersigned by a licensed resident agent of the State of Wisconsin, and evidence of his being so licensed shall be furnished.

STANDARD SPECIFICATIONS

Where standard specifications are referred to in these specifications, they shall become a part of these specifications as though incorporated herein. The last revision of the standard specifications as of the date of contract shall apply.

TIME OF COMPLETION

The Work will be substantially completed within 90 calendar days after the date when the Contract Time commences to run, as provided in paragraph 2.3 of the General Conditions, and completed and ready for final payment in accordance with paragraph 14.13 of the General Conditions within 110 calendar days after the date when the Contract Time commences to run.

FAILURE TO COMPLETE WORK ON TIME

Should the CONTRACTOR fail to complete the work within the time agreed upon in the contract or within such extra time as may have been allowed by extensions, there shall be deducted from any moneys due or that may become due CONTRACTOR the sum set forth below for each and every calendar day, including Sundays and holidays, that the work shall remain uncompleted. This sum shall be considered and treated, not as a penalty, but as fixed, agreed upon and liquidated damages due to the OWNER from the CONTRACTOR by reason of inconvenience to the OWNER, added cost of engineering and supervision, maintenance of detours, and other items which have caused an expenditure of OWNER's funds resulting from CONTRACTOR's failure to complete the work within the time specified in the contract:

Amount of Liquidated Damages shall be equal to a daily charge of 0.1% of the amount of the original contract, or $100 per day, whichever is greater.

This amount shall in no event be considered as a penalty or otherwise than as liquidated and adjusted damages of OWNER because of said delay and may be deducted and retained out of moneys which may become due CONTRACTOR hereunder.

ADDENDA AND INTERPRETATIONS

Oral interpretation of the meaning of plans, specifications or other contract documents made to any bidder will not be binding. Every request for such interpretation must be in writing, addressed to SAA Design Group, Inc., 717 John Nolen Drive, Madison, WI, 53713. To be given consideration, such request must be received at least seven (2) days prior to the date fixed for opening of bids. Any and all such interpretations and any supplemental instructions will be in the form of written Addenda which, if issued, will be sent by mail to all prospective bidders at the respective addresses furnished by each bidder for such purpose, not later than three (1) days prior to the date fixed for opening of bids. All Addenda so issued shall become part of the Contract Documents.

CONSTRUCTION SCHEDULE

Immediately after execution and delivery of Contract and before first partial payment is made, CONTRACTOR shall coordinate his estimated construction progress schedules and shall assemble and incorporate schedules into a single schedule, which shall be delivered to ENGINEER.

NON-DISCRIMINATION IN EMPLOYMENT

The parties agree not to discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment, or any matter directly or indirectly related to employment, because of race, color, national origin, age, sex, height, weight or marital status. Breach of this covenant may be regarded as material breach of this Agreement.

LIEN WAIVER

Upon satisfactory completion of the work and before final payment is made the CONTRACTOR shall submit to the OWNER a Settlement Certification Form stating that all claims against the Project have been satisfied.

***

# BID

SOUTH MONROE STREET FLOODPLAIN IMPROVEMENTS
CITY OF WATERLOO
JEFFERSON COUNTY, WISCONSIN

Bids to be received until 2:00 p.m., February 3rd, 2012.

TO: City of Waterloo
C/O Mo Hansen Clerk/Treasurer
136 North Monroe Street
Waterloo, WI 53594

1. The undersigned, having familiarized himself with the Contract Documents including Advertisement for Bids, Instructions to Bidders, Form of Proposal, General Conditions, Form of Contract, Form of Bond, Specifications, Addenda and Exhibits issued and attached to the specifications on file at the SAA Design Group, Inc. office, 717 John Nolen Drive, Madison, Wisconsin, 53713, hereby proposes to furnish all of the labor, materials, necessary tools, expendable equipment and all utility and transportation services necessary to perform and complete, in a workmanlike manner, SOUTH MONROE STREET FLOODPLAIN IMPROVEMENTS, all in accordance with the plans and specifications as prepared by SAA Design Group, Inc., including addendas issued thereto, Nos. _____.

The following abbreviations may be used in this Bid:

CY – Cubic Yards
DI – Ductile Iron
DIA – Diameter
EA – Each
FT – Feet
GAL – Gallons
IN – Inch
LBS – Pounds
LF – Lineal Feet
LS – Lump Sum
SF – Square Feet
STA – Station
SY – Square Yard
TON - Ton

The Bidder agrees to perform all the work described in the Contract Documents for the following unit prices:

| ITEM NO. | DESCRIPTION | EST QTY | UNIT | UNIT PRICE | ITEM AMOUNT |
|---|---|---|---|---|---|
| 1 | Mobilization | 1 | LS | $_____ | $_____ |

| | | | | | |
|---|---|---|---|---|---|
| 2 | Traffic Control | 1 | LS | $_____ | $_____ |
| 3 | Remove Concrete Curb & Gutter | 463 | LF | $_____ | $_____ |
| 4 | Remove Concrete Sidewalk | 3,691 | SF | $_____ | $_____ |
| 5 | Remove Existing Hydrants | 2 | EA | $_____ | $_____ |
| 6 | Abandon Existing Steam Manhole | 1 | EA | $_____ | $_____ |
| 7 | Abandon Steam Tunnel | 2 | EA | $_____ | $_____ |
| 8 | Abandon Existing Storm Sewer | 196 | LF | $_____ | $_____ |
| 9 | Excavation Common | 740 | CY | $_____ | $_____ |
| 10 | Base Aggregate Dense 1-1/4 inch | 2,917 | TON | $_____ | $_____ |
| 11 | Breaker Run | 1,881 | TON | $_____ | $_____ |

| | | | | | |
|---|---|---|---|---|---|
| **12** | Concrete Driveway 6-inch | 108 | SY | $_____ | $_____ |
| **13** | HMA Pavement Type E-3 Binder | 324 | TON | $_____ | $_____ |
| **14** | HMA Pavement Type E-3 Surface | 252 | TON | $_____ | $_____ |
| **15** | HMA Pavement Type E-0.3 Binder | 48 | TON | $_____ | $_____ |
| **16** | HMA Pavement Type E-0.3 Surface | 36 | TON | $_____ | $_____ |
| **17** | HMA Pavement Type E-0.3 Bike Path | 39 | TON | $_____ | $_____ |
| **18** | HMA Pavement Type E-0.3 Overflow Parking Area | 102 | TON | $_____ | $_____ |
| **19** | Concrete Curb & Gutter 30-inch Vertical Face | 433 | LF | $_____ | $_____ |
| **20** | Concrete Curb & Gutter 30-inch Mountable | 504 | LF | $_____ | $_____ |
| **21** | Concrete Curb & Gutter 18-inch | 124 | LF | $_____ | $_____ |
| **22** | Concrete Sidewalk 5-inch | 4,485 | SF | $_____ | $_____ |

| | | | | | |
|---|---|---|---|---|---|
| 23 | Detectable Warning Field | 8 | EA | $_____ | $_____ |
| 24 | Pavement Marking Epoxy - 6" | 722 | LF | $_____ | $_____ |
| 25 | Pavement Marking Epoxy - 12" | 223 | LF | $_____ | $_____ |
| 26 | Pavement Marking Epoxy - 18" | 20 | LF | $_____ | $_____ |
| 27 | Remove & Replace Sanitary Manhole | 1 | EA | $_____ | $_____ |
| 28 | Adjust Storm Manhole | 1 | EA | $_____ | $_____ |
| 29 | Adjust Street Light Pedestals | 4 | EA | $_____ | $_____ |
| 30 | Remove & Replace street signage | 3 | EA | $_____ | $_____ |
| 31 | Signage - No Parking w/post | 2 | EA | $_____ | $_____ |
| 32 | Water | 1 | LS | $_____ | $_____ |
| 33 | Stone Ditch Checks | 2 | EA | $_____ | $_____ |

| | | | | | |
|---|---|---|---|---|---|
| **34** | Silt Fence | 554 | LF | $_____ | $_____ |
| **35** | Inlet Protection | 9 | EA | $_____ | $_____ |
| **36** | Topsoil, Import & Place | 3,190 | SY | $_____ | $_____ |
| **37** | Erosion Mat - Urban Class I Type B | 1,652 | SY | $_____ | $_____ |
| **38** | Sod | 283 | SY | $_____ | $_____ |
| **39** | Seed | 131 | LB | $_____ | $_____ |
| **40** | Fertilizer | 2 | CWT | $_____ | $_____ |
| **41** | Erosion Control Maintenance | 1 | LS | $_____ | $_____ |
| **42** | Saw Cut Existing Pavement | 361 | LF | $_____ | $_____ |
| **43** | RCP Storm Sewer 18-inch DIA | 128 | LF | $_____ | $_____ |

| | | | | | |
|---|---|---|---|---|---|
| **44** | RCP Storm Sewer 15-inch DIA | 139 | LF | $_____ | $_____ |
| **45** | RCP Storm Sewer 12-inch DIA | 121 | LF | $_____ | $_____ |
| **46** | PVC Storm Sewer 6-inch DIA | 64 | LF | $_____ | $_____ |
| **47** | Plastic Drain Tile 4-inch DIA | 86 | LF | $_____ | $_____ |
| **48** | Concrete Apron End Wall 18-inch DIA | 1 | EA | $_____ | $_____ |
| **49** | Concrete Apron End Wall 12-inch DIA | 1 | EA | $_____ | $_____ |
| **50** | Storm Manhole 48-inch DIA | 1 | EA | $_____ | $_____ |
| **51** | Storm Inlet | 6 | EA | $_____ | $_____ |
| **52** | Concrete Riser Pipe 36-inch DIA | 1 | EA | $_____ | $_____ |
| **53** | Concrete Cunette 4-feet wide | 40 | LF | $_____ | $_____ |

| | | | | | |
|---|---|---|---|---|---|
| 54 | Granular Trench Backfill - Storm Sewer | 452 | LF | $_____ | $_____ |
| 55 | Concrete Stairs w/railing | 1 | LS | $_____ | $_____ |
| 56 | Rip Rap, Medium W/Geotextile Fabric | 130 | SF | $_____ | $_____ |
| 57 | Retaining Wall - Concrete | 90 | SF | $_____ | $_____ |
| 58 | Handrail for Retaining walls | 165 | LF | $_____ | $_____ |
| 59 | Retaining wall - Modular Block | 272 | SF | $_____ | $_____ |
| 60 | Bio-Retention | 1,709 | SF | $_____ | $_____ |
| 61 | Demolish Forward Buildings on Schultz St | 1 | LS | $_____ | $_____ |
| 62 | Demolish Gauthier Buildings on Schultz St | 1 | LS | $_____ | $_____ |
| 63 | Demolish Gauthier Buildings on Monroe St | 1 | LS | $_____ | $_____ |

| | | | | | |
|---|---|---|---|---|---|
| 64 | Foundation Repair - #122 S. Monroe St | 1 | LS | $_____ | $_____ |
| 65 | Foundation Repair - #114 S. Monroe St | 1 | LS | $_____ | $_____ |
| 66 | Water Main 10-inch | 175 | LF | $_____ | $_____ |
| 67 | Water Main 6-inch | 90 | LF | $_____ | $_____ |
| 68 | Water Main Service Laterals 2-inch (6 EA) | 199 | LF | $_____ | $_____ |
| 69 | Hydrant Lead and Assembly | 2 | EA | $_____ | $_____ |
| 70 | Water Valves W/Valve Box, 10-inch | 2 | EA | $_____ | $_____ |
| 71 | Water Valves W/Valve Box, 6-inch | 8 | EA | $_____ | $_____ |
| 72 | Granular Trench Backfill - Water Main | 464 | LF | $_____ | $_____ |

Computed Total Bid Contract (Items 1 through 72)

_____

(words)

Dollars $ _____

ADDITIONAL BID ITEMS:

| | | | | | |
|---|---|---|---|---|---|
| 99 | Granular Backfill | 1 | TON | $_____ | $_____ |
| 100 | Excavation Below Subgrade | 1 | SY | $_____ | $_____ |
| 20A | Grass Pave Pavement System | 4,760 | SF | $_____ | $_____ |
| 20B | Permeable Pavement System | 4,760 | SF | $_____ | $_____ |

2. If awarded a contract, work will be initiated _____ days after notification of award and will proceed so as to complete the contract within 90 calendar days after notification to proceed.

3. Accompanying this Proposal is _____, in
Certified Check, Bond, Bank Draft
the amount of _____ Dollars ($_____),
as required by the Advertisement for Bids.

4. I hereby certify that all statements herein are made on behalf of

_____
Name & Address of Corporation, Partnership or Person submitting same

a corporation organized and existing under the laws of the State of _____; a partnership consisting of _____

_____; an individual trading

as _____, State of _____; that I have examined and carefully prepared this Proposal from the plans and specifications and have checked the same in detail before submitting this Proposal; that I have full authority to make such statements and submit this Proposal in (its)(their) behalf; and that the said statements are true and correct.

Signature: _____

Sworn & subscribed to before me this
____ day of _____, 2012

Title (if any): _____

Notary Public or other officer
authorized to administer oaths.

My commission expires _____

NOTE: Bidders should not add any conditions or qualifying statements to the Proposal, as otherwise the Proposal may be declared irregular as being not responsive to the Advertisement.

General Decision Number: WI120010 01/06/2012 WI10

Superseded General Decision Number: WI20100010

State: Wisconsin

Construction Type: Highway

Counties: Wisconsin Statewide.

HIGHWAY, AIRPORT RUNWAY & TAXIWAY CONSTRUCTION PROJECTS (does not include bridges over navigable waters; tunnels; buildings in highway rest areas; and railroad construction)

| Modification Number | Publication Date |
|---|---|
| 0 | 01/06/2012 |

BRWI0001-002 06/01/2011

CRAWFORD, JACKSON, JUNEAU, LA CROSSE, MONROE, TREMPEALEAU, AND VERNON COUNTIES

| | Rates | Fringes |
|---|---|---|
| BRICKLAYER | $ 30.20 | 16.69 |

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BRWI0002-002 06/01/2011

ASHLAND, BAYFIELD, DOUGLAS, AND IRON COUNTIES

| | Rates | Fringes |
|---|---|---|
| BRICKLAYER | $ 35.33 | 15.51 |

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BRWI0002-005 06/01/2011

ADAMS, ASHLAND, BARRON, BROWN, BURNETT, CALUMET, CHIPPEWA, CLARK, COLUMBIA, DODGE, DOOR, DUNN, FLORENCE, FOND DU LAC, FOREST, GREEN LAKE, IRON, JEFFERSON, KEWAUNEE, LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE, MARQUETTE, MENOMINEE, OCONTO, ONEIDA, OUTAGAMIE, POLK, PORTAGE, RUSK, ST CROIX, SAUK, SHAWANO, SHEBOYGAN, TAYLOR, VILAS, WALWORTH, WAUPACA, WAUSHARA, WINNEBAGO, AND WOOD COUNTIES

| | Rates | Fringes |
|---|---|---|
| CEMENT MASON/CONCRETE FINISHER | $ 30.52 | 15.44 |

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BRWI0003-002 06/01/2011

BROWN, DOOR, FLORENCE, KEWAUNEE, MARINETTE, AND OCONTO COUNTIES

| | Rates | Fringes |
|---|---|---|
| BRICKLAYER | $ 30.76 | 16.12 |

---

BRWI0004-002 06/01/2011

KENOSHA, RACINE, AND WALWORTH COUNTIES

| | Rates | Fringes |
|---|---|---|
| BRICKLAYER | $ 35.11 | 16.83 |

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BRWI0006-002 06/01/2011

ADAMS, CLARK, FOREST, LANGLADE, LINCOLN, MARATHON, MENOMINEE, ONEIDA, PORTAGE, PRICE, TAYLOR, VILAS AND WOOD COUNTIES

| | Rates | Fringes |
|---|---|---|
| BRICKLAYER | $ 31.34 | 15.55 |

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BRWI0007-002 06/01/2011

GREEN, LAFAYETTE, AND ROCK COUNTIES

| | Rates | Fringes |
|---|---|---|
| BRICKLAYER | $ 32.06 | 16.50 |

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BRWI0008-002 06/01/2011

MILWAUKEE, OZAUKEE, WASHINGTON, AND WAUKESHA COUNTIES

| | Rates | Fringes |
|---|---|---|
| BRICKLAYER | $ 35.58 | 16.07 |

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BRWI0011-002 06/01/2011

CALUMET, FOND DU LAC, MANITOWOC, AND SHEBOYGAN COUNTIES

| | Rates | Fringes |
|---|---|---|
| BRICKLAYER | $ 30.76 | 16.12 |

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BRWI0019-002 06/01/2011

BARRON, BUFFALO, BURNETT, CHIPPEWA, DUNN, EAU CLAIRE, PEPIN, PIERCE, POLK, RUSK, ST. CROIX, SAWYER AND WASHBURN COUNTIES

| | Rates | Fringes |
|---|---|---|
| BRICKLAYER | $ 30.42 | 16.47 |

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BRWI0034-002 06/01/2010

COLUMBIA AND SAUK COUNTIES

| | Rates | Fringes |
|---|---|---|
| BRICKLAYER | $ 32.66 | 15.90 |

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CARP0087-001 05/01/2007

BURNETT (W. of Hwy 48), PIERCE (W. of Hwy 29), POLK (W. of Hwys 35, 48 & 65), AND ST. CROIX (W. of Hwy 65) COUNTIES

| | Rates | Fringes |
|---|---|---|
| Carpenter & Piledrivermen..... | $ 26.76 | 11.61 |

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CARP0252-002 06/01/2010

ADAMS, BARRON, BAYFIELD (Eastern 2/3), BROWN, BUFFALO, BURNETT (E. of Hwy 48), CALUMET, CHIPPEWA, CLARK, COLUMBIA, CRAWFORD, DANE, DODGE, DOOR, DUNN, EAU CLAIRE, FLORENCE (except area bordering Michigan State Line), FOND DU LAC, FOREST, GRANT, GREEN, GREEN LAKE, IOWA, IRON, JACKSON, JEFFERSON, JUNEAU, KEWAUNEE, LA CROSSE, LAFAYETTE, LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE (except N.E. corner), MARQUETTE, MENOMINEE, MONROE, OCONTO, ONEIDA, OUTAGAMIE, PEPIN, PIERCE (E. of Hwys 29 & 65), POLK (E. of Hwys 35, 48 & 65), PORTAGE, PRICE, RICHLAND, ROCK, RUSK, SAUK, SAWYER, SHAWANO, SHEBOYGAN, ST CROIX (E. of Hwy 65), TAYLOR, TREMPEALEAU, VERNON, VILAS, WALWORTH, WASHBURN, WAUPACA, WAUSHARA, WINNEBAGO, AND WOOD COUNTIES

| | Rates | Fringes |
|---|---|---|
| CARPENTER | | |
| CARPENTER..... | $ 30.56 | 13.36 |
| MILLWRIGHT..... | $ 32.16 | 13.36 |
| PILEDRIVER..... | $ 31.06 | 13.36 |

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CARP0252-010 05/27/2007

ASHLAND COUNTY

| | Rates | Fringes |
|---|---|---|
| Carpenters | | |
| Carpenter..... | $ 23.82 | 11.26 |
| Millwright..... | $ 27.71 | 11.26 |
| Pile Driver..... | $ 24.81 | 10.43 |

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CARP0264-003 06/01/2008

KENOSHA, MILWAUKEE, OZAUKEE, RACINE, WAUKESHA, AND WASHINGTON COUNTIES

| | Rates | Fringes |
|---|---|---|
| CARPENTER..... | $ 30.52 | 14.41 |

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* CARP0361-004 07/11/2011

BAYFIELD (West of Hwy 63) AND DOUGLAS COUNTIES

| | Rates | Fringes |
|---|---|---|

CARPENTER.....$ 31.07 15.80

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CARP2337-001 06/01/2008

ZONE A: MILWAUKEE, OZAUKEE, WAUKESHA AND WASHINGTON

ZONE B: KENOSHA & RACINE

| | Rates | Fringes |
|---|---|---|
| PILEDRIVERMAN | | |
| Zone A | $ 27.25 | 19.46 |
| Zone B | $ 24.47 | 19.46 |

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* ELEC0014-002 06/01/2011

ASHLAND, BARRON, BAYFIELD, BUFFALO, BURNETT, CHIPPEWA, CLARK (except Maryville, Colby, Unity, Sherman, Fremont, Lynn & Sherwood), CRAWFORD, DUNN, EAU CLAIRE, GRANT, IRON, JACKSON, LA CROSSE, MONROE, PEPIN, PIERCE, POLK, PRICE, RICHLAND, RUSK, ST CROIX, SAWYER, TAYLOR, TREMPEALEAU, VERNON, AND WASHBURN COUNTIES

| | Rates | Fringes |
|---|---|---|
| Electricians: | $ 28.74 | 17.82 |

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ELEC0014-007 06/01/2011

REMAINING COUNTIES

| | Rates | Fringes |
|---|---|---|
| Teledata System Installer | | |
| Installer/Technician | $ 21.26 | 11.83 |

Low voltage construction, installation, maintenance and removal of teledata facilities (voice, data, and video) including outside plant, telephone and data inside wire, interconnect, terminal equipment, central offices, PABX, fiber optic cable and equipment, micro waves, V-SAT, bypass, CATV, WAN (wide area networks), LAN (local area networks), and ISDN (integrated systems digital network).

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ELEC0127-002 06/01/2010

KENOSHA COUNTY

| | Rates | Fringes |
|---|---|---|
| Electricians: | $ 33.75 | 18.87 |

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ELEC0158-002 06/02/2008

BROWN, DOOR, KEWAUNEE, MANITOWOC (except Schleswig), MARINETTE(Wausuakee and area South thereof), OCONTO, MENOMINEE (East of a ine 6 miles West of the West boundary of Oconto County), SHAWANO (Except Area North of Townships of Aniwa and

Hutchins) COUNTIES

| | Rates | Fringes |
|---|---|---|
| Electricians:..... | $ 27.27 | 26.75%+7.62 |

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ELEC0159-003 06/01/2011

COLUMBIA, DANE, DODGE (Area West of Hwy 26, except Chester and Emmet Townships), GREEN, LAKE (except Townships of Berlin, Seneca, and St. Marie), IOWA, MARQUETTE (except Townships of Neshkoka, Crystal Lake, Newton, and Springfield), and SAUK COUNTIES

| | Rates | Fringes |
|---|---|---|
| Electricians:..... | $ 32.55 | 18.80 |

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ELEC0219-004 05/30/2011

FLORENCE COUNTY (Townships of Aurora, Commonwealth, Fern, Florence and Homestead) AND MARINETTE COUNTY (Township of Niagara)

| | Rates | Fringes |
|---|---|---|
| Electricians: | | |
| Electrical contracts over $130,000..... | $ 29.41 | 16.97 |
| Electrical contracts under $130,000..... | $ 26.24 | 16.85 |

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ELEC0242-005 05/29/2011

DOUGLAS COUNTY

| | Rates | Fringes |
|---|---|---|
| Electricians:..... | $ 30.39 | 22.90 |

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* ELEC0388-002 05/31/2011

ADAMS, CLARK (Colby, Freemont, Lynn, Mayville, Sherman, Sherwood, Unity), FOREST, JUNEAU, LANGLADE, LINCOLN, MARATHON, MARINETTE (Area North of the town of Wausaukee), MENOMINEE (Area West of a line 6 miles West of the West boundary of Oconto County), ONEIDA, PORTAGE, SHAWANO (Area North of the townships of Aniwa and Hutchins), VILAS AND WOOD COUNTIES

| | Rates | Fringes |
|---|---|---|
| Electricians:..... | $ 28.29 | 16.41 |

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ELEC0430-002 06/01/2011

RACINE COUNTY (Except Burlington Township)

| | Rates | Fringes |
|---|---|---|
| Electricians:..... | $ 32.87 | 19.22 |

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ELEC0494-005 06/01/2011

MILWAUKEE, OZAUKEE, WASHINGTON, AND WAUKESHA COUNTIES

| | Rates | Fringes |
|---|---|---|
| Electricians:..... | $ 31.54 | 20.88 |

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ELEC0494-006 06/01/2011

CALUMET (Township of New Holstein), DODGE (East of Hwy 26 including Chester Township), FOND DU LAC, MANITOWOC (Schleswig), and SHEBOYGAN COUNTIES

| | Rates | Fringes |
|---|---|---|
| Electricians:..... | $ 28.88 | 19.06 |

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ELEC0494-013 06/01/2010

DODGE (East of Hwy 26 including Chester Twp, excluding Emmet Twp), FOND DU LAC (Except Waupuin), MILWAUKEE, OZAUKEE, MANITOWOC (Schleswig), WASHINGTON, AND WAUKESHA COUNTIES

| | Rates | Fringes |
|---|---|---|
| Sound & Communications | | |
| Installer..... | $ 16.47 | 13.94 |
| Technician..... | $ 24.65 | 15.13 |

Installation, testing, maintenance, operation and servicing of all sound, intercom, telephone interconnect, closed circuit TV systems, radio systems, background music systems, language laboratories, electronic carillion, antenna distribution systems, clock and program systems and low-voltage systems such as visual nurse call, audio/visual nurse call systems, doctors entrance register systems. Includes all wire and cable carrying audio, visual, data, light and radio frequency signals. Includes the installation of conduit, wiremold, or raceways in existing structures that have been occupied for six months or more where required for the protection of the wire or cable, but does not mean a complete conduit or raceway system. work covered does not include the installation of conduit, wiremold or any raceways in any new construction, or the installation of power supply outlets by means of which external electric power is supplied to any of the foregoing equipment or products

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* ELEC0577-003 06/01/2011

CALUMET (except Township of New Holstein), GREEN LAKE (N. part including Townships of Berlin, St Marie, and Seneca), MARQUETTE

(N. part including Townships of Crystal Lake, Neshkoro, Newton, and Springfield), OUTAGAMIE, WAUPACA, WAUSHARA, AND WINNEBAGO COUNTIES

| | Rates | Fringes |
|---|---|---|
| Electricians:..... | $ 27.40 | 16.41 |

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ELEC0890-003 06/01/2011

DODGE (Emmet Township only), GREEN, JEFFERSON, LAFAYETTE, RACINE (Burlington Township), ROCK AND WALWORTH COUNTIES

| | Rates | Fringes |
|---|---|---|
| Electricians:..... | $ 30.00 | 24%+10.56 |

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* ELEC0953-001 06/05/2011

| | Rates | Fringes |
|---|---|---|
| Line Construction: | | |
| (1) Lineman..... | $ 37.05 | 17.60 |
| (2) Heavy Equipment Operator..... | $ 33.35 | 16.34 |
| (3) Equipment Operator..... | $ 29.64 | 15.07 |
| (4) Heavy Groundman Driver.. | $ 25.94 | 13.83 |
| (5) Light Groundman Driver.. | $ 24.08 | 13.18 |
| (6) Groundsman..... | $ 20.38 | 11.94 |

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ENGI0139-005 06/01/2011

| | Rates | Fringes |
|---|---|---|
| Power Equipment Operator | | |
| Group 1..... | $ 34.22 | 18.65 |
| Group 2..... | $ 33.72 | 18.65 |
| Group 3..... | $ 33.22 | 18.65 |
| Group 4..... | $ 32.96 | 18.65 |
| Group 5..... | $ 32.67 | 18.65 |
| Group 6..... | $ 26.77 | 18.65 |

HAZARDOUS WASTE PREMIUMS:
EPA Level "A" protection - $3.00 per hour
EPA Level "B" protection - $2.00 per hour
EPA Level "C" protection - $1.00 per hour

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Cranes, tower cranes, and derricks with or without attachments with a lifting capacity of over 100 tons; or cranes, tower cranes, and derricks with boom, leads and/or jib lengths measuring 176 feet or longer.

GROUP 2: Cranes, tower cranes and derricks with or without attachments with a lifting capacity of 100 tons or less; or cranes, tower cranes, and derricks with boom, leads, and/or jibs lengths measuring 175 feet or under and Backhoes

(excavators) weighing 130,000 lbs and over; caisson rigs; pile driver; dredge operator; dredge engineer; Boat Pilot.

GROUP 3: Mechanic or welder - Heavy duty equipment; cranes with a lifting capacity of 25 tons or under; concrete breaker (manual or remote); vibratory/sonic concrete breaker; concrete laser screed; concrete slipform paver; concrete batch plant operator; concrete pvt. spreader - heavy duty (rubber tired); concrete spreader & distributor; automatic subgrader (concrete); concrete grinder & planing machine; concrete slipform curb & gutter machine; slipform concrete placer; tube finisher; hydro blaster (10,000 psi & over); bridge paver; concrete conveyor system; concrete pump; Rotec type Conveyor; stabilizing mixer (self-propelled); shoulder widener; asphalt plant engineer; bituminious paver; bump cutter & grooving machine; milling machine; screed (bituminous paver); asphalt heater, planer & scarifier; Backhoes (excavators) weighing under 130,000 lbs; grader or motor patrol; tractor (scraper, dozer, pusher, loader); scraper - rubber tired (single or twin engine); endloader; hydraulic backhoe (tractor type); trenching machine; skid rigs; tractor, side boom (heavy); drilling or boring machine (mechanical heavy); roller over 5 tons; percussion or rotary drilling machine; air track; blaster; loading machine (conveyor); tugger; boatmen; winches & A-frames; post driver; material hoist.

GROUP 4: Greaser, roller steel (5 tons or less); roller (pneumatic tired) - self propelled; tractor (mounted or towed compactors & light equipment); shouldering machine; self- propelled chip spreader; concrete spreader; finishing machine; mechanical float; curing machine; power subgrader; joint sawer (multiple blade) belting machine; burlap machine; texturing machine; tractor endloader (rubber tired) - light; jeep digger; forklift; mulcher; launch operator; fireman, environmental burner

GROUP 5: Air compressor; power pack; vibrator hammer and extractor; heavy equipment, leadman; tank car heaters; stump chipper; curb machine operator; Concrete proportioning plants; generators; mudjack operator; rock breaker; crusher or screening plant; screed (milling machine); automatic belt conveyor and surge bin; pug mill operator; Oiler, pump (over 3 inches); Drilling Machine Tender.

GROUP 6: Off-road material hauler with or without ejector.

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IRON0008-002 06/06/2011

BROWN, CALUMET, DOOR, FOND DU LAC, KEWAUNEE, MANITOWOC, MARINETTE, OCONTO, OUTAGAMI, SHAWANO, SHEBOYGAN, AND WINNEBAGO COUNTIES:

| | Rates | Fringes |
|---|---|---|
| IRONWORKER..... | $ 28.03 | 22.24 |

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IRON0008-003 06/06/2011

KENOSHA, MILWAUKEE, OZAUKEE, RACINE, WALWORTH (N.E. 2/3),
WASHINGTON, AND WAUKESHA COUNTIES

| | Rates | Fringes |
|---|---|---|
| IRONWORKER | $ 31.31 | 22.24 |

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IRON0383-001 06/01/2010

ADAMS, COLUMBIA, CRAWFORD, DANE, DODGE, FLORENCE, FOREST,
GRANT, GREENE, (Excluding S.E. tip), GREEN LAKE, IOWA,
JEFFERSON, JUNEAU, LA CROSSE, LAFAYETTE, LANGLADE, MARATHON,
MARQUETTE, MENOMINEE, MONROE, PORTAGE, RICHLAND, ROCK (Northern
area, vicinity of Edgerton and Milton), SAUK, VERNON, WAUPACA,
WAUSHARA, AND WOOD COUNTIES

| | Rates | Fringes |
|---|---|---|
| IRONWORKER | $ 30.90 | 19.13 |

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IRON0498-005 06/01/2008

GREEN (S.E. 1/3), ROCK (South of Edgerton and Milton), and
WALWORTH (S.W. 1/3) COUNTIES:

| | Rates | Fringes |
|---|---|---|
| IRONWORKER | $ 34.34 | 25.72 |

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IRON0512-008 05/01/2011

BARRON, BUFFALO, CHIPPEWA, CLARK, DUNN, EAU CLAIRE, JACKSON,
PEPIN, PIERCE, POLK, RUSK, ST CROIX, TAYLOR, AND TREMPEALEAU
COUNTIES

| | Rates | Fringes |
|---|---|---|
| IRONWORKER | $ 34.05 | 20.37 |

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IRON0512-021 10/01/2011

ASHLAND, BAYFIELD, BURNETT, DOUGLAS, IRON, LINCOLN, ONEIDA,
PRICE,  SAWYER, VILAS AND WASHBURN COUNTIES

| | Rates | Fringes |
|---|---|---|
| IRONWORKER | $ 29.14 | 20.37 |

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LABO0113-002 06/01/2008

MILWAUKEE AND WAUKESHA COUNTIES

| | Rates | Fringes |
|---|---|---|

Laborers:

| | | |
|---|---|---|
| Group 1 | $ 23.26 | 14.18 |
| Group 2 | $ 23.41 | 14.18 |
| Group 3 | $ 23.61 | 14.18 |
| Group 4 | $ 23.76 | 14.18 |
| Group 5 | $ 23.91 | 14.18 |
| Group 6 | $ 19.75 | 14.18 |

LABORERS CLASSIFICATIONS

GROUP 1: General Laborer; Tree Trimmer; Conduit Layer; Demolition and Wrecking Laborer; Guard Rail, Fence, and Bridge Builder; Landscaper; Multiplate Culvert Assembler; Stone Handler; Bituminous Worker (Shoveler, Loader, and Utility Man); Batch Truck Dumper or Cement Handler; Bituminous Worker (Dumper, Ironer, Smoother, and Tamper); Concrete Handler

GROUP 2: Air Tool Operator; Joint Sawer and Filler (Pavement); Vibrator or Tamper Operator (Mechanical Hand Operated); Chain Saw Operator; Demolition Burning TOrch Laborer

GROUP 3: Bituminous Worker (Raker and Luteman); Formsetter (Curb, Sidewalk, and Pavement); Strike Off Man

GROUP 4: Line and Grade Specialist

GROUP 5: Blaster and Powderman

GROUP 6: Flagperson; traffic control person

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LABO0113-003 06/01/2008

OZAUKEE AND WASHINGTON COUNTIES

| | Rates | Fringes |
|---|---|---|
| Laborers: | | |
| Group 1 | $ 22.51 | 14.18 |
| Group 2 | $ 22.61 | 14.18 |
| Group 3 | $ 22.66 | 14.18 |
| Group 4 | $ 22.86 | 14.18 |
| Group 5 | $ 22.71 | 14.18 |
| Group 6 | $ 19.60 | 14.18 |

LABORERS CLASSIFICATIONS

GROUP 1: General Laborer; Tree Trimmer; Conduit Layer; Demolition and Wrecking Laborer; Guard Rail, Fence, and Bridge Builder; Landscaper; Multiplate Culvert Assembler; Stone Handler; Bituminous Worker (Shoveler, Loader, and Utility Man); Batch Truck Dumper or Cement Handler; Bituminous Worker (Dumper, Ironer, Smoother, and Tamper); Concrete Handler

GROUP 2: Air Tool Operator; Joint Sawer and Filler (Pavement); Vibrator or Tamper Operator (Mechanical Hand Operated);

GROUP 3: Bituminous Worker (Raker and Luteman); Formsetter (Curb, Sidewalk, and Pavement); Strike Off Man

GROUP 4: Line and Grade Specialist

GROUP 5: Blaster; powderman

GROUP 6: Flagperson and Traffic Control Person

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LABO0113-011 06/01/2008

KENOSHA AND RACINE COUNTIES

| | Rates | Fringes |
|---|---|---|
| LABORERS | | |
| Group 1 | $ 21.52 | 14.98 |
| Group 2 | $ 21.67 | 14.98 |
| Group 3 | $ 21.87 | 14.98 |
| Group 4 | $ 21.84 | 14.98 |
| Group 5 | $ 22.17 | 14.98 |
| Group 6 | $ 18.66 | 14.98 |

LABORERS CLASSIFICATIONS:

GROUP 1: General laborer; Tree Trimmer; Conduit Layer; Demolition and Wrecking Laborer; Guard Rail, Fence, and Bridge Builder; Landscaper; Multiplate Culvert Assembler; Stone Handler; Bituminous Worker (Shoveler, Loader, and Utility Man); Batch Truck Dumper or Cement Handler; Bituminous worker (Dumper, Ironer, Smoother, and Tamper); Concrete Handler

GROUP 2: Air Tool Operator; Joint Sawer and Filler (Pavement); Vibrator or Tamper Operator (Mechanical Hand Operated); Chain Saw Operator; Demolition Burning Torch Laborer

GROUP 3: Bituminous Worker (Raker and Luteman); Formsetter (Curb, Sidewalk, and Pavement); Strike Off Man

GROUP 4: Line and Grade Specialist

GROUP 5: Blaster and Powderman

GROUP 6: Flagman; traffic control person

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LABO0140-002 06/01/2008

ADAMS, ASHLAND, BARRON, BAYFIELD, BROWN, BUFFALO, BURNETT, CALUMET, CHIPPEWA, CLARK, COLUMBIA, CRAWFORD, DODGE, DOOR, DOUGLAS, DUNN, EAU CLAIRE, FLORENCE, FOND DU LAC, FOREST, GRANT, GREEN, GREEN LAKE, IRON, JACKSON, JUNEAU, IOWA, JEFFERSON, KEWAUNEE, LA CROSSE, LAFAYETTE, LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE, MARQUETTE, MENOMINEE, MONROE, OCONTO, ONEIDA, OUTAGAMIE, PEPIN, PIERCE, POLK, PORTAGE, PRICE, RICHLAND, ROCK, RUSK, SAUK, SAWYER, SHAWANO, SHEBOYGAN, ST. CROIX, TAYLOR, TREMPEALEAU, VERNON, VILLAS, WALWORTH, WASHBURN, WAUPACA, WAUSHARA, WINNEBAGO, AND WOOD COUNTIES

| | Rates | Fringes |
|---|---|---|
| Laborers: | | |
| Group 1 | $ 23.87 | 11.75 |
| Group 2 | $ 23.97 | 11.75 |
| Group 3 | $ 24.02 | 11.75 |
| Group 4 | $ 24.22 | 11.75 |
| Group 5 | $ 24.07 | 11.75 |
| Group 6 | $ 20.50 | 11.75 |

LABORERS CLASSIFICATIONS

GROUP 1: General Laborer; Tree Trimmer; Conduit Layer; Demolition and Wrecking Laborer; Guard Rail, Fence, and Bridge Builder; Landscaper; Multiplate Culvert Assembler; Stone Handler; Bitminous Worker (Shoveler, Loader, and Utility Man); Batch Truck Dumper or Cement Handler; Bituminous Worker (Dumper, Ironer, Smoother and Tamper); Concrete Handler

GROUP 2: Air Tool Operator; Joint Sawer and Filler (Pavement); Vibrator or Tamper Operator (Mechanical Hand Operated)

GROUP 3: Bituminous Worker (Raker and Luteman); Formsetter (Curb, Sidewalk and Pavement); Strike Off Man

GROUP 4: Line and Grade Secialist

GROUP 5: Blaster; powderman

GROUP 6: Flagperson; Traffic Control

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LABO0464-003 06/01/2008

DANE COUNTY

| | Rates | Fringes |
|---|---|---|
| Laborers: | | |
| Group 1 | $ 24.15 | 11.75 |
| Group 2 | $ 24.25 | 11.75 |
| Group 3 | $ 24.30 | 11.75 |
| Group 4 | $ 24.50 | 11.75 |
| Group 5 | $ 24.35 | 11.75 |
| Group 6 | $ 20.50 | 11.75 |

LABORERS CLASSIFICATIONS:

GROUP 1: General Laborer; Tree Trimmer; Conduit Layer; Demolition and Wrecking Laborer; Guard Rail, Fence, and Bridge Builder; Landscaper; Multiplate Culvert Assembler; Stone Handler; Bituminous Worker (Shoveler, Loader, and Utility Man); Batch Truck Dumper or Cement Handler; Bituminious Worker (Dumper, Ironer, Smoother, and Tamper); Concrete Handler

GROUP 2: Air Tool Operator; Joint Sawer and Filler (Pavement); Vibrator or Tamper Operator (Mechanical Hand

Operated); Chain Saw Operator; Demolition Burning Torch Laborer

GROUP 3: Bituminous Worker (Raker and Luteman); Formsetter (Curb, Sidewalk, and Pavement); Strike Off Man

GROUP 4: Line and Grade Specialist

GROUP 5: Blaster; Powderman

GROUP 6: Flagperson and Traffic Control Person

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PAIN0106-008 05/01/2011

ASHLAND, BAYFIELD, BURNETT, AND DOUGLAS COUNTIES

| | Rates | Fringes |
|---|---|---|
| Painters: | | |
| New: | | |
| Brush, Roller | $ 27.31 | 14.67 |
| Spray, Sandblast, Steel | $ 27.91 | 14.67 |
| Repaint: | | |
| Brush, Roller | $ 25.81 | 14.67 |
| Spray, Sandblast, Steel | $ 26.41 | 14.67 |

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PAIN0108-002 06/01/2010

RACINE COUNTY

| | Rates | Fringes |
|---|---|---|
| Painters: | | |
| Brush, Roller | $ 29.10 | 16.09 |
| Spray & Sandblast | $ 30.10 | 16.09 |

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PAIN0259-002 05/01/2008

BARRON, CHIPPEWA, DUNN, EAU CLAIRE, PEPIN, PIERCE, POLK, RUSK, SAWYER, ST. CROIX, AND WASHBURN COUNTIES

| | Rates | Fringes |
|---|---|---|
| PAINTER | $ 24.11 | 12.15 |

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PAIN0259-004 06/01/2010

BUFFALO, CRAWFORD, JACKSON, LA CROSSE, MONROE, TREMPEALEAU, AND VERNON COUNTIES

| | Rates | Fringes |
|---|---|---|
| PAINTER | $ 20.58 | 10.40 |

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PAIN0781-002 06/01/2010

JEFFERSON, MILWAUKEE, OZAUKEE, WASHINGTON, AND WAUKESHA COUNTIES

| | Rates | Fringes |
|---|---|---|
| Painters: | | |
| Bridge | $ 28.82 | 16.69 |
| Brush | $ 28.47 | 16.69 |
| Spray & Sandblast | $ 29.22 | 16.69 |

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PAIN0802-002 06/01/2010

COLUMBIA, DANE, DODGE, GRANT, GREEN, IOWA, LAFAYETTE, RICHLAND, ROCK, AND SAUK COUNTIES

| | Rates | Fringes |
|---|---|---|
| PAINTER | | |
| Brush | $ 25.65 | 13.10 |

PREMIUM PAY:
Structural Steel, Spray, Bridges = $1.00 additional per hour.

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PAIN0802-003 06/01/2010

ADAMS, BROWN, CALUMET, CLARK, DOOR, FOND DU LAC, FOREST, GREEN LAKE, IRON, JUNEAU, KEWAUNEE, LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE, MARQUETTE, MENOMINEE, OCONTO, ONEIDA, OUTAGAMIE, PORTAGE, PRICE, SHAWANO, SHEBOYGAN, TAYLOR, VILAS, WAUSHARA, WAUPACA, WINNEBAGO, AND WOOD COUNTIES

| | Rates | Fringes |
|---|---|---|
| PAINTER | $ 21.87 | 11.37 |

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PAIN0934-001 06/01/2010

KENOSHA AND WALWORTH COUNTIES

| | Rates | Fringes |
|---|---|---|
| Painters: | | |
| Brush | $ 29.10 | 16.09 |
| Spray | $ 30.10 | 16.09 |
| Structural Steel | $ 29.25 | 16.09 |

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PAIN1011-002 06/01/2010

FLORENCE COUNTY

| | Rates | Fringes |
|---|---|---|
| Painters: | $ 24.00 | 9.17 |

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PLAS0599-010 06/01/2011

| | Rates | Fringes |
|---|---|---|
| CEMENT MASON/CONCRETE FINISHER | | |
| Area 1 | $ 31.41 | 16.25 |

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     Area 2 (BAC)................$ 30.52            15.44
     Area 3......................$ 29.91            16.45
     Area 4......................$ 29.33            17.03
     Area 5......................$ 30.68            15.68
     Area 6......................$ 27.14            19.22
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AREA DESCRIPTIONS

AREA 1: BAYFIELD, DOUGLAS, PRICE, SAWYER, AND WASHBURN COUNTIES

AREA 2: ADAMS, ASHLAND, BARRON, BROWN, BURNETT, CALUMET, CHIPPEWA, CLARK, COLUMBIA, DODGE, DOOR, DUNN, FLORENCE, FOND DU LAC, FOREST, GREEN LAKE, IRON, JEFFERSON, KEWAUNEE, LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE, MARQUETTE, MENOMINEE, OCONTO, ONEIDA, OUTAGAMIE, POLK, PORTAGE, RUSK, ST CROIX, SAUK, SHAWANO, SHEBOYGAN, TAYLOR, VILAS, WALWORTH, WAUPACA, WAUSHARA, WINNEBAGO, AND WOOD COUNTIES

AREA 3: BUFFALO, CRAWFORD, EAU CLAIRE, JACKSON, JUNEAU, LA CROSSE MONROE, PEPIN, PIERCE, RICHLAND, TREMPEALEAU, AND VERNON COUNTIES

AREA 4: MILWAUKEE, OZAUKEE, WASHINGTON, AND WAUKESHA COUNTIES

AREA 5: DANE, GRANT, GREEN, IOWA, LAFAYETTE, AND ROCK COUNTIES

AREA 6: KENOSHA AND RACINE COUNTIES

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TEAM0039-001 05/01/2010

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                                  Rates          Fringes

TRUCK DRIVER
     1 & 2 Axles................$ 25.09            15.20
     3 or more Axles; Euclids
     Dumptor & Articulated,
     Truck Mechanic.............$ 25.24            15.20
  ------------------------------------------------------------
WELL DRILLER....................$ 16.52             3.70
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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

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The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters , PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable , i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rate.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

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WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted

because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

| State of Wisconsin<br>Department of Workforce Development<br>Equal Rights Division | **DEPARTMENTAL ORDER** |
|---|---|

**ISSUE DATE:** 1/8/2012

**PROJECT:**

S. MONROE ST FLOODPLAIN IMPROVEMENTS
WATERLOO CITY, JEFFERSON COUNTY, WI
Determination No. 201200043

| PROJECT OWNER: | REQUESTER: |
|---|---|
| MO HANSEN, CITY CLERK/TREASURER<br>CITY OF WATERLOO<br>136 N MONROE ST<br>WATERLOO, WI 53594 | MARCUS FINK, PE, PROJECT ENGINEER<br>SAA DESIGN GROUP INC<br>717 JOHN NOLEN DR<br>MADISON, WI 53713 |
| **ADDITIONAL CONTACT:** | **NOTE:** The Requester must provide a copy of this Project Determination and enclosures to the Project Owner and Additional Contact. |

The department received an application for prevailing wage rate determination for the above-captioned project. The department conducted a survey to determine the prevailing wage rate for the trade(s) or occupation(s) needed to complete the project. The survey's findings appear in the attached project determination.

If you believe that the wage rate for any trade or occupation does not accurately reflect the prevailing wage rate in the city, village or town where the project is located, you may ask the department to conduct an administrative review of such wage rate. You must submit this request in writing within 30 days from the date indicated above. Additionally, your request must include wage rate information from at least three similar projects in the city, village or town where the proposed project is located and on which some work has been performed by the contested trade(s) during the current survey period and was previously considered by the department in issuing the attached determination. See DWD 290.10 of the Wisconsin Administrative Code and either s. 66.0903(3)(br), s. 66.0904(4)(e), or s. 103.49(3)(c), Stats., for a complete explanation of the administrative review process.

Enclosures

It is hereby ordered that the prevailing wage rates set forth in the attached project determination shall only be applicable to the above referenced project. This order is a **FINAL ORDER** of the department unless a timely request for an administrative review is filed with the department.

ISSUED BY:

Equal Rights Division
Labor Standards Bureau
Construction Wage Standards Section
PO Box 8928 Madison, WI 53708-8928
(608)266-6861

Web Site: http://dwd.wisconsin.gov/er/

**PREVAILING WAGE RATE DETERMINATION**
Issued by the State of Wisconsin
Department of Workforce Development
Pursuant to s. 66.0903, Wis. Stats.
Issued On: 1/8/2012

| | |
|---|---|
| **DETERMINATION NUMBER:** | 201200043 |
| **EXPIRATION DATE:** | Prime Contracts MUST Be Awarded or Negotiated On Or Before 12/31/2012. If NOT, You MUST Reapply. |
| **PROJECT NAME:** | S. MONROE ST FLOODPLAIN IMPROVEMENTS |
| **PROJECT LOCATION:** | WATERLOO CITY, JEFFERSON COUNTY, WI |
| **CONTRACTING AGENCY:** | CITY OF WATERLOO |

| | |
|---|---|
| **CLASSIFICATION:** | Contractors are responsible for correctly classifying their workers. Either call the Department of Workforce Development (DWD) with trade or classification questions or consult DWD's Dictionary of Occupational Classifications & Work Descriptions on the DWD website at: dwd.wisconsin.gov/er/prevailing_wage_rate/Dictionary/dictionary_main.htm. |
| **OVERTIME:** | Time and one-half must be paid for all hours worked:<br>- over 10 hours per day on prevailing wage projects<br>- over 40 hours per calendar week<br>- Saturday and Sunday<br>- on all of the following holidays: January 1; the last Monday in May; July 4; the 1st Monday in September; the 4th Thursday in November; December 25;<br>- The day before if January 1, July 4 or December 25 falls on a Saturday;<br>- The day following if January 1, July 4 or December 25 falls on a Sunday.<br>Apply the time and one-half overtime calculation to whichever is higher between the Hourly Basic Rate listed on this project determination or the employee's regular hourly rate of pay. Add any applicable Premium or DOT Premium to the Hourly Basic Rate before calculating overtime.<br><br>A DOT Premium (discussed below) may supersede this time and one-half requirement. |
| **FUTURE INCREASE:** | When a specific trade or occupation requires a future increase, you MUST add the full hourly increase to the "TOTAL" on the effective date(s) indicated for the specific trade or occupation. |
| **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, whevenever such pay is applicable. |
| **DOT PREMIUM:** | This premium only applies to highway and bridge projects owned by the Wisconsin Department of Transportation and to the project type heading "Airport Pavement or State Highway Construction." DO NOT apply the premium calculation under any other project type on this determination. |
| **APPRENTICES:** | Pay apprentices a percentage of the applicable journeyperson's hourly basic rate of pay and hourly fringe benefit contributions specified in this determination. Obtain the appropriate percentage from each apprentice's contract or indenture. |
| **SUBJOURNEY:** | Subjourney wage rates may be available for some of the trades or occupations indicated below with the exception of laborers, truck drivers and heavy equipment operators. Any employer interested in using a subjourney classification on this project MUST complete Form ERD-10880 and request the applicable wage rate from the Department of Workforce Development PRIOR to using the subjourney worker on this project. |

This document **MUST BE POSTED** by the **CONTRACTING AGENCY** in at least one conspicuous and easily accessible place **on the site of the project** . A local governmental unit may post this document at the place normally used to post public notices if there is no common site on the project. This document **MUST** remain posted during the entire time any worker is employed on the project and **MUST** be physically incorporated into the specifications and all contracts and subcontracts. If you have any questions, please write to the Equal Rights Division, Labor Standards Bureau, P.O. Box 8928, Madison, Wisconsin 53708 or call (608) 266-6861.

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**The following statutory provisions apply to local governmental unit projects of public works and are set forth below pursuant to the requirements of s. 66.0903(8), Stats.**

**s. 66.0903 (1) (f) & s. 103.49 (1) (c) "PREVAILING HOURS OF LABOR"** for any trade or occupation in any area means 10 hours per day and 40 hours per week and may not include any hours worked on a Saturday or Sunday or on any of the following holidays:

1. January 1.
2. The last Monday in May.
3. July 4.
4. The first Monday in September.
5. The 4th Thursday in November.
6. December 25.
7. The day before if January 1, July 4 or December 25 falls on a Saturday.
8. The day following if January 1, July 4 or December 25 falls on a Sunday.

**s. 66.0903 (10) RECORDS; INSPECTION; ENFORCEMENT.**
(a) Each contractor, subcontractor, or contractor's or subcontractor's agent performing work on a project of public works that is subject to this section shall keep full and accurate records clearly indicating the name and trade or occupation of every person performing the work described in sub. (4) and an accurate record of the number of hours worked by each of those persons and the actual wages paid for the hours worked.

**s. 66.0903 (11) LIABILITY AND PENALTIES.**
(a) 1. Any contractor, subcontractor, or contractor's or subcontractor's agent who fails to pay the prevailing wage rate determined by the department under sub. (3) or who pays less than 1.5 times the hourly basic rate of pay for all hours worked in excess of the prevailing hours of labor is liable to any affected employee in the amount of his or her unpaid wages or his or her unpaid overtime compensation and in an additional amount as liquidated damages as provided under subd. 2., 3., whichever is applicable.
2. If the department determines upon inspection under sub. (10) (b) or (c) that a contractor, subcontractor, or contractor's or subcontractor's agent has failed to pay the prevailing wage rate determined by the department under sub. (3) or has paid less than 1.5 times the hourly basic rate of pay for all hours worked in excess of the prevailing hours of labor, the department shall order the contractor to pay to any affected employee the amount of his or her unpaid wages or his or her unpaid overtime compensation and an additional amount equal to 100 percent of the amount of those unpaid wages or that unpaid overtime compensation as liquidated damages within a period specified by the department in the order.
3. In addition to or in lieu of recovering the liability specified in subd. 1. as provided in subd. 2., any employee for and in behalf of that employee and other employees similarly situated may commence an action to recover that liability in any court of competent jurisdiction. If the court finds that a contractor, subcontractor, or contractor's or subcontractor's agent has failed to pay the prevailing wage rate determined by the department under sub. (3) or has paid less than 1.5 times the hourly basic rate of pay for all hours worked in excess of the prevailing hours of labor, the court shall order the contractor, subcontractor, or agent to pay to any affected employee the amount of his or her unpaid wages or his or her unpaid overtime compensation and an additional amount equal to 100 percent of the amount of those unpaid wages or that unpaid overtime compensation as liquidated damages.
5. No employee may be a party plaintiff to an action under subd. 3. unless the employee consents in writing to become a party and the consent is filed in the court in which the action is brought. Notwithstanding s. 814.04 (1), the court shall, in addition to any judgment awarded to the plaintiff, allow reasonable attorney fees and costs to be paid by the defendant.

## BUILDING OR HEAVY CONSTRUCTION

**Includes sheltered enclosures with walk-in access for the purpose of housing persons, employees, machinery, equipment or supplies and non-sheltered work such as canals, dams, dikes, reservoirs, storage tanks, etc. A sheltered enclosure need not be "habitable" in order to be considered a building. The installation of machinery and/or equipment, both above and below grade level, does not change a project's character as a building. On-site grading, utility work and landscaping are included within this definition. Residential buildings of four (4) stories or less, agricultural buildings, parking lots and driveways are NOT included within this definition.**

### SKILLED TRADES

**Fringe Benefits Must Be Paid On All Hours Worked**

| CODE | TRADE OR OCCUPATION | HOURLY BASIC RATE OF PAY $ | HOURLY FRINGE BENEFITS $ | TOTAL $ |
|---|---|---|---|---|
| 101 | Acoustic Ceiling Tile Installer | 29.06 | 15.16 | 44.22 |
| 102 | Boilermaker | 31.09 | 21.87 | 52.96 |
| 103 | Bricklayer, Blocklayer or Stonemason<br>Premium Increase(s):<br>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. | 32.56 | 16.32 | 48.88 |
| 104 | Cabinet Installer | 29.06 | 15.16 | 44.22 |
| 105 | Carpenter | 29.06 | 15.16 | 44.22 |
| 106 | Carpet Layer or Soft Floor Coverer | 29.06 | 15.16 | 44.22 |
| 107 | Cement Finisher<br>Future Increase(s):<br>Add $.50/hr on 6/1/2012; Add $ .80 on 6/1/2013 | 32.56 | 16.32 | 48.88 |
| 108 | Drywall Taper or Finisher | 29.06 | 15.57 | 44.63 |
| 109 | Electrician | 30.00 | 17.75 | 47.75 |
| 110 | Elevator Constructor | 43.79 | 25.48 | 69.27 |
| 111 | Fence Erector | 26.94 | 0.00 | 26.94 |
| 112 | Fire Sprinkler Fitter | 36.39 | 17.18 | 53.57 |
| 113 | Glazier | 32.25 | 16.27 | 48.52 |
| 114 | Heat or Frost Insulator | 33.28 | 22.51 | 55.79 |
| 115 | Insulator (Batt or Blown) | 23.62 | 11.55 | 35.17 |
| 116 | Ironworker | 30.90 | 19.11 | 50.01 |
| 117 | Lather | 29.06 | 15.16 | 44.22 |
| 118 | Line Constructor (Electrical) | 35.97 | 18.08 | 54.05 |
| 119 | Marble Finisher | 31.16 | 16.27 | 47.43 |
| 120 | Marble Mason | 32.96 | 15.92 | 48.88 |

| CODE | Fringe Benefits Must Be Paid On All Hours Worked<br>TRADE OR OCCUPATION | HOURLY BASIC RATE OF PAY<br>$ | HOURLY FRINGE BENEFITS<br>$ | TOTAL<br>$ |
|---|---|---|---|---|
| 121 | Metal Building Erector | 18.05 | 7.17 | 25.22 |
| 122 | Millwright | 30.66 | 15.21 | 45.87 |
| 123 | Overhead Door Installer | 26.80 | 0.44 | 27.24 |
| 124 | Painter | 28.47 | 16.47 | 44.94 |
| 125 | Pavement Marking Operator | 26.00 | 0.00 | 26.00 |
| 126 | Piledriver | 29.56 | 15.16 | 44.72 |
| 127 | Pipeline Fuser or Welder (Gas or Utility) | 29.54 | 18.84 | 48.38 |
| 129 | Plasterer | 29.03 | 12.56 | 41.59 |
| 130 | Plumber | 36.43 | 16.86 | 53.29 |
| 132 | Refrigeration Mechanic | 38.26 | 19.49 | 57.75 |
| 133 | Roofer or Waterproofer | 28.85 | 7.55 | 36.40 |
| 134 | Sheet Metal Worker | 36.60 | 16.37 | 52.97 |
| 135 | Steamfitter | 38.26 | 19.49 | 57.75 |
| 137 | Teledata Technician or Installer | 24.65 | 4.49 | 29.14 |
| 138 | Temperature Control Installer | 32.55 | 18.68 | 51.23 |
| 139 | Terrazzo Finisher | 18.00 | 5.35 | 23.35 |
| 140 | Terrazzo Mechanic | 31.16 | 16.27 | 47.43 |
| 141 | Tile Finisher<br>Future Increase(s):<br>Add $.50/hr on 6/1/2012; Add $ .80/hr on 6/1/2013. | 23.77 | 16.00 | 39.77 |
| 142 | Tile Setter<br>Future Increase(s):<br>Add $.50/hr on 6/1/2012; Add $ .80/hr on 6/1/2013. | 29.71 | 16.00 | 45.71 |
| 143 | Tuckpointer, Caulker or Cleaner | 22.00 | 9.75 | 31.75 |
| 144 | Underwater Diver (Except on Great Lakes) | 36.20 | 18.81 | 55.01 |
| 146 | Well Driller or Pump Installer | 25.32 | 15.30 | 40.62 |
| 147 | Siding Installer | 30.80 | 0.00 | 30.80 |
| 150 | Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY | 32.37 | 16.48 | 48.85 |
| 151 | Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY | 28.78 | 15.16 | 43.94 |
| 152 | Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY | 17.80 | 9.00 | 26.80 |
| 153 | Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY | 23.38 | 12.48 | 35.86 |

| | | | | |
|---|---|---|---|---|
| 154 | Groundman - ELECTRICAL LINE CONSTRUCTION ONLY | 21.30 | 10.97 | 32.27 |

## TRUCK DRIVERS

**Fringe Benefits Must Be Paid On All Hours Worked**

| CODE | TRADE OR OCCUPATION | HOURLY BASIC RATE OF PAY $ | HOURLY FRINGE BENEFITS $ | TOTAL $ |
|---|---|---|---|---|
| 201 | Single Axle or Two Axle | 18.00 | 6.98 | 24.98 |
| 203 | Three or More Axle | 18.00 | 15.62 | 33.62 |
| 204 | Articulated, Euclid, Dumptor, Off Road Material Hauler<br>Future Increase(s):<br>Add $1/hr on 6/3/2012; Add $1/hr on 6/2/2013. | 31.89 | 17.98 | 49.87 |
| 205 | Pavement Marking Vehicle | 19.25 | 10.84 | 30.09 |
| 207 | Truck Mechanic | 18.00 | 15.62 | 33.62 |

## LABORERS

**Fringe Benefits Must Be Paid On All Hours Worked**

| CODE | TRADE OR OCCUPATION | HOURLY BASIC RATE OF PAY $ | HOURLY FRINGE BENEFITS $ | TOTAL $ |
|---|---|---|---|---|
| 301 | General Laborer<br>Future Increase(s):<br>Add $.50/hr. on 06/04/2012; Add $.75/hr. on 06/03/2013<br>Premium Increase(s):<br>Add $1.00/hr for certified welder; Add $.25/hr for mason tender | 24.14 | 13.45 | 37.59 |
| 302 | Asbestos Abatement Worker | 23.96 | 12.88 | 36.84 |
| 303 | Landscaper | 25.67 | 0.00 | 25.67 |
| 310 | Gas or Utility Pipeline Laborer (Other Than Sewer and Water) | 20.39 | 12.20 | 32.59 |
| 311 | Fiber Optic Laborer (Outside, Other Than Concrete Encased)<br>Premium Increase(s):<br>DOT PREMIUMS: Pay two times the hourly basic rate on New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. | 17.24 | 15.00 | 32.24 |
| 314 | Railroad Track Laborer | 17.00 | 7.45 | 24.45 |

## HEAVY EQUIPMENT OPERATORS
## SITE PREPARATION, UTILITY OR LANDSCAPING WORK ONLY

| CODE | Fringe Benefits Must Be Paid On All Hours Worked<br>TRADE OR OCCUPATION | HOURLY BASIC RATE OF PAY $ | HOURLY FRINGE BENEFITS $ | TOTAL $ |
|---|---|---|---|---|
| 501 | Air Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Asphalt Milling Machine; Boring Machine (Directional, Horizontal or Vertical); Backhoe (Track Type) Having a Mfgr's Rated Capacity of 130,000 Lbs. or Over; Backhoe (Track Type) Having a Mfgr's Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. & Under); Bulldozer or Endloader (Over 40 hp); Compactor (Self-Propelled 85 Ft Total Drum Width & Over, or Tractor Mounted, Towed & Light Equipment); Concrete Batch Plant, Batch Hopper; Concrete Breaker (Large, Auto, Vibratory/Sonic, Manual or Remote); Crane, Shovel, Dragline, Clamshells; Forklift (Machinery Moving or Steel Erection, 25 Ft & Over); Gradall (Cruz-Aire Type); Grader or Motor Patrol; Master Mechanic; Mechanic or Welder; Robotic Tool Carrier (With or Without Attachments); Scraper (Self Propelled or Tractor Drawn) 5 cu yds or More Capacity; Tractor or Truck Mounted Hydraulic Backhoe; Tractor or Truck Mounted Hydraulic Crane (10 Tons or Under); Tractor (Scraper, Dozer, Pusher, Loader); Trencher (Wheel Type or Chain Type Having Over 8 Inch Bucket). | 32.42 | 18.26 | 50.68 |
| 502 | Backfiller; Broom or Sweeper; Bulldozer or Endloader (Under 40 hp); Environmental Burner; Forestry Equipment, Timbco, Tree Shear, Tub Grinder, Processor; Jeep Digger; Screed (Milling Machine); Skid Rig; Straddle Carrier or Travel Lift; Stump Chipper; Trencher (Wheel Type or Chain Type Having 8 Inch Bucket & Under).<br>Future Increase(s):<br>Add $1/hr on 6/3/2012; Add $1/hr on 6/2/2013. | 31.89 | 17.98 | 49.87 |
| 503 | Air Compressor (&/or 400 CFM or Over); Augers (Vertical & Horizontal); Compactor (Self-Propelled 84 Ft Total Drum Width & Under, or Tractor Mounted, Towed & Light Equipment); Crusher, Screening or Wash Plant; Farm or Industrial Type Tractor; Forklift; Generator (&/or 150 KW or Over); Greaser; High Pressure Utility Locating Machine (Daylighting Machine); Mulcher; Oiler; Post Hole Digger or Driver; Pump (3 Inch or Over) or Well Points; Refrigeration Plant or Freeze Machine; Rock, Stone Breaker; Skid Steer Loader (With or Without Attachments); Vibratory Hammer or Extractor, Power Pack. | 31.89 | 17.77 | 49.66 |
| 504 | Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer. | 36.20 | 18.81 | 55.01 |
| 505 | Work Performed on the Great Lakes Including Crane or Backhoe Operator; Assistant Hydraulic Dredge Engineer; Hydraulic Dredge Leverman or Diver's Tender; Mechanic or Welder; 70 Ton & Over Tug Operator.<br>Premium Increase(s):<br>Add $.50/hr for friction crane, lattice boom or crane certification (CCO). | 37.45 | 19.45 | 56.90 |
| 506 | Work Performed on the Great Lakes Including Deck Equipment Operator or Machineryman (Maintains Cranes Over 50 Tons or Backhoes 115,000 Lbs. or More); Tug, Launch or Loader, Dozer or Like Equipment When Operated on a Barge, Breakwater Wall, Slip, Dock or Scow, Deck Machinery. | 26.80 | 18.52 | 45.32 |

| | | | | |
|---|---|---|---|---|
| 507 | Work Performed on the Great Lakes Including Deck Equipment Operator, Machineryman or Fireman (Operates 4 Units or More or Maintains Cranes 50 Tons or Under or Backhoes 115,000 Lbs. or Under); Deck Hand, Deck Engineer or Assistant Tug Operator; Off Road Trucks - Great Lakes ONLY. | 27.75 | 19.15 | 46.90 |

**HEAVY EQUIPMENT OPERATORS**
**EXCLUDING SITE PREPARATION, UTILITY, PAVING LANDSCAPING WORK**

**Fringe Benefits Must Be Paid On All Hours Worked**

| CODE | TRADE OR OCCUPATION | HOURLY BASIC RATE OF PAY $ | HOURLY FRINGE BENEFITS $ | TOTAL $ |
|---|---|---|---|---|
| 508 | Boring Machine (Directional); Crane, Tower Crane, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of Over 100 Tons, Self-Erecting Tower Crane With a Lifting Capacity of Over 4,000 Lbs., Crane With Boom Dollies; Crane, Tower Crane, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 176 Ft or Over; Master Mechanic.<br>Future Increase(s):<br>Add $1/hr on 6/3/2012; Add $1/hr on 6/2/2013.<br>Premium Increase(s):<br>Add $.50/hr at 200 ton: Add $1.00/hr. at 300 ton; Add $1.50/hr at 400 ton; Add $2.00/hr at 500 ton. | 34.62 | 17.98 | 52.60 |
| 509 | Backhoe (Track Type) Having a Mfgr's Rated Capacity of 130,000 Lbs. or Over; Boring Machine (Horizontal or Vertical); Caisson Rig; 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; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 175 Ft or Under; Pile Driver; Versi Lifts, Tri-Lifts & Gantrys (20,000 Lbs. & Over).<br>Future Increase(s):<br>Add $1/hr on 6/3/2012; Add $1/hr on 6/2/2013.<br>Premium Increase(s):<br>Add $.25/hr for cranes with lifting capacity of 45 ton or over. | 33.62 | 17.98 | 51.60 |
| 510 | Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. & Under); Concrete Bump Cutter, Grinder, Planing or Grooving Machine; Concrete Laser/Screed; Concrete Paver (Slipform); Concrete Pump (Over 46 Meter), Concrete Conveyor (Rotec or Bidwell Type); Concrete Slipform Placer Curb & Gutter Machine; Concrete Spreader & Distributor; Dredge (NOT Performing Work on the Great Lakes); Forklift (Machinery Moving or Steel Erection, 25 Ft & Over); Gradall (Cruz-Aire Type); Hydro-Blaster (10,000 PSI or Over); Milling Machine; Skid Rig; Traveling Crane (Bridge Type).<br>Future Increase(s):<br>Add $1/hr on 6/3/2012; Add $1/hr on 6/2/2013. | 32.42 | 17.98 | 50.40 |

| CODE | Fringe Benefits Must Be Paid On All Hours Worked<br>TRADE OR OCCUPATION | HOURLY BASIC RATE OF PAY<br>$ | HOURLY FRINGE BENEFITS<br>$ | TOTAL<br>$ |
|---|---|---|---|---|
| 511 | Air, Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Bulldozer or Endloader (Over 40 hp); Compactor (Self-Propelled 85 Ft Total Drum Width & Over, or Tractor Mounted, Towed & Light Equipment); Concrete Pump (46 Meter & Under), Concrete Conveyor (Rotec or Bidwell Type); Crane (Carry Deck, Mini) or Truck Mounted Hydraulic Crane (10 Tons or Under); Environmental Burner; Gantrys (Under 20,000 Lbs.); Grader or Motor Patrol; High Pressure Utility Locating Machine (Daylighting Machine); Manhoist; Material or Stack Hoist; Mechanic or Welder; Railroad Track Rail Leveling Machine, Tie Placer, Extractor, Tamper, Stone Leveler or Rehabilitation Equipment; Roller (Over 5 Ton); Scraper (Self Propelled or Tractor Drawn) 5 cu yd or More Capacity; Screed (Milling Machine); Sideboom; Straddle Carrier or Travel Lift; Tining or Curing Machine; Tractor (Scraper, Dozer, Pusher, Loader); Tractor or Truck Mounted Hydraulic Backhoe; Tractor or Truck Mounted Hydraulic Crane (10 Tons or Under); Trencher (Wheel Type or Chain Type Having Over 8-Inch Bucket).<br>Future Increase(s):<br>Add $1/hr on 6/3/2012; Add $1/hr on 6/2/2013. | 31.89 | 17.98 | 49.87 |
| 512 | Backfiller; Broom or Sweeper; Bulldozer or Endloader (Under 40 hp); Compactor (Self-Propelled 84 Ft Total Drum Width & Under, or Tractor Mounted, Towed & Light Equipment); Concrete Batch Plant, Batch Hopper; Concrete Breaker (Large, Auto, Vibratory/Sonic, Manual or Remote); Concrete Conveyor System; Concrete Finishing Machine (Road Type); Fireman (Pile Driver & Derrick NOT Performing Work on the Great Lakes); Grout Pump; Hoist (Tugger, Automatic); Industrial Locomotives; Jeep Digger; Lift Slab Machine; Mulcher; Robotic Tool Carrier (With or Without Attachments); Roller (Rubber Tire, 5 Ton or Under); Screw or Gypsum Pumps; Stabilizing or Concrete Mixer (Self-Propelled or 14S or Over); Stump Chipper; Trencher (Wheel Type or Chain Type Having 8-Inch Bucket & Under); Winches & A-Frames. | 35.59 | 19.10 | 54.69 |
| 513 | Air Compressor (&/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; Augers (Vertical & Horizontal); Boatmen (NOT Performing Work on the Great Lakes); Boiler (Temporary Heat); Crusher, Screening or Wash Plant; Elevator; Farm or Industrial Type Tractor; Fireman (Asphalt Plant NOT Performing Work on the Great Lakes); Forklift; Generator (&/or 150 KW or Over); Greaser; Heaters (Mechanical); Loading Machine (Conveyor); Oiler; Post Hole Digger or Driver; Prestress Machine; Pump (3 Inch or Over) or Well Points; Refrigeration Plant or Freeze Machine; Rock, Stone Breaker; Skid Steer Loader (With or Without Attachments); Vibratory Hammer or Extractor, Power Pack.<br>Future Increase(s):<br>Add $1/hr on 6/3/2012; Add $1/hr on 6/2/2013. | 29.19 | 17.98 | 47.17 |
| 514 | Gas or Utility Pipeline, Except Sewer & Water (Primary Equipment).<br>Future Increase(s):<br>Add $2/hr. on 1/1/2013. | 34.89 | 19.68 | 54.57 |
| 515 | Gas or Utility Pipeline, Except Sewer & Water (Secondary Equipment). | 30.32 | 17.40 | 47.72 |
| 516 | Fiber Optic Cable Equipment | 25.74 | 15.85 | 41.59 |

## SEWER, WATER OR TUNNEL CONSTRUCTION

**Includes those projects that primarily involve public sewer or water distribution, transmission or collection systems and related tunnel work (excluding buildings).**

### SKILLED TRADES

| CODE | Fringe Benefits Must Be Paid On All Hours Worked<br>TRADE OR OCCUPATION | HOURLY BASIC RATE OF PAY $ | HOURLY FRINGE BENEFITS $ | TOTAL $ |
|---|---|---|---|---|
| 103 | Bricklayer, Blocklayer or Stonemason | 32.96 | 15.92 | 48.88 |
| 105 | Carpenter<br>Premium Increase(s):<br>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. | 33.43 | 19.31 | 52.74 |
| 107 | Cement Finisher<br>Future Increase(s):<br>Add $1.86 on 6/1/12; Add $1.87 on 6/1/13; Add $1.87 on 6/1/14; Add $1.87 on 6/1/15; Add $1.75 on 6/1/16.<br>Premium Increase(s):<br>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. | 30.68 | 15.68 | 46.36 |
| 109 | Electrician<br>Future Increase(s):<br>Add $1.40/hr on 6/1/2012. Add $1.60/hr on 6/1/2013.<br>Premium Increase(s):<br>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. | 31.54 | 20.95 | 52.49 |
| 111 | Fence Erector | 26.94 | 0.00 | 26.94 |
| 116 | Ironworker<br>Premium Increase(s):<br>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. | 31.31 | 22.22 | 53.53 |
| 118 | Line Constructor (Electrical) | 35.97 | 18.08 | 54.05 |
| 125 | Pavement Marking Operator | 26.00 | 0.00 | 26.00 |
| 126 | Piledriver | 29.56 | 15.16 | 44.72 |
| 130 | Plumber | 36.43 | 16.86 | 53.29 |
| 135 | Steamfitter | 35.81 | 19.04 | 54.85 |
| 137 | Teledata Technician or Installer | 24.65 | 4.49 | 29.14 |

| CODE | Fringe Benefits Must Be Paid On All Hours Worked<br>TRADE OR OCCUPATION | HOURLY BASIC RATE OF PAY $ | HOURLY FRINGE BENEFITS $ | TOTAL $ |
|---|---|---|---|---|
| 143 | Tuckpointer, Caulker or Cleaner | 22.00 | 9.75 | 31.75 |
| 144 | Underwater Diver (Except on Great Lakes) | 36.20 | 18.81 | 55.01 |
| 146 | Well Driller or Pump Installer | 24.22 | 14.80 | 39.02 |
| 150 | Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY | 32.37 | 16.48 | 48.85 |
| 151 | Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY | 28.78 | 15.16 | 43.94 |
| 152 | Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY | 17.80 | 9.00 | 26.80 |
| 153 | Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY | 23.38 | 12.48 | 35.86 |
| 154 | Groundman - ELECTRICAL LINE CONSTRUCTION ONLY | 21.30 | 10.97 | 32.27 |

## TRUCK DRIVERS

| CODE | Fringe Benefits Must Be Paid On All Hours Worked<br>TRADE OR OCCUPATION | HOURLY BASIC RATE OF PAY $ | HOURLY FRINGE BENEFITS $ | TOTAL $ |
|---|---|---|---|---|
| 201 | Single Axle or Two Axle | 23.00 | 8.64 | 31.64 |
| 203 | Three or More Axle | 17.54 | 13.41 | 30.95 |
| 204 | Articulated, Euclid, Dumptor, Off Road Material Hauler<br>Future Increase(s):<br>Add $1.75/hr on 6/1/2012; Add $1.85/hr on 6/1/2013.<br>Premium Increase(s):<br>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. | 22.50 | 16.19 | 38.69 |
| 205 | Pavement Marking Vehicle | 19.25 | 10.84 | 30.09 |
| 207 | Truck Mechanic | 17.54 | 13.41 | 30.95 |

## LABORERS

| CODE | Fringe Benefits Must Be Paid On All Hours Worked<br>TRADE OR OCCUPATION | HOURLY BASIC RATE OF PAY $ | HOURLY FRINGE BENEFITS $ | TOTAL $ |
|---|---|---|---|---|
| 301 | General Laborer | 25.58 | 13.80 | 39.38 |
| 303 | Landscaper | 25.67 | 0.00 | 25.67 |
| 304 | Flagperson or Traffic Control Person | 20.97 | 10.73 | 31.70 |
| 311 | Fiber Optic Laborer (Outside, Other Than Concrete Encased) | 17.09 | 14.40 | 31.49 |
| 314 | Railroad Track Laborer | 17.00 | 7.45 | 24.45 |

## HEAVY EQUIPMENT OPERATORS
## SEWER, WATER OR TUNNEL WORK

| CODE | Fringe Benefits Must Be Paid On All Hours Worked<br>TRADE OR OCCUPATION | HOURLY BASIC RATE OF PAY<br>$ | HOURLY FRINGE BENEFITS<br>$ | TOTAL<br>$ |
|---|---|---|---|---|
| 521 | Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of 130,000 Lbs. or Over; Caisson Rig; Crane, Tower Crane, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 176 Ft or Over; Crane, Tower Crane, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of Over 100 Tons, Self-Erecting Tower Crane With a Lifting Capacity Of Over 4,000 Lbs., Crane With Boom Dollies; Master Mechanic; Pile Driver.<br>Future Increase(s):<br>Add $1/hr on 6/3/2012; Add $1/hr on 6/2/2013.<br>Premium Increase(s):<br>Add $.25/hr for cranes with lifting capacity of 45 ton or over. | 33.62 | 17.98 | 51.60 |
| 522 | Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. & Under); Boring Machine (Directional); Concrete Bump Cutter, Grinder, Planing or Grooving Machine; Concrete Laser/Screed; Concrete Paver (Slipform); Concrete Pump (Over 46 Meter), Concrete Conveyor (Rotec or Bidwell Type); Concrete Spreader & Distributor; 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); Milling Machine; Skid Rig; Telehandler; Traveling Crane (Bridge Type).<br>Future Increase(s):<br>Add $1/hr on 6/3/2012; Add $1/hr on 6/2/2013. | 32.42 | 17.98 | 50.40 |
| 523 | Air Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Boring Machine (Horizontal or Vertical); Bulldozer or Endloader (Over 40 hp); Crane (Carry Deck, Mini) or Truck Mounted Hydraulic Crane (10 Tons or Under); Concrete Pump (46 Meter & Under), Concrete Conveyor (Rotec or Bidwell Type); Concrete Slipform Placer Curb & Gutter Machine; Gradall (Cruz-Aire Type); Grader or Motor Patrol; Hydro-Blaster (10,000 PSI or Over); Manhoist; Material or Stack Hoist; Mechanic or Welder; Roller (Over 5 Ton); Scraper (Self Propelled or Tractor Drawn) 5 cu yd or More Capacity; Screed (Milling Machine); Sideboom; Straddle Carrier or Travel Lift; Tractor (Scraper, Dozer, Pusher, Loader); Tractor or Truck Mounted Hydraulic Backhoe; Tractor or Truck Mounted Hydraulic Crane (10 Tons or Under); Trencher (Wheel Type or Chain Type Having Over 8-Inch Bucket).<br>Future Increase(s):<br>Add $1/hr on 6/3/2012; Add $1/hr on 6/2/2013. | 31.89 | 17.98 | 49.87 |

| CODE | Fringe Benefits Must Be Paid On All Hours Worked<br>TRADE OR OCCUPATION | HOURLY BASIC RATE OF PAY<br>$ | HOURLY FRINGE BENEFITS<br>$ | TOTAL<br>$ |
|---|---|---|---|---|
| 524 | Backfiller; Broom or Sweeper; Bulldozer or Endloader (Under 40 hp); Compactor (Self-Propelled 85 Ft Total Drum Width & Over, or Tractor Mounted, Towed & Light Equipment); Concrete Batch Plant, Batch Hopper; Concrete Breaker (Large, Auto, Vibratory/Sonic, Manual or Remote); Concrete Conveyor System; Concrete Finishing Machine (Road Type); Environmental Burner; Fireman (Pile Driver & Derrick NOT Performing Work on the Great Lakes); Forestry Equipment, Timbco, Tree Shear, Tub Grinder, Processor; Hoist (Tugger, Automatic); Grout Pump; Jeep Digger; Lift Slab Machine; Mulcher; Power Subgrader; Pump (3 Inch or Over) or Well Points; Robotic Tool Carrier (With or Without Attachments); Roller (Rubber Tire, 5 Ton or Under); Screw or Gypsum Pumps; Stabilizing or Concrete Mixer (Self-Propelled or 14S or Over); Stump Chipper; Tining or Curing Machine; Trencher (Wheel Type or Chain Type Having 8-Inch Bucket & Under); Winches & A-Frames. | 30.89 | 17.16 | 48.05 |
| 525 | Air Compressor (&/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; Augers (Vertical & Horizontal); Compactor (Self-Propelled 84 Ft Total Drum Width & Under, or Tractor Mounted, Towed & Light Equipment); Crusher, Screening or Wash Plant; Farm or Industrial Type Tractor; Fireman (Asphalt Plant NOT Performing Work on the Great Lakes); Generator (&/or 150 KW or Over); Heaters (Mechanical); High Pressure Utility Locating Machine (Daylighting Machine); Loading Machine (Conveyor); Post Hole Digger or Driver; Refrigeration Plant or Freeze Machine; Rock, Stone Breaker; Skid Steer Loader (With or Without Attachments); Vibratory Hammer or Extractor, Power Pack.<br>Future Increase(s):<br>Add $1/hr on 6/3/2012; Add $1/hr on 6/2/2013. | 29.19 | 17.98 | 47.17 |
| 526 | Boiler (Temporary Heat); Forklift; Greaser; Oiler. | 29.19 | 17.96 | 47.15 |
| 527 | Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer. | 36.20 | 18.81 | 55.01 |
| 528 | Work Performed on the Great Lakes Including 70 Ton & Over Tug Operator; Assistant Hydraulic Dredge Engineer; Crane or Backhoe Operator; Hydraulic Dredge Leverman or Diver's Tender; Mechanic or Welder. | 36.20 | 18.81 | 55.01 |
| 529 | Work Performed on the Great Lakes Including Deck Equipment Operator or Machineryman (Maintains Cranes Over 50 Tons or Backhoes 115,000 Lbs. or More); Tug, Launch or Loader, Dozer or Like Equipment When Operated on a Barge, Breakwater Wall, Slip, Dock or Scow, Deck Machinery. | 26.80 | 18.52 | 45.32 |
| 530 | Work Performed on the Great Lakes Including Deck Equipment Operator; Machineryman or Fireman (Operates 4 Units or More or Maintains Cranes 50 Tons or Under or Backhoes 115,000 Lbs. or Under), Deck Hand, Deck Engineer or Assistant Tug Operator; Off Road Trucks - Great Lakes ONLY. | 26.80 | 18.52 | 45.32 |

## LOCAL STREET OR MISCELLANEOUS PAVING CONSTRUCTION

**Includes roads, streets, alleys, trails, bridges, paths, racetracks, parking lots and driveways (except residential or agricultural), public sidewalks or other similar projects (excluding projects awarded by the Wisconsin Department of Transportation).**

### SKILLED TRADES

| CODE | Fringe Benefits Must Be Paid On All Hours Worked<br>TRADE OR OCCUPATION | HOURLY BASIC RATE OF PAY $ | HOURLY FRINGE BENEFITS $ | TOTAL $ |
|---|---|---|---|---|
| 103 | Bricklayer, Blocklayer or Stonemason | 32.96 | 15.92 | 48.88 |
| 105 | Carpenter | 29.06 | 15.16 | 44.22 |
| 107 | Cement Finisher | 30.87 | 16.33 | 47.20 |
| 109 | Electrician<br>Future Increase(s):<br>Add $.50/hr. effective 06/04/2012.<br>Premium Increase(s):<br>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. | 28.74 | 17.86 | 46.60 |
| 111 | Fence Erector | 26.94 | 0.00 | 26.94 |
| 116 | Ironworker | 30.90 | 19.11 | 50.01 |
| 118 | Line Constructor (Electrical) | 35.97 | 18.08 | 54.05 |
| 124 | Painter | 28.47 | 16.47 | 44.94 |
| 125 | Pavement Marking Operator | 26.00 | 0.00 | 26.00 |
| 126 | Piledriver | 29.56 | 15.16 | 44.72 |
| 133 | Roofer or Waterproofer | 28.85 | 7.55 | 36.40 |
| 137 | Teledata Technician or Installer | 24.65 | 4.49 | 29.14 |
| 143 | Tuckpointer, Caulker or Cleaner | 22.00 | 9.75 | 31.75 |
| 144 | Underwater Diver (Except on Great Lakes) | 36.20 | 18.81 | 55.01 |
| 150 | Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY | 35.42 | 12.90 | 48.32 |
| 151 | Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY<br>Premium Increase(s):<br>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. | 29.64 | 14.64 | 44.28 |
| 152 | Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY | 25.18 | 13.07 | 38.25 |
| 153 | Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY | 23.38 | 12.48 | 35.86 |
| 154 | Groundman - ELECTRICAL LINE CONSTRUCTION ONLY | 21.30 | 10.97 | 32.27 |

## TRUCK DRIVERS

| CODE | Fringe Benefits Must Be Paid On All Hours Worked<br>TRADE OR OCCUPATION | HOURLY BASIC RATE OF PAY $ | HOURLY FRINGE BENEFITS $ | TOTAL $ |
|---|---|---|---|---|
| 201 | Single Axle or Two Axle | 15.00 | 0.00 | 15.00 |
| 203 | Three or More Axle | 17.54 | 11.76 | 29.30 |
| 204 | Articulated, Euclid, Dumptor, Off Road Material Hauler<br>Future Increase(s):<br>Add $1/hr on 6/3/2012; Add $1/hr on 6/2/2013. | 31.89 | 17.98 | 49.87 |
| 205 | Pavement Marking Vehicle | 19.25 | 10.84 | 30.09 |
| 206 | Shadow or Pilot Vehicle | 15.00 | 0.00 | 15.00 |
| 207 | Truck Mechanic | 17.54 | 11.76 | 29.30 |

## LABORERS

| CODE | Fringe Benefits Must Be Paid On All Hours Worked<br>TRADE OR OCCUPATION | HOURLY BASIC RATE OF PAY $ | HOURLY FRINGE BENEFITS $ | TOTAL $ |
|---|---|---|---|---|
| 301 | General Laborer<br>Future Increase(s):<br>Add $1.60/hr on 6/1/2012: Add $1.70/hr on 6/1/2013; Add $1.60/hr on 6/1/2014.<br>Premium Increase(s):<br>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). | 26.92 | 13.45 | 40.37 |
| 303 | Landscaper | 22.96 | 15.49 | 38.45 |
| 304 | Flagperson or Traffic Control Person | 20.97 | 10.73 | 31.70 |
| 311 | Fiber Optic Laborer (Outside, Other Than Concrete Encased) | 17.09 | 14.40 | 31.49 |
| 314 | Railroad Track Laborer | 17.00 | 7.45 | 24.45 |

## HEAVY EQUIPMENT OPERATORS
## CONCRETE PAVEMENT OR BRIDGE WORK

| CODE | Fringe Benefits Must Be Paid On All Hours Worked<br>TRADE OR OCCUPATION | HOURLY BASIC RATE OF PAY $ | HOURLY FRINGE BENEFITS $ | TOTAL $ |
|---|---|---|---|---|
| 541 | Crane, Tower Crane, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of Over 100 Tons, Self-Erecting Tower Crane With a Lifting Capacity Of Over 4,000 Lbs., Crane With Boom Dollies; Crane, Tower Crane, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 176 Ft or Over; Master Mechanic.<br>Future Increase(s):<br>Add $2/hr on 6/1/12; Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14.<br>Premium Increase(s):<br>DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period). | 34.22 | 18.90 | 53.12 |
| 542 | 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 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; Crane, Tower Crane Portable Tower, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 175 Ft or Under; Dredge (NOT Performing Work on the Great Lakes); Licensed Boat Pilot (NOT Performing Work on the Great Lakes); Pile Driver.<br>Future Increase(s):<br>Add $2/hr on 6/1/12; Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14.<br>Premium Increase(s):<br>DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period). | 33.72 | 18.90 | 52.62 |

| CODE | Fringe Benefits Must Be Paid On All Hours Worked<br>TRADE OR OCCUPATION | HOURLY BASIC RATE OF PAY<br>$ | HOURLY FRINGE BENEFITS<br>$ | TOTAL<br>$ |
|---|---|---|---|---|
| 543 | Air Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Automatic Subgrader (Concrete); Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. & Under); 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); Manhoist; Material or Stack Hoist; Mechanic or Welder; Milling Machine; Post Hole Digger or Driver; 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.<br>Future Increase(s):<br>Add $2/hr on 6/1/12; Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14.<br>Premium Increase(s):<br>DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period). | 33.22 | 18.90 | 52.12 |

| CODE | Fringe Benefits Must Be Paid On All Hours Worked<br>TRADE OR OCCUPATION | HOURLY BASIC RATE OF PAY<br>$ | HOURLY FRINGE BENEFITS<br>$ | TOTAL<br>$ |
|---|---|---|---|---|
| 544 | Backfiller; Belting, Burlap, Texturing Machine; Broom or Sweeper; Compactor (Self-Propelled or Tractor Mounted, Towed & Light Equipment); Concrete Finishing Machine (Road Type); Environmental Burner; Farm or Industrial Type Tractor; Fireman (Pile Driver & Derrick NOT Performing Work on the Great Lakes); Forklift; Greaser; 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); Self Propelled Chip Spreader; Shouldering Machine; Skid Steer Loader (With or Without Attachments); Telehandler; Tining or Curing Machine.<br>Future Increase(s):<br>Add $2/hr on 6/1/12; Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14.<br>Premium Increase(s):<br>DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period). | 33.22 | 18.90 | 52.12 |
| 545 | Air Compressor (&/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; 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. | 30.42 | 17.58 | 48.00 |
| 546 | Fiber Optic Cable Equipment. | 24.39 | 15.45 | 39.84 |
| 547 | Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer. | 36.20 | 18.81 | 55.01 |
| 548 | Work Performed on the Great Lakes Including 70 Ton & Over Tug Operator; Assistant Hydraulic Dredge Engineer; Crane or Backhoe Operator; Hydraulic Dredge Leverman or Diver's Tender; Mechanic or Welder. | 36.20 | 18.81 | 55.01 |
| 549 | Work Performed on the Great Lakes Including Deck Equipment Operator or Machineryman (Maintains Cranes Over 50 Tons or Backhoes 115,000 Lbs. or more); Tug, Launch or Loader, Dozer or Like Equipment When Operated on a Barge, Breakwater Wall, Slip, Dock or Scow, Deck Machinery. | 26.80 | 18.52 | 45.32 |
| 550 | Work Performed on the Great Lakes Including Deck Equipment Operator; Machineryman or Fireman (Operates 4 Units or More or Maintains Cranes 50 Tons or Under or Backhoes 115,000 Lbs. or Under); Deck Hand, Deck Engineer or Assistant Tug Operator; Off Road Trucks - Great Lakes ONLY. | 26.80 | 18.52 | 45.32 |

## HEAVY EQUIPMENT OPERATORS
## ASPHALT PAVEMENT OR OTHER WORK

**Fringe Benefits Must Be Paid On All Hours Worked**

| CODE | TRADE OR OCCUPATION | HOURLY BASIC RATE OF PAY $ | HOURLY FRINGE BENEFITS $ | TOTAL $ |
|---|---|---|---|---|
| 551 | Crane, Tower Crane, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of Over 100 Tons, Self Erecting Tower Crane With a Lifting Capacity of Over 4,000 Lbs., Crane With Boom Dollies; Crane, Tower Crane, Pedestal Tower or Derrick, With Boom, Leads and/or Jib Lengths Measuring 176 Ft or Over; Master Mechanic. | 34.62 | 17.96 | 52.58 |
| 552 | 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 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; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 175 Ft or Under; Dredge (NOT Performing Work on the Great Lakes); Licensed Boat Pilot (NOT Performing Work on the Great Lakes); Pile Driver.<br>Future Increase(s):<br>Add $2/hr on 6/1/12; Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14.<br>Premium Increase(s):<br>DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period). | 33.72 | 18.90 | 52.62 |

| CODE | Fringe Benefits Must Be Paid On All Hours Worked<br>TRADE OR OCCUPATION | HOURLY BASIC RATE OF PAY<br>$ | HOURLY FRINGE BENEFITS<br>$ | TOTAL<br>$ |
|---|---|---|---|---|
| 553 | Air, Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Asphalt Heater, Planer & Scarifier; Asphalt Milling Machine; Asphalt Screed; 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; Boring Machine (Directional, Horizontal or Vertical); Bulldozer or Endloader; Concrete Breaker (Large, Auto, Vibratory/Sonic, Manual or Remote); Concrete Conveyor System; Concrete Laser/Screed; Concrete Slipform Placer Curb & Gutter Machine; 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; Hydro-Blaster (10,000 PSI or Over); Loading Machine (Conveyor); Manhoist; Material or Stack Hoist; Mechanic or Welder; Milling Machine; Post Hole Digger or Driver; Railroad Track Rail Leveling Machine, Tie Placer, Extractor, Tamper, Stone Leveler or Rehabilitation Equipment; 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); 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.<br>Future Increase(s):<br>Add $2/hr on 6/1/12; Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14.<br>Premium Increase(s):<br>DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period). | 33.22 | 18.90 | 52.12 |
| 554 | Backfiller; Broom or Sweeper; Compactor (Self-Propelled or Tractor Mounted, Towed & Light Equipment); Concrete Finishing Machine (Road Type); Environmental Burner; Farm or Industrial Type Tractor; Fireman (Asphalt Plant, Pile Driver & Derrick NOT Performing Work on the Great Lakes); Forklift; Greaser; Hoist (Tugger, Automatic); Jeep Digger; Joint Sawer (Multiple Blade); Launch (NOT Performing Work on the Great Lakes); Lift Slab Machine; Mechanical Float; Mulcher; Power Subgrader; Robotic Tool Carrier (With or Without Attachments); Roller (Rubber Tire, 5 Ton or Under); Self-Propelled Chip Spreader; Shouldering Machine; Skid Steer Loader (With or Without Attachments); Telehandler.<br>Future Increase(s):<br>Add $2/hr on 6/1/12; Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14. | 32.67 | 18.55 | 51.22 |

| CODE | Fringe Benefits Must Be Paid On All Hours Worked<br>TRADE OR OCCUPATION | HOURLY BASIC RATE OF PAY<br>$ | HOURLY FRINGE BENEFITS<br>$ | TOTAL<br>$ |
|---|---|---|---|---|
| 555 | Air Compressor (&/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; Augers (Vertical & Horizontal); Automatic Belt Conveyor & Surge Bin; Boiler (Temporary Heat); 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.<br>Future Increase(s):<br>Add $2/hr on 6/1/12; Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14. | 32.67 | 18.55 | 51.22 |
| 556 | Fiber Optic Cable Equipment. | 24.39 | 15.45 | 39.84 |

********** END OF RATES **********

**Department of Workforce Development**
**Equal Rights Division**
P.O. Box 8928
Madison, WI 53708-8928
Telephone: (608) 266-6860
Fax: (608) 267-4592
TTY: (608) 264-8752

STATE OF WISCONSIN
DWD
Department of Workforce Development

**Scott Walker,** Governor
**Reginald J. Newson,** Secretary
**John P. Conway,** Division Administrator

The documents following the Prevailing Wage Rate Determination consist of 18 pages of various forms/documents that will be used throughout the completion of the project. The chart below lists the form number, form/document name, the party who uses the document, and the document's number of pages. If you have any questions regarding these forms please call the Prevailing Wage Office at (608)266-6861.

| ERD Form Number | Form Name | Party Who Uses the Form | Pages |
|---|---|---|---|
| 16056 | Post the White Sheet | Contracting agency | 1 |
| 16770 | Substance Abuse Prevention on Public Works and Publicly Funded Projects, §103.503, Wis. Stats. | All contractors working on public works and publicly funded private construction projects | 1 |
| 10908 | Consolidated List of Debarred Contractors | Any party contracting someone to complete work on a prevailing wage project | 2 |
| 7777 | Disclosure of Ownership | Contractors that meet the criteria set out in (3)(A)&(B) of the form | 1 |
| 5724 | Prime Contractor Affidavit of Compliance | Prime contractor files with contracting agency upon completion of the work before receiving final payment | 2 |
| 10584 | Agent or Subcontractor Affidavit of Compliance | Subcontractors file with their awarding contractor upon completion of their work on the project before receiving final payment | 2 |
| 10880 | Request to Employ Subjourneyperson | Contractors wishing to employ a subjourneyperson(s) | 1 |
| | Prevailing Wage - Public Entity Project Owners | Explanation of project owner responsibilities | 2 |
| | Prevailing Wage – Contractors | Explanation of contractor responsibilities | 2 |
| | Summary of Prevailing Wage Law Changes Effective July 1, 2011 | Information for public entity or any other interested party | 4 |

11/29/11

State of Wisconsin
Department of Workforce Development
Equal Rights Division
Labor Standards Bureau

# POST THE WHITE SHEET

As the public entity receiving this prevailing wage rate determination, YOU ARE REQUIRED by law to post the prevailing wage rate determination (i.e., white sheet) in at least one conspicuous and easily accessible place on the project site that is available to all construction workers. The white sheet must remain posted from the onset of the project until all construction labor on the project has been completed.
[*See,* Wis. Admin. Code §DWD 290.12(1)]

Posting the white sheet inside the general contractor's trailer does not meet this requirement. That placement is not available/accessible to all workers and is not a location over which you have control.

If you have questions about posting, please call (608)266-6861 and ask for prevailing wage intake.

## Disclaimer

**Employers performing work on public works and publicly funded private construction projects in Wisconsin are required to have a written substance abuse testing program in place. The provisions of this requirement are contained in Sec. 103.503, Wis. Stats. The Department of Workforce Development is neither responsible for enforcement of this law nor authorized to answer questions concerning its provisions. For legal advice on complying with Sec. 103.503, Wis. Stats., you may wish to consult with a private attorney.**

**103.503 Substance abuse prevention on public works and publicly funded projects. (1)** DEFINITIONS. In this section:

(a) "Accident" means an incident caused, contributed to, or otherwise involving an employee that resulted or could have resulted in death, personal injury, or property damage and that occurred while the employee was performing the work described in s. 66.0903 (4), 66.0904 (3), or 103.49 (2m) on a project.

(b) "Alcohol" has the meaning given in s. 340.01 (1q).

(c) "Contracting agency" means a local governmental unit, as defined in s. 66.0903 (1) (d), a state agency, as defined in s. 103.49 (1) (f), or an owner or developer under s. 66.0904 that has contracted for the performance of work on a project.

(d) "Drug" means any controlled substance, as defined in s. 961.01 (4), or controlled substance analog, as defined in s. 961.01 (4m), for which testing is required by an employer under its substance abuse prevention program under this section.

(e) "Employee" means a laborer, worker, mechanic, or truck driver who performs the work described in s. 66.0903 (4), 66.0904 (3), or 103.49 (2m) on a project.

(f) "Employer" means a contractor, subcontractor, or agent of a contractor or subcontractor that performs work on a project.

(g) "Project" mean a project of public works that is subject to s. 66.0903 or 103.49 or a publicly funded private construction project that is subject to s. 66.0904.

**(2)** SUBSTANCE ABUSE PROHIBITED. No employee may use, possess, attempt to possess, distribute, deliver, or be under the influence of a drug, or use or be under the influence of alcohol, while performing the work described in s. 66.0903 (4), 66.0904 (3), or 103.49 (2m) on a project. An employee is considered to be under the influence of alcohol for purposes of this subsection if he or she has an alcohol concentration that is equal to or greater than the amount specified in s. 885.235 (1g) (d).

**(3)** SUBSTANCE ABUSE PREVENTION PROGRAMS REQUIRED. (a) Before an employer may commence work on a project, the employer shall have in place a written program for the prevention of substance abuse among its employees. At a minimum, the program shall include all of the following:

1. A prohibition against the actions or conditions specified in sub. (2).

2. A requirement that employees performing the work described in s. 66.0903 (4), 66.0904 (3), or 103.49 (2m) on a project submit to random, reasonable suspicion, and post–accident drug and alcohol testing and to drug and alcohol testing before commencing work on a project, except that testing of an employee before commencing work on a project is not required if the employee has been participating in a random testing program during the 90 days preceding the date on which the employee commenced work on the project.

3. A procedure for notifying an employee who violates sub. (2), who tests positive for the presence of a drug in his or her system, or who refuses to submit to drug or alcohol testing as required under the program that the employee may not perform work on a project until he or she meets the conditions specified in sub. (4) (b) 1. and 2.

(b) Each employer shall be responsible for the cost of developing, implementing, and enforcing its substance abuse prevention program, including the cost of drug and alcohol testing of its employees under the program. The contracting agency is not responsible for that cost, for the cost of any medical review of a test result, or for any rehabilitation provided to an employee.

**(4)** EMPLOYEE ACCESS TO PROJECT. (a) No employer may permit an employee who violates sub. (2), who tests positive for the presence of a drug in his or her system, or who refuses to submit to drug or alcohol testing as required under the employer's substance abuse prevention program under sub. (3) to perform work on a project until he or she meets the conditions specified in par. (b) 1. and 2. An employer shall immediately remove an employee from work on a project if any of the following occurs:

1. The employee violates sub. (2), tests positive for the presence of a drug in his or her system, or refuses to submit to drug or alcohol testing as required under the employer's substance abuse prevention program.

2. An officer or employee of the contracting agency has a reasonable suspicion that the employee is in violation of sub. (2) and requests the employer to immediately remove the employee from work on the project.

(b) An employee who is barred or removed from work on a project under par. (a) may commence or return to work on the project upon his or her employer providing to the contracting agency documentation showing all of the following:

1. That the employee has tested negative for the presence of drugs in his or her system and is not under the influence of alcohol as described in sub. (2).

2. That the employee has been approved to commence or return to work on the project in accordance with the employer's substance abuse prevention program.

(c) Testing for the presence of drugs or alcohol in an employee's system and the handling of test specimens shall be conducted in accordance with guidelines for laboratory testing procedures and chain–of–custody procedures established by the substance abuse and mental health services administration of the federal department of health and human services.

**(5)** LOCAL ORDINANCES; STRICT CONFORMITY REQUIRED. A local governmental unit, as defined in s. 66.0903 (1) (d), may enact an ordinance regulating the conduct regulated under this section only if the ordinance strictly conforms to this section.

**History:** 2005 a. 181; 2009 a. 28.

# Consolidated List of Debarred Contractors
## Prepared and Issued By
## State of Wisconsin
## Department of Workforce Development



This list has been prepared in accordance with the provisions of s. 66.0903(12), s. 66.0904(10) and s. 103.49(7), Stats. and Chapter DWD 294 of the Wisconsin Administrative Code. All contractors on this list were found to have committed a "debarable offense" related to certain labor standard provisions determined or established for a state or local public works project or publicly funded private construction project. No state agency, local governmental unit or owner or developer may knowingly solicit bids from, negotiate with or award any contracts to or approve or allow any subcontracts with a debarred contractor, including all divisions, affiliates or other organizational elements of such contractor that are engaged in construction business activities, until the debarment is terminated. The name of each debarred contractor must remain on this list for a period of three (3) years from the termination date indicated below. The contractor is, however, only "debarred" from the "effective date" through the "termination date" indicated for that contractor. Questions regarding this list should be addressed to Julie Eckenwalder, Equal Rights Division, P. O. Box 8928, Madison, WI 53708 or call (608) 266-3148. Deaf, hearing or speech-impaired callers may contact the department by calling its TDD number (608) 264-8752.

| Name of Contractor | Address | Effective Date | Termination Date | Cause Code | Date of Violation(s) | Limitations/Deviations |
|---|---|---|---|---|---|---|
| Atkins, Scott | *See,* Freedom Insulation, Inc | | | | | |
| Custom Heating & Air LLC | 283 Tony Lane<br>Green Bay, WI 54304 | 12/1/06 | 11/30/09 | 1, 2 and 4 | 2003-2004 | None |
| Dem/Ex Group, Inc | 805 S Adams St<br>Manito, IL 61546 | 12/1/11 | 11/30/14 | 1 and 2 | 2010 | None |
| Fisher, Ed | *See*, Dem/Ex Group, Inc | | | | | |
| Fisher, Rhonda | *See*, Dem/Ex Group, Inc | | | | | |
| Freedom Insulation, Inc | 117925 219th Ave<br>Chippewa Falls, WI 54729 | 9/1/11 | 8/31/14 | 1 | 2008-2010 | None |
| Joseph Stoller Company | N8426 Hwy 42<br>Algoma, WI 54201 | 2/1/07 | 1/31/10 | 1 and 2 | 2004 and 2005 | None |
| Keiver, David | *See,* Custom Heating & Air LLC | 12/1/06 | 11/30/09 | 1, 2 and 4 | 2003 and 2004 | None |
| Ofstie, Darin | *See*, Precision Excavating and Grading, LLC | | | | | |

| Name of Contractor | Address | Effective Date | Termination Date | Cause Code | Date of Violation(s) | Limitations/Deviations |
|---|---|---|---|---|---|---|
| Precision Excavating and Grading, LLC or Precision Excavating Enterprises, LLC | 2104 Pierce Saint Croix Rd<br>Baldwin, WI 54002 | 5/1/11 | 4/30/14 | 1, 2 and 4 | 2006-2008 | None |
| Stoller Enterprises LLC | N8426 Hwy 42<br>Algoma, WI 54201-9552 | 2/1/2007 | 1/31/2010 | 1 and 2 | 2005 to 2006 | None |
| Stoller, Joseph | *See,* Joseph Stoller Company | | | | | |
| Stoller, Patrick J. | *See,* Stoller Enterprises LLC | | | | | |

Cause Code: 1 = Failure to Pay Straight Time 2 = Failure to Pay Overtime 3 = Kickback 4 = Payroll Records.

State of Wisconsin
Department of Workforce Development
Equal Rights Division

# Disclosure of Ownership

The statutory authority for the use of this form is prescribed in Sections 66.0903(12)(d), 66.0904(10)(d) and 103.49(7)(d), Wisconsin Statutes.
The use of this form is mandatory. The penalty for failing to complete this form is prescribed in Section 103.005(12), Wisconsin Statutes.
Personal information you provide may be used for secondary purposes [Privacy Law, s. 15.04(1) (m), Wisconsin Statutes]

**(1)** On the date a contractor submits a bid to or completes negotiations with a state agency, local governmental unit, or developer, investor or owner on a project subject to Section 66.0903, 66.0904 or 103.49, Wisconsin Statutes, the contractor shall disclose to such state agency, local governmental unit, or developer, investor or owner, the name of any "other construction business", which the contractor, or a shareholder, officer or partner of the contractor, owns or has owned within the preceding three (3) years.

**(2)** The term "other construction business" means any business engaged in the erection, construction, remodeling, repairing, demolition, altering or painting and decorating of buildings, structures or facilities. It also means any business engaged in supplying mineral aggregate, or hauling excavated material or spoil as provided by Sections 66.0903(3), 66.0904(2), 103.49(2) and 103.50(2), Wisconsin Statutes.

**(3)** This form must ONLY be filed, with the state agency project owner, local governmental unit project owner, or developer, investor or owner of a publicly funded private construction project that will be awarding the contract, if **both (A) and (B) are met**.

**(A)** The contractor, or a shareholder, officer or partner of the contractor:

(1) Owns at least a 25% interest in the "other construction business", indicated below, on the date the contractor submits a bid or completes negotiations.

(2) Or has owned at least a 25% interest in the "other construction business" at any time within the preceding three (3) years.

**(B)** The Wisconsin Department of Workforce Development (DWD) has determined that the "other construction business" has failed to pay the prevailing wage rate or time and one-half the required hourly basic rate of pay, for

## Other Construction Business

| Name of Business | | | |
|---|---|---|---|
| Street Address or P O Box | City | State | Zip Code |
| Name of Business | | | |
| Street Address or P O Box | City | State | Zip Code |
| Name of Business | | | |
| Street Address or P O Box | City | State | Zip Code |
| Name of Business | | | |
| Street Address or P O Box | City | State | Zip Code |

**I hereby state under penalty of perjury that the information, contained in this document, is true and accurate according to my knowledge and belief.**

| Print the Name of Authorized Officer | | | |
|---|---|---|---|
| Signature of Authorized Officer | Date Signed | | |
| Name of Corporation, Partnership or Sole Proprietorship | | | |
| Street Address or P O Box | City | State | Zip Code |

**If you have any questions call (608) 266-6861**

State of Wisconsin
Department of Workforce Development
Equal Rights Division

# Prime Contractor Affidavit of Compliance With Prevailing Wage Rate Determination

Authorization for this form is provided under Sections 66.0903(9)(c), 66.0904(7)(c) and 103.49(4r)(c) Wisconsin Statutes.
The use of this form is mandatory. The penalty for failing to complete this form is prescribed in Section 103.005(12), Wisconsin Statutes.
Personal information you provide may be used for secondary purposes [Privacy Law, s. 15.04(1)(m), Wisconsin Statutes].

This form must **ONLY** be filed with the **Awarding Agency** indicated below.

| | | |
|---|---|---|
| State Of ) | Project Name | |
| | DWD Determination Number | Project Number (if applicable) |
| )SS | Date Determination Issued | Date of Contract |
| County Of ) | Awarding Agency | |
| | Date Work Completed | |

After being duly sworn, the person whose name and signature appears below hereby states under penalty of perjury that

- **I am** the duly authorized officer of the corporation, partnership, sole proprietorship or business indicated below and have recently completed all of the work required under the terms and conditions of a contract with the above-named awarding agency and make this affidavit in accordance with the requirements set forth in Section 66.0903(9)(c), 66.0904(7)(c) or 103.49(4r)(c), Wisconsin Statutes and Chapter DWD 290 of the Wisconsin Administrative Code in order to obtain FINAL PAYMENT from such awarding agency.
- **I have** fully complied with all the wage and hour requirements applicable to this project, including all of the requirements set forth in the prevailing wage rate determination indicated above which was issued for such project by the Department of Workforce Development on the date indicated above.
- **I have** received the required affidavit of compliance from each of my agents and subcontractors that performed work on this project and have listed each of their names and addresses on page 2 of this affidavit.
- **I have** full and accurate records that clearly indicate the name and trade or occupation of every worker(s) that I employed on this project, including an accurate record of the hours worked and actual wages paid to such worker(s).
- **I will** retain the records and affidavit(s) described above and make them available for inspection for a period of at least three (3) years from the completion date indicated above at the address indicated below and shall not remove such records or affidavit(s) without prior notification to the awarding agency indicated above.

| | | | | |
|---|---|---|---|---|
| Name of Corporation, Partnership, Sole Proprietorship, Business, State Agency or Local Governmental Unit | | | | |
| Street Address | City | State | Zip Code | Telephone Number |
| Print Name of Authorized Officer | | | Date Signed | |
| Signature of Authorized Officer | | | | |

# List of Agents and Subcontractors

| | | | | | |
|---|---|---|---|---|---|
| Name | | | Name | | |
| Street Address | | | Street Address | | |
| City | State | Zip Code | City | State | Zip Code |
| Telephone Number | | | Telephone Number | | |
| Name | | | Name | | |
| Street Address | | | Street Address | | |
| City | State | Zip Code | City | State | Zip Code |
| Telephone Number | | | Telephone Number | | |
| Name | | | Name | | |
| Street Address | | | Street Address | | |
| City | State | Zip Code | City | State | Zip Code |
| Telephone Number | | | Telephone Number | | |
| Name | | | Name | | |
| Street Address | | | Street Address | | |
| City | State | Zip Code | City | State | Zip Code |
| Telephone Number | | | Telephone Number | | |
| Name | | | Name | | |
| Street Address | | | Street Address | | |
| City | State | Zip Code | City | State | Zip Code |
| Telephone Number | | | Telephone Number | | |
| Name | | | Name | | |
| Street Address | | | Street Address | | |
| City | State | Zip Code | City | State | Zip Code |
| Telephone Number | | | Telephone Number | | |

**If you have any questions call (608) 266-6861**

State of Wisconsin
Department of Workforce Development
Equal Rights Division

# Agent or Subcontractor Affidavit of Compliance With Prevailing Wage Rate Determination

Authorization for this form is provided under Sections 66.0903(9)(b), 66.0904(7)(b) and 103.49(4r)(9b), Wisconsin Statutes. The use of this form is mandatory. The penalty for failing to complete this form is prescribed in Section 103.005(12), Wisconsin Statutes.
Personal information you provide may be used for secondary purposes [Privacy Law, Section 15.04(1)(m), Wisconsin Statutes].

This form must **ONLY** be filed with the **Awarding Contractor** indicated below.

| | | |
|---|---|---|
| State Of _____)<br>)SS<br>County Of _____) | Project Name | |
| | DWD Determination Number | Project Number (if applicable) |
| | Date Determination Issued | Date of Subcontract |
| | Awarding Contractor | |
| | Date Work Completed | |

After being duly sworn, the person whose name and signature appears below hereby states under penalty of perjury that

- **I am** the duly authorized officer of the corporation, partnership, sole proprietorship or business indicated below. We have recently completed all of the work required under the terms and conditions of a subcontract with the above-named awarding contractor. We make this affidavit in accordance with the requirements set forth in Section 66.0903(9)(b), 66.0904(7)(b) or 103.49(4r)(b), Wisconsin Statutes and Chapter DWD 290 of the Wisconsin Administrative Code in order to obtain FINAL PAYMENT from such awarding contractor.
- **I have** fully complied with the entire wage and hour requirements applicable to this project, including all of the requirements set forth in the prevailing wage rate determination indicated above which was issued for such project by the Department of Workforce Development on the date indicated above.
- **I have** received the required affidavit of compliance from each of my agents and subcontractors that performed work on this project and have listed each of their names and addresses on page 2 of this affidavit.
- **I have** full and accurate records that clearly indicate the name and trade or occupation of every worker(s) that I employed on this project, including an accurate record of the hours worked and actual wages paid to such worker(s).
- **I will** retain the records and affidavit(s) described above and make them available for inspection for a period of at least three (3) years from the completion date indicated above at the address indicated below and shall not remove such records or affidavit(s) without prior notification to the awarding contractor.

| | | | | |
|---|---|---|---|---|
| Name of Corporation, Partnership, Sole Proprietorship, Business, State Agency or Local Governmental Unit | | | | |
| Street Address or PO Box | City | State | Zip Code | Telephone Number ( ) |
| Print Name of Authorized Officer | | | Date Signed | |
| Authorized Officer Signature | | | | |

# List of Agents and Subcontractors

| | | | | | |
|---|---|---|---|---|---|
| Name | | | Name | | |
| Street Address | | | Street Address | | |
| City | State | Zip Code | City | State | Zip Code |
| Telephone Number<br>(  ) | | | Telephone Number<br>(  ) | | |
| Name | | | Name | | |
| Street Address | | | Street Address | | |
| City | State | Zip Code | City | State | Zip Code |
| Telephone Number<br>(  ) | | | Telephone Number<br>(  ) | | |
| Name | | | Name | | |
| Street Address | | | Street Address | | |
| City | State | Zip Code | City | State | Zip Code |
| Telephone Number<br>(  ) | | | Telephone Number<br>(  ) | | |
| Name | | | Name | | |
| Street Address | | | Street Address | | |
| City | State | Zip Code | City | State | Zip Code |
| Telephone Number<br>(  ) | | | Telephone Number<br>(  ) | | |
| Name | | | Name | | |
| Street Address | | | Street Address | | |
| City | State | Zip Code | City | State | Zip Code |
| Telephone Number<br>(  ) | | | Telephone Number<br>(  ) | | |
| Name | | | Name | | |
| Street Address | | | Street Address | | |
| City | State | Zip Code | City | State | Zip Code |
| Telephone Number<br>(  ) | | | Telephone Number<br>(  ) | | |

**If you have any questions call (608) 266-6861**

State of Wisconsin
Department of Workforce Development
Equal Rights Division
Labor Standards Bureau

# Request to Employ Subjourneyperson

The use of this form is mandatory. The penalty for failing to complete this form is prescribed in Section 103.005(12), Wisconsin Statutes.
Personal information you provide may be used for secondary purposes (Privacy Law, s. 15.04(1)(m), Wisconsin Statutes].
The employer indicated below requests that the Department of Workforce Development (DWD) determine the prevailing wage rate(s) and related qualifications to enable such employer to use a subjourneyperson(s) on the following prevailing wage project, in accordance with the provisions of Section DWD 290.025, Wisconsin Administrative Code.

| | | | |
|---|---|---|---|
| 1. Name of Project Appearing on the Project Determination | | | |
| County | City, Village or Town | | |
| DWD Project Determination Number | Project Number (if applicable) | | |
| 2. Job Classification(s) for which you request a subjourney rate (i.e., carpenter, electrician, plumber, etc.) | | | |
| a. | b. | | |
| c. | d. | | |
| 3. Employer Name (Print) | Requester Name (Print) | | |
| Address | City | State | Zip Code |
| Telephone Number<br>(  ) | Requester Title | | |
| Email address (if you prefer to receive your response via email) | Fax Number (if you prefer to receive your response via fax)<br>(  ) | | |

**READ CAREFULLY:** I understand that this request is ONLY applicable to the project and job classification(s) listed above and that subjourney employees primarily work under the direction of and assist a skilled trade employee by frequently using the tools of a skilled trade and will NOT regularly perform the duties of a general laborer, heavy equipment operator or truck driver. If the subjourney employee regularly performs the work of a different trade or occupation, he/she will be compensated for such work at the applicable journeyperson prevailing wage rate. I agree to compensate subjourney employees in strict accordance with the directions received from the DWD.

| | |
|---|---|
| Requester Signature | Date Signed |

MAIL the completed request to:
EQUAL RIGHTS DIVISION, LABOR STANDARDS BUREAU
PO BOX 8928, MADISON WI 53708
**OR**
FAX the completed request to: (608) 267-0310 / **DO NOT e-mail your request**.
**Call (608) 266-6861 for assistance in completing this form.**

**Department of Workforce Development**
**Equal Rights Division**
P.O. Box 8928
Madison, WI 53708-8928
Telephone: (608) 266-6860
Fax: (608) 267-4592
TTY: (608) 264-8752

STATE OF WISCONSIN

Department of Workforce Development

**Scott Walker,** Governor
**Reginald J. Newson,** Secretary
**John P. Conway,** Division Administrator

# PREVAILING WAGE – Public Entity Project Owners

Any public works project that has a total estimated project cost that equals or exceeds single-trade or multiple-trade project thresholds requires a prevailing wage rate determination issued by the Department of Workforce Development (DWD). Public works include erecting, constructing, remodeling, repairing, demolishing, alterations, painting and decorating projects for a local governmental unit or state agency. State law excludes minor service or maintenance work, warranty work, or work under a supply-and-installation contract. There is a statutory definition for each of these exclusions. The prevailing wage law that applies to local governmental units is §66.0903, Wis. Stats. The prevailing wage law that applies to state agencies is §103.49, Wis. Stats. The applicable administrative rules for all public entities are DWD 290 and DWD 294, Wis. Adm. Code.

Thresholds

A "single-trade project of public works" means a project in which a single trade accounts for 85% or more of the total labor cost of the project. The single trade threshold is $48,000.

A "multiple-trade project of public works" means a project in which no single trade accounts for 85% or more of the total labor cost of the project.

(a) The multiple-trade threshold is $100,000, unless a municipality falls under the description in (b).

(b) The multiple-trade threshold of $234,000 applies to public works projects erected, constructed, repaired, remodeled, or demolished by a private contractor for •a city or village with a population less than 2500 or •a town.

Effective July 1, 2011, a local governmental unit or state agency that has a public works project that equals or exceeds the prevailing wage thresholds must do all of the following:

- Request a prevailing wage rate determination for the project from DWD at least 30 days before soliciting bids or negotiating contracts. An Application for Prevailing Wage Rate Determination is available on the DWD website: http://dwd.wisconsin.gov/er/prevailing_wage_rate/default.htm
  To avoid waiting for a project determination use the on-line application system that permits the user to generate a determination immediately and save all documents in PDF form to the user's computer. Use this project determination on line application at the following address:

http://dwd.wisconsin.gov/er/prevailing_wage_rate/pw_online_determinations.htm

- Tell potential contractors the project is subject to state prevailing wage law when soliciting bids.

- Include the prevailing wage rate determination in the construction contract, or if there is no written contract, provide a copy of the project determination to each prime contractor.

- Award contracts to contractors who do *not* appear on the "Consolidated List of Debarred Contractors."

- Post the prevailing wage rate determination on the project site. (This document is often referred to as "the white sheet.")

- Notify project contractors that if DWD finds that a contractor violated the prevailing wage law, DWD will assess liquidated damages of 100% of the wages owed to employees.

- Obtain an Affidavit of Compliance from each prime contractor before making final payment for the project.

If the total estimated cost of the project exceeds the prevailing wage thresholds, a local governmental unit or state agency also must obtain a prevailing wage rate determination under the following circumstances:

- when a completed facility is leased, purchased, lease-purchased or otherwise acquired by or dedicated to a public entity in lieu of the public entity contracting for the project,

- when one public entity does work for another public entity,

- when a *private* entity will construct a road, street, bridge, sanitary sewer or water main project and dedicate it to a local governmental unit or the state for its ownership or maintenance (except for some residential subdivisions).

For more information, visit the prevailing wage website: http://dwd.wisconsin.gov/er/prevailing_wage_rate/default.htm. For further assistance, call the Equal Rights Division at 608-266-6861 and ask for prevailing wage.

**Department of Workforce Development**
**Equal Rights Division**
P.O. Box 8928
Madison, WI 53708-8928
Telephone: (608) 266-6860
Fax: (608) 267-4592
TTY: (608) 264-8752

STATE OF WISCONSIN

Department of Workforce Development

**Scott Walker,** Governor
**Reginald J. Newson,** Secretary
**John P. Conway,** Division Administrator

## PREVAILING WAGE – Contractors

Any public works project that has a total estimated project cost that equals or exceeds prevailing wage project thresholds requires a prevailing wage rate determination issued by the Department of Workforce Development (DWD). Public works include erecting, constructing, remodeling, repairing, demolishing, alterations, painting and decorating projects for a local governmental unit or state agency. State law excludes minor service or maintenance work, warranty work, or work under a supply-and-installation contract. There is a statutory definition for each of these exclusions. The prevailing wage law that applies to local governmental units and their contractors is §66.0903, Wis. Stats. The prevailing wage law that applies to state agencies and their contractors is §103.49, Wis. Stats. The applicable administrative rules for all prevailing wage projects are DWD 290 and DWD 294, Wis. Adm. Code. These laws include provisions that apply to all contractors and subcontractors working on prevailing wage projects.

Effective July 1, 2011, any contractor or subcontractor working on a local governmental unit or state agency's public works project that equals or exceeds current prevailing wage project thresholds must do all of the following:

- Receive and review the project's prevailing wage rate determination (i.e., white sheet).
- Tell subcontractors the project is subject to state prevailing wage law and include the prevailing wage rate determination in the construction contract, or if there is no written contract, provide a copy of the project determination to each subcontractor.
- Hire subcontractors who do *not* appear on the "Consolidated List of Debarred Contractors."
- Notify subcontractors that if DWD finds that a contractor or subcontractor violated the prevailing wage law, DWD will assess liquidated damages of 100% of the wages owed to employees.

- Apply to DWD for subjourney wage rates prior to employing these individuals on the project.

- Receive and retain a completed Affidavit of Compliance from each subcontractor brought on to the project before providing final payment to those subcontractors.

- Submit a completed Affidavit of Compliance to the contractor who brought the subcontractor on to the project before receiving final payment for the project.

- Maintain payroll records for 3 years that comply with §§66.0903(10)(a) or 103.49(5)(a), Stats. and DWD 274.06.

- Respond to requests from DWD or the project owner to provide payroll records and/or respond to prevailing wage complaints filed by employees or third parties.

For more information, visit the prevailing wage website: http://dwd.wisconsin.gov/er/prevailing_wage_rate/default.htm. For further assistance, call the Equal Rights Division at 608-266-6861 and ask for prevailing wage.

## *SUMMARY OF PREVAILING WAGE LAW CHANGES EFFECTIVE JULY 1, 2011*

(This document updated 07/27/11)

For further updates on this topic, refer to the prevailing wage website at:
http://dwd.wisconsin.gov/er/prevailing_wage_rate/default.htm

The recently approved State budget bill (2011 Wisconsin Act 40) includes major changes to prevailing wage laws (§§66.0903, 66.0904, 103.49 & 103.50, Wis. Stats.) effective JULY 1, 2011. Significant changes are described below.

| Topic | Who's affected? | Brief description of requirement under §66.0903 or §103.49 |
|---|---|---|
| Thresholds | All public entities & Contractors | The $25,000 threshold for public works projects has been changed to single-trade and multiple-trade project thresholds as noted below. The new thresholds apply to prevailing wage projects whose prime contract is awarded after June 30, 2011. |
| Non-applicability: Threshold for Single-Trade Projects | All public entities & Contractors | Any single-trade project of public works with an estimated cost of completion of less than $48,000 does not require a prevailing wage rate determination.<br>"Single-trade project of public works" means a project of public works in which a single trade accounts for 85 percent or more of the total labor cost of the project. |
| Non-applicability: Threshold for Multiple-Trade Projects | All public entities except cities, towns & villages as noted below & Contractors | Any multiple-trade project of public works with an estimated cost of completion of less than $100,000 does not require a prevailing wage rate determination.<br>"Multiple-trade project of public works" means a project of public works in which no single trade accounts for 85 percent or more of the total labor cost of the project. |
| Non-applicability: Threshold for Multiple-Trade Projects | Cities or villages with a population less than 2500 & Towns & Contractors | A multiple trade project of public works erected, constructed, repaired, remodeled, or demolished by a private contractor for a city or village with a population less than 2500, or a town with an estimated cost of completion of less than $234,000 does not require a prevailing wage rate determination.<br>"Multiple-trade project of public works" means a project of public works in which no single trade accounts for 85 percent or more of the total labor cost of the project. |
| Non-applicability: Minor service & maintenance work | Towns & Contractors | The following TOWN projects only do not require a prevailing wage rate determination:<br>• A project not funded under §86.31, Stats. (TRIP projects) that is limited to minor crack filling, chip or slurry sealing or other minor pavement patching, not including overlays.<br>• The depositing of gravel on an existing gravel road applied solely to maintain the road;<br>• Road shoulder maintenance;<br>• Cleaning drainage or sewer ditches or structures;<br>• Any other limited, minor work on public facilities or equipment that is routinely performed to prevent breakdown or deterioration. |
| Non-applicability: Work which a contractor or individual donates to a public entity | All public entities | Prevailing wage laws §§66.0903 & 103.49, Stats., do not apply to work performed on a project of public works for which the local governmental unit or the state or the state agency contracting for the project is not required to compensate any contractor, subcontractor, contractor's or subcontractor's agent, or individual for performing the work. |

| Topic | Who's affected? | Brief description of requirement under §66.0903 or §103.49 |
|---|---|---|
| Non-applicability: Residential | All public entities | A prevailing wage rate determination is not required for the erection, construction, repair, remodeling, or demolition of a residential property containing 2 dwelling units or less. |
| Non-applicability: Residential subdivision infrastructure | All public entities | A prevailing wage rate determination is not required for a road, street, bridge, sanitary sewer, or water main project that is a part of a development in which at least 90 percent of the lots contain or will contain 2 dwelling units or less, as determined by the local governmental unit at the time of approval of the development, and that, on completion, is acquired by, or dedicated to, a local governmental unit (including under §236.13(2), Stats.), or the state, for ownership or maintenance by the local governmental unit or the state. |
| Non-applicability: Certain nursing homes | All public entities | Prevailing wage law §66.0903, Stats., does not apply to a project of public works involving the erection, construction, repair, remodeling, or demolition of a nursing home in a county having a population of less than 50,000 when the project commences no later than July 1, 2012. |
| Electronic certified payroll record | Contractors | The requirement that every contractor on a prevailing wage project submit to DWD monthly a certified record of employees who worked on the project and that DWD post these certified records on its Internet website is discontinued effective July 1, 2011. However, contractors who worked on prevailing wage projects during the period January 1, 2010 through June 30, 2011, must comply with the repealed law for work completed on projects during that period of time. |
| Payroll record inspection request by any person | Contractors & Complainants | Any person may request DWD to inspect the payroll records of any contractor working on a prevailing wage project. On receipt of such a request, the contractor must submit to DWD a certified record of its payroll records, other than personally identifiable information relating to an employee of the contractor, for no longer than a 4-week period. DWD may request records from a contractor under this provision no more than once per calendar quarter for each project of public works on which the contractor is performing work. The department may not charge a requester a fee for obtaining that information. DWD must make these certified records available for public inspection. |
| Complaints | Complainants | There are no longer investigation fees. |
| Statewide uniformity | Local govern-mental units | A local governmental unit may not enact & administer a prevailing wage ordinance/provision for public works or publicly funded private construction projects. Any extant laws to that effect are void. |

| Topic | Who's affected? | Brief description of requirement under §66.0903, §103.49 or §103.50 |
|---|---|---|
| Covered employees | Truck drivers & Other workers & Contractors | A laborer, worker, mechanic, or truck driver who is employed to process, manufacture, pick up, or deliver materials or products from a commercial establishment that has a fixed place of business from which the establishment supplies processed or manufactured materials or products or from a facility that is not dedicated exclusively, or nearly so, to a project of public works is NOT entitled to receive the prevailing wage rate UNLESS any of the following applies:<br>1) the laborer, worker, mechanic, or truck driver is employed to go to the source of mineral aggregate such as sand, gravel, or stone and deliver that mineral aggregate to the site of a project of public works by depositing the material directly in final place, from the transporting vehicle or through spreaders from the transporting vehicle.<br>2) the laborer, worker, mechanic, or truck driver is employed to go to the site of a project of public works, pick up excavated material or spoil from the site of the project, and transport that excavated material or spoil away from the site of the project. |
| Annual Prevailing Wage Survey | All public entities | When establishing yearly prevailing wage rates, DWD may not use data from any construction work that is performed by a local governmental unit or a state agency. |
| Prevailing Wage Rates | DOT & Contractors & Employees | For state highway prevailing wage rates, DWD is required to include wage rates for work performed on Sundays, holidays and shift differentials based on the time of day or night when work is performed. |

**The 2009-2011 State budget bill (2009 Wisconsin Act 28) created a new prevailing wage law (§66.0904, Wis. Stats.) for PUBLICLY FUNDED PRIVATE CONSTRUCTION PROJECTS effective January 1, 2010. The current 2011-2013 State budget bill (2011 Wisconsin Act 32) REPEALS this law. So the publicly funded private construction projects law only applies to projects that awarded the prime contract during the period January 1, 2010 through June 30, 2011.**

# SINGLE & MULTIPLE TRADE PROJECT THRESHOLDS FOR §§66.0903 & 103.49, Wis. Stats. Effective July 1, 2011

The $25,000 threshold for public works projects has been changed to single-trade and multiple-trade project thresholds as described below. Projects of public works with total estimated costs of completion that equal or exceed these thresholds require a prevailing wage rate determination.

## SINGLE-TRADE THRESHOLD

A "single-trade project of public works" means a project in which a single trade accounts for 85 percent or more of the total labor cost of the project.

The single trade threshold is $48,000.

## MULTIPLE-TRADE THRESHOLDS

A "multiple-trade project of public works" means a project in which no single trade accounts for 85 percent or more of the total labor cost of the project.

(a) The multiple-trade threshold is $100,000, unless a municipality falls under the description in (b).

(b) The multiple-trade threshold of $234,000 applies to public works projects erected, constructed, repaired, remodeled, or demolished by a private contractor for:

- a city or village with a population less than 2500, or
- a town

## APPLYING THE NEW THRESHOLDS

The department will apply the new single-trade & multiple-trade prevailing wage thresholds to projects of public works for which the prime contract is awarded on or after July 1, 2011.

# 5% BID BOND

BIDDER (Name and Address):

_____

_____

_____

SURETY (Name and Address of Principal Place of Business):

_____

_____

_____

OWNER (Name and Address):

City of Waterloo

136 North Monroe Street

Waterloo, WI 53594

BID:

BID DUE DATE:_____

PROJECT (Project Number and Title):_____

BOND:

BOND NUMBER:_____

DATE: (Not later than Bid Due Date):_____

PENAL SUM:_____

IN WITNESS WHEREOF, Surety and Bidder, intending to be legally bound hereby, subject to the terms noted herein, do each cause this Bid Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

## SURETY

_____(Seal)
Surety's Name and Corporate Seal

By:_____
Signature and Title
(Attach Power of Attorney)

Attest:_____
Signature and Title

## BIDDER

_____(Seal)
Bidder's Name and Corporate Seal

By:_____
Signature and Title

Attest:_____
Signature and Title

Note: (1) Above addresses are to be used for giving required notice.
(2) Any singular reference to Bidder, Surety, OWNER or other party shall be considered plural where applicable.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assignees to pay to OWNER upon default of Bidder the penal sum set forth on the face of this Bond.

2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents and Contract Documents.

3. This obligation shall be null and void if:

3.1 OWNER accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by OWNER) the executed Agreement required by the Bidding Documents and any Performance and Payment Bonds required by the Bidding Documents and Contract Documents, or

3.2 All Bids are rejected by OWNER, or

3.3 OWNER fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by paragraph 5 hereof).

4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from OWNER, which notice will be given with reasonable promptness, identifying this Bond and the project and including a statement of the amount due.

5. Surety waives notice of and any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by OWNER and Bidder, provided that the time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid Due Date without Surety's written consent.

6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in paragraph 4 above is received by Bidder and Surety, and in no case later than one year after Bid Due Date.

7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the project is located.

8. Notice required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage prepaid, and shall be deemed to be effective upon receipt by the party concerned.

9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind Surety thereby.

10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of the Bond conflicts with any applicable provision of any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11. The term "bid" as used herein includes a bid, offer, or proposal as applicable.

# AGREEMENT

THIS AGREEMENT is made by and between The City of Waterloo

(hereinafter called OWNER) and _____

(hereinafter called CONTRACTOR).

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

Article 1. WORK

1.01 CONTRACTOR shall complete all work as specified or indicated in the Contract Documents generally identified as follows:

**Project State ID CDBG #08-63**

Article 2. THE PROJECT

The Project for which the Work under the Contract Documents is titled as follows:

**South Monroe Street Flood Plain Improvements**
**City Of Waterloo**
**Jefferson County**

Article 3. ENGINEER

3.01 SAA Design Group, Inc. is hereinafter called ENGINEER and shall assume all duties and responsibilities, and have the rights and authority assigned to ENGINEER in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

If ENGINEER is undesignated, OWNER shall assume the duties and responsibilities of ENGINEER through OWNER's Director of Public Works (DPW), or the DPW's designee.

Article 4. CONTRACT TIMES

4.01 Time of the Essence

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 Dates for Substantial Completion and Final Payment

A. The work shall be substantially complete within 90 calendar days after the date when the Contract Time commences to run. Unless otherwise defined in this Agreement or in the Special Provisions, Substantial Completion will be determined in accordance with paragraph 14.04 of the General Conditions.

B. The work shall be complete and ready for final payment within 90 calendar days after the date when the Contract Time commences to run.

4.03 Liquidated Damages

A. CONTRACTOR and OWNER recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the Work is not completed within the times specified in paragraph 4.02 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The parties also recognize the delays, expense and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by OWNER if the Work is not completed on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty), CONTRACTOR shall pay to OWNER the following daily charge:

| **ORIGINAL CONTRACT AMOUNT** | | **DAILY CHARGE** |
|---|---|---|
| From More Than | To and Including | Calendar Day |
| $ | $ 100,000 | $ 500 |
| 100,000 | 500,000 | 800 |
| 500,000 | 1,000,000 | 1,000 |
| 1,000,000 | 3,000,000 | 1,200 |
| 3,000,000 | 5,000,000 | 1,500 |
| 5,000,000 | | 2,000 |

Article 5. CONTRACT PRICE

5.01 OWNER shall pay CONTRACTOR for completion of the Work in accordance with the Contract Documents an amount in current funds as follows:

$_____

Fill in Amount of Awarded Contract

A. Above Contract Price will satisfy completion of all Work stated in CONTRACTOR's Bid attached hereto as an exhibit.

B. All specific cash allowances as specified are included in the Contract Price and have been computed in accordance with paragraph 11.02 of the General Conditions.

## Article 6. PAYMENT PROCEDURES

### 6.01 Submittal and Processing of Payments

A. CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided in the General Conditions.

B. CONTRACTOR shall use Request and Certificate for Payment form included in Appendix of Standard Specifications and Construction Contract Documents.

### 6.02 Progress Payments; Retainage

A. OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR's Applications for Payment. The frequency of CONTRACTOR's Applications for payment will be on a monthly basis for work completed through the 20th of the month and submitted by the 25th of that month, for approval by the second Council meeting of the following month. All such payments will be measured by the schedule of values established in paragraph 2.07.A of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements. Retainage will be withheld from progress payments as follows:

1. Prior to Substantial Completion, OWNER will retain an amount equal to 10% of each progress payment application until 50% of the Work has been completed. At 50% completion, further progress payment applications shall be paid in full to the CONTRACTOR and no additional amounts will be retained unless the ENGINEER certifies to the OWNER that the job is not proceeding satisfactorily. Amounts previously retained shall not be paid to the CONTRACTOR until substantial completion of the Work. At 50% completion of the Work, or any time thereafter when the character and progress of the Work is not satisfactory to OWNER on recommendation of ENGINEER, additional amounts may be retained, but in no event shall the total retainage be more than 10% of the value of the work completed.

2. Upon Substantial Completion, OWNER shall pay an amount sufficient to increase total payments to CONTRACTOR to 98% of the Work completed, less such amounts as ENGINEER shall determine in accordance with paragraph 14.02.B.5 of the General Conditions and less 100% of ENGINEER's estimate of the value of Work to be completed or corrected as shown on the tentative list of items to be completed or corrected attached to the certificate of Substantial Completion.

### 6.03 Final Payment

A. Upon final completion and acceptance of the work in accordance with paragraph 14.07 of the General Conditions, OWNER shall pay the remainder of the Contract Price as recommended by ENGINEER.

Article 7. HIERARCHY

7.01 In resolving inconsistencies among two or more sections of the Contract Documents, precedence shall be given in the following order:

| | |
|---|---|
| First: | WRITTEN AMENDMENTS |
| Second: | AGREEMENT |
| Third: | CHANGE ORDERS |
| Fourth: | ADDENDA |
| Fifth: | SUPPLEMENTARY CONDITIONS |
| Sixth: | GENERAL CONDITIONS |
| Seventh: | SPECIFICATIONS |
| Eighth: | DRAWINGS |

Figure dimensions on drawings shall take precedence over scale dimensions. Detailed drawings shall take precedence over general drawings.

Article 8. CONTRACTOR'S REPRESENTATIONS

8.01 In order to induce OWNER to enter into this Agreement, CONTRACTOR makes the following representations:

A. CONTRACTOR has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.

B. CONTRACTOR has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the work.

C. CONTRACTOR is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress and performance of the work.

D. CONTRACTOR has carefully studied (1) all reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except underground facilities) which have been identified in the Supplementary Conditions as provided in paragraph 4.02 of the General Conditions and (2) reports and drawings of a Hazardous Environmental Condition, if any, at the Site which has been identified in the Supplementary Conditions as provided in paragraph 4.06 of the General Conditions.

E. CONTRACTOR has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site that may affect the cost, progress, and performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR, including applying the specific means, methods, techniques, sequences, and procedures of construction, if any, expressly required by the Contract Documents to be employed by CONTRACTOR, and safety precautions and programs incident thereto.

F. CONTRACTOR does not consider that any additional examinations, investigations, explorations, tests, studies or data are necessary for the performance and furnishing of the work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.

G. CONTRACTOR is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Contract Documents.

H. CONTRACTOR has correlated the information known to CONTRACTOR, information and observations obtained from visits to the site, reports, and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.

I. CONTRACTOR has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that CONTRACTOR has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.

J. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

Article 9. CONTRACT DOCUMENTS

9.01 Contents

A. The Contract Documents consist of the following:

1. This Agreement (pages A-1 through A-10, inclusive);

2. Performance Bond (pages to CP-1 through CP-4, inclusive);

3. Payment Bond (pages CP-5 through CP-8, inclusive);

4. Other Bonds

a. _____ (pages _____ to _____, inclusive);

b. _____ (pages _____ to _____, inclusive);

c. _____ (pages _____ to _____, inclusive);

5. General Conditions (pages GC-1 through GC-41, inclusive)

6. Supplementary Conditions (pages SC-1 through SC-15, inclusive);

7. Specifications as listed in the table of contents of the Project Manual.

8. Drawings (as identified in the Supplementary Conditions):

9. Addenda (numbered __1___ through __2___, inclusive).

10. Exhibits to this Agreement (enumerated as follows:)

    a. Notice to Proceed (page NP-1, incorporated herein by reference);

    b. CONTRACTOR's Bid (pages B-1 through B-4, inclusive);

    c. Permits obtained by others for this project:

    d. Prevailing Wage Rate Determination issued by the Department of Workforce Development.

    e. Documentation submitted by CONTRACTOR prior to Notice of Award

    (_____);

11. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:

    a. Written Amendments;
    b. Work Change Directives;
    c. Change Order(s).

B. The documents listed in paragraph 9.01.A are attached to this Agreement. (except as expressly noted otherwise above).

C. There are no Contract Documents other than those listed above in this Article 9.

D. The Contract Documents may only be amended, modified, or supplemented as provided in paragraph 3.04 of the General Conditions.

Article 10. MISCELLANEOUS

10.01 Terms

A. Terms used in this Agreement which are defined in Article 1 of the General Conditions will have the meanings indicated in the General Conditions.

10.02 Assignment of Contract

A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation, monies that may become due and monies that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 Successors and Assigns

A. OWNER and CONTRACTOR each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect of all covenants, agreements and obligations contained in the Contract Documents.

10.04 Severability

A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon OWNER and CONTRACTOR, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.05 Public Records Law

A. Columbia County is subject to the Wisconsin public records law. Any submissions to the City in connection with this project may be disclosed in response to a public records request.

IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement in triplicate. One counterpart each has been delivered to OWNER, CONTRACTOR, and ENGINEER. All portions of the Contract Documents have been signed or identified by OWNER and CONTRACTOR or identified by ENGINEER on their behalf.

This Agreement will be effective on the _____ day of _____, 2012 (which is the Effective Date of the Agreement).

OWNER: (SEAL)

City of Waterloo

ATTEST:

_____

_____
Mo Hansen
Clerk/Treasurer

Administrator
(Title)

Business Address:

Name: City of Waterloo

Street: 136 North Monroe Street .

City, State, Zip Code: Waterloo, WI 53594

Phone: 920-478-3025

Email: cityhall@waterloowi.us

Project Representative: Mo Hansen

CONTRACTOR: (SEAL)

_____

ATTEST:

By:_____ _____

_____
(Title)

Business Address:

Name: _____

Street: _____

City, State, Zip Code: _____

Phone: _____

Facsimile: _____

Designated Representative: _____

Approved as to form:

_____

OWNER's Attorney Date

Provision has been made to pay the liability that will accrue under this Agreement:

Countersigned:

_____

OWNER's Comptroller or Treasurer Date

INSTRUCTIONS FOR EXECUTING CONTRACT

If the Agreement is to be signed by the Secretary of the corporation, the certificate below should be executed by some other officer of the corporation, under the corporate seal. In lieu of the foregoing certificate, there may be attached to the Agreement copies of so much of the records of the corporation which will show the official character and authority of the officers signing, duly certified by the secretary or assistant secretary under the corporate seal to be true copies.

The full name and business address of CONTRACTOR should be inserted and the Agreement should be signed with CONTRACTOR's official signature. Please have the name of the signing party printed under all signatures to the Agreement.

If CONTRACTOR is operating as a partnership, each partner should sign the Agreement. If the Agreement is not signed by each partner, there should be attached to the Agreement a duly authenticated power of attorney evidencing the signer's (signers') authority to sign such Agreement for and in behalf of the partnership.

If CONTRACTOR is an individual, the trade name (if CONTRACTOR is operating under a trade name) should be indicated in the Agreement and the Agreement should be signed by such individual. If signed by other than CONTRACTOR, there should be attached to the Agreement a duly authenticated power of attorney evidencing the signer's authority to execute such Agreement for and in behalf of CONTRACTOR.

If CONTRACTOR is a corporation, the following certificate should be executed:

I, _____, certify that I am the _____ Secretary of the corporation named as CONTRACTOR herein above; that _____, who signed the foregoing Agreement on behalf of CONTRACTOR was then _____ of said corporation; that said Agreement was duly signed for and in behalf of said Corporation by authority of its governing body, and is within the scope of its corporate powers.

_____

(Corporate Seal)

# CONSTRUCTION PERFORMANCE BOND

Any singular reference to CONTRACTOR, Surety, OWNER or other party shall be considered plural where applicable.

---

CONTRACTOR (Name and Address):

_____

_____

_____

SURETY (Name and Principal Place of Business):

_____

_____

_____

OWNER:

The City of Waterloo

136 North Monroe Street

Waterloo, WI 53594

CONSTRUCTION CONTRACT

Date:_____

Amount:_____

Description (Project No. and Title):_____

_____

BOND

Date (Not earlier than Effective Date of Agreement):_____

Amount (100% of Contract Price):_____

Modifications to this Bond Form:_____

_____

## CONTRACTOR AS PRINCIPAL

Company:_____(Corp. Seal)

Signature:_____

Name:_____

Title:_____

## SURETY

Company:_____(Corp. Seal)

Signature:_____

Name:_____

Title:_____

Approved by OWNER:

By: _____ _____ _____
(Title) (Date)

1. CONTRACTOR and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to OWNER for the performance of the Construction Contract, which is incorporated herein by reference.

2. If CONTRACTOR performs the Construction Contract, Surety and CONTRACTOR shall have no obligation under this Bond, except to participate in conferences as provided in subparagraph 3.1.

3. If there is no OWNER Default, Surety's obligation under this Bond shall arise after:

3.1 OWNER has notified CONTRACTOR and Surety at its address described in paragraph 10 below, that OWNER is considering declaring a CONTRACTOR Default and has requested and attempted to arrange a conference with CONTRACTOR and Surety to be held not later than fifteen days after receipt of such notice to discuss methods of performing the Construction Contract. If OWNER, CONTRACTOR and Surety agree, CONTRACTOR shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive OWNER's rights, if any, subsequently to declare a CONTRACTOR Default; and

3.2 OWNER has declared a CONTRACTOR Default and formally terminated CONTRACTOR's rights to complete the Contract. Such CONTRACTOR Default shall not be declared earlier than twenty days after CONTRACTOR and Surety have received notice as provided in subparagraph 3.1; and

3.3 OWNER has agreed to pay the Balance of the Contract Price to Surety in accordance with the terms of the Construction Contract or to a contractor selected to perform the Construction Contract in accordance with the terms of the Contract with OWNER.

4. When OWNER has satisfied the conditions of paragraph 3, Surety shall promptly and at Surety's expense take one of the following actions:

4.1 Arrange for CONTRACTOR, with consent of OWNER, to perform and complete the Construction Contract; or

4.2 Undertake to perform and complete the Construction Contract itself, through its agents or through independent contractors; or

4.3 Obtain bids or negotiated proposals from qualified contractors acceptable to OWNER for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by OWNER and the contractor selected with OWNER's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to OWNER the amount of damages as described in paragraph 6 in excess of the Balance of the Contract Price incurred by OWNER resulting from CONTRACTOR's default; or

4.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

1. After investigation, determine the amount for which it may be liable to OWNER and, as soon as practicable after the amount is determined, tender payment therefor to OWNER; or

2. Deny liability in whole or in part and notify OWNER citing reasons therefor.

5. If Surety does not proceed as provided in paragraph 4 with reasonable promptness, Surety shall be deemed to be in default on this Bond fifteen days after receipt of an additional written notice from OWNER to Surety demanding that Surety perform its obligations under this Bond, and OWNER shall be entitled to enforce any remedy available to OWNER. If Surety proceeds as provided in subparagraph 4.4, and OWNER refuses the payment tendered or Surety has denied liability, in whole or in part, without further notice OWNER shall be entitled to enforce any remedy available to OWNER.

6. After OWNER has terminated CONTRACTOR's right to complete the Construction Contract, and if Surety elects to act under subparagraph 4.1, 4.2, or 4.3 above, then the responsibilities of Surety to OWNER shall not be greater than those of CONTRACTOR under the Construction Contact, and the responsibilities of OWNER to Surety shall not be greater than those of OWNER under the Construction Contract. To the limit of the amount of this Bond, but subject to commitment by OWNER of the Balance of the Contract Price to mitigation of costs and damages on the Construction Contract, Surety is obligated without duplication for:

6.1 The responsibilities of CONTRACTOR for correction of defective work and completion of the Construction Contract;

6.2 Additional legal, design professional, and delay costs resulting from CONTRACTOR's Default, and resulting from the actions or failure to act of Surety under paragraph 4; and

6.3 Liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or nonperformance of CONTRACTOR.

7. Surety shall not be liable to OWNER or others for obligations of CONTRACTOR that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than OWNER or its heirs, executors, administrators, or successors.

8. Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

9. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after CONTRACTOR Default or within two years after CONTRACTOR ceased working or within two years after Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

10. Notice to Surety, OWNER, or CONTRACTOR shall be mailed or delivered to the address shown on the signature page.

11. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not a common law bond.

12. Definitions:

12.1 Balance of the Contract Price: The total amount payable by OWNER to CONTRACTOR under the Construction Contract after all proper adjustments have been made, including allowance to CONTRACTOR of any amounts received or to be received by OWNER in settlement of insurance or other claims for damages to which CONTRACTOR is entitled, reduced by all valid and proper payments made to or on behalf of CONTRACTOR under the Construction Contract.

12.2 Construction Contract: The agreement between OWNER and CONTRACTOR identified on the signature page, including all Contract Documents and changes thereto.

12.3 CONTRACTOR Default: Failure of CONTRACTOR, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Construction Contract.

12.4 OWNER Default: Failure of OWNER, which has neither been remedied nor waived, to pay CONTRACTOR as required by the Construction Contract or to perform and complete or comply with the other terms thereof.

# CONSTRUCTION PAYMENT BOND

Any singular reference to CONTRACTOR, Surety, OWNER or other party shall be considered plural where applicable.

---

CONTRACTOR (Name and Address):

_____

_____

_____

SURETY (Name and Principal Place of Business):

_____

_____

_____

OWNER:

The City of Waterloo

136 North Monroe Street

Waterloo, WI 53594

CONSTRUCTION CONTRACT

Date:_____

Amount:_____

Description (Project No. and Title):_____

_____

BOND

Date (Not earlier than Effective Date of Agreement):_____

Amount (100% of Contract Price):_____

Modifications to this Bond Form:_____

_____

## CONTRACTOR AS PRINCIPAL

Company:_____(Corp. Seal)

Signature:_____

Name:_____

Title:_____

## SURETY

Company:_____(Corp. Seal)

Signature:_____

Name:_____

Title:_____

Approved by OWNER:

By: _____ _____ _____
(Title) (Date)

1. CONTRACTOR and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to OWNER to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference.

2. With respect to OWNER, this obligation shall be null and void if CONTRACTOR:

2.1 Promptly makes payment, directly or indirectly, for all sums due Claimants, and

2.2 Defends, indemnifies, and holds harmless OWNER from all claims, demands, liens, or suits alleging non-payment by CONTRACTOR by any person or entity who furnished labor, materials, or equipment for use in the performance of the Construction Contract, provided OWNER has promptly notified CONTRACTOR and Surety (at the address described in paragraph 12) of any claims, demands, liens, or suits and tendered defense of such claims, demands, liens, or suits to CONTRACTOR and Surety, and provided there is no OWNER Default.

3. With respect to Claimants, this obligation shall be null and void if CONTRACTOR promptly makes payment, directly or indirectly, for all sums due.

4. Surety shall have no obligation to Claimants under this Bond until:

4.1 Claimants who are employed by or have a direct contract with CONTRACTOR have given notice to Surety (at the address described in paragraph 12) and sent a copy, or notice thereof, to OWNER, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.

4.2 Claimants who do not have a direct contract with CONTRACTOR:

1. Have furnished written notice to CONTRACTOR and sent a copy, or notice thereof, to OWNER, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials were furnished or supplied, or for whom the labor was done or performed; and

2. Have either received a rejection in whole or in part from CONTRACTOR, or not received within 30 days of furnishing the above notice any communication from CONTRACTOR by which CONTRACTOR has indicated the claim will be paid directly or indirectly; and

3. Not having been paid within the above 30 days, have sent a written notice to Surety (at the address described in paragraph 12) and sent a copy, or notice thereof, to OWNER, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to CONTRACTOR.

5. If a notice by a Claimant required by paragraph 4 is provided by OWNER to CONTRACTOR or to Surety, that is sufficient compliance.

6. Reserved.

7. Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by Surety.

8. Amounts owed by OWNER to CONTRACTOR under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any Construction Performance Bond. By CONTRACTOR furnishing and OWNER accepting this Bond, they agree that all funds earned by CONTRACTOR in the performance of the Construction Contract are dedicated to satisfy obligations of CONTRACTOR and Surety under this Bond, subject to OWNER's priority to use the funds for the completion of the work.

9. Surety shall not be liable to OWNER, Claimants, or others for obligations of CONTRACTOR that are unrelated to the Construction Contract. OWNER shall not be liable for payment of any costs or expenses of any Claimant under this Bond and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

10. Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

11. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the Work or part of the Work is located or after the expiration of one year from the date (1) on which Claimant gave the notice required by Paragraph 4.1 or Paragraph 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to Surety, OWNER, or CONTRACTOR shall be mailed or delivered to the address shown on the signature page. Actual receipt of notice by Surety, OWNER, or CONTRACTOR, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the Construction Contract was to be performed, any provision in this Bond conflicting with said statutory or other legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

14. Upon request by any person or entity appearing to be a potential beneficiary of this Bond, CONTRACTOR shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15. Definitions:

15.1 Claimant: An individual or entity having a direct contract with CONTRACTOR or with a subcontractor of CONTRACTOR to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials, or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the Work of CONTRACTOR and CONTRACTOR's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

15.2 Construction Contract: The agreement between OWNER and CONTRACTOR identified on the signature page, including all Contract Documents and changes thereto.

15.3 OWNER Default: Failure of OWNER, which has neither been remedied nor waived, to pay CONTRACTOR as required by the Construction Contract or to perform and complete or otherwise comply with the other terms thereof.

## ATTACHMENT 2: DAVIS-BACON AND RELATED ACTS (DBRA) INTERPRETATIONS AND APPLICATIONS

A. Force Account Under most Davis-Bacon statutes, only employees of contractors or subcontractors are subject to Davis-Bacon wage requirements. In some instances, rather than contracting or subcontracting out construction work, a grant recipient performs the construction in-house, with its own "force account" employees. Such force account work is not subject to Davis-Bacon wage requirements under statutes that cover only employees of contractors and subcontractors. Furthermore, the USDOL does not consider a state or local government to be a contractor, even if it enters into a contract to perform construction work (see 29 CFR Section 5.2(h)). However, under the Housing and Community Development Act of 1974, a private firm that receives federal assistance funds indirectly from a recipient pursuant to a written procurement contract of subgrant agreement that provides for the performance of construction work is considered a contractor or subcontractor, and the force account exception **does not** apply to construction activity performed by employees of such a firm.

Laborers and mechanics employed by a local or state agency PHA (Public Housing Authority only), even though not employed by a contractor, are subject to Davis-Bacon when performing development work financed by the U.S. Housing Act of 1937, as amended. Davis-Bacon prevailing wage requirements are not applicable where such employees are used in work defined as major repairs (deferred maintenance) pursuant to 24 CFR Part 868.3 and Part 868.9(h), which constitute project operation rather than development.

B. Compliance and Certification Parameters HUD policy clearly affords prevailing wage protection for all laborers and mechanics, regardless of contractual relationship. There is no exception to this protection for self-employed laborers or mechanics, including owners of businesses, sole proprietors, partners, corporate officers, or others. Laborers and mechanics may not certify to the payment of their **own** prevailing wages **except** where the laborer or mechanic is the owner of a business working on the site of the work with his/her own crew.

Accordingly, HUD and program participants responsible for labor standards administration and enforcement **may not** accept certified payrolls reporting single or multiple owners (e.g., partners) certifying that they have paid to themselves the prevailing wage for their craft. A sole proprietor may not submit a payroll reporting himself or herself as simply "Owner" signing the certification as to his/her own wage payment from "draws" or other payment methods. Nor may several mechanics submit a payroll reporting themselves as "partners" with one or more certifying as to the payment of their wages or salaries. Such mechanics must instead be carried on the certified payroll of the contractor or subcontractor for whom they are working and with whom they have executed a "contract" for services.

In these cases, maintenance of an accurate accounting of weekly work hours including any overtime hours for such mechanics is essential. Whatever method of compensation computation is utilized (piecework, weekly contract draw performance), the amount of weekly compensation divided by the actual hours of work performed for that week must result in an "effective" hourly wage rate for that week that is not less than the prevailing hourly rate for the type of work involved. This computation must take into account overtime pay rates (i.e., one and one-half) for all hours worked in excess of 40 hours per week, pursuant to the CWHSSA, where applicable, and pursuant to the Fair Labor Standards Act where CWHSSA is not applicable.

The name, work classification, actual hours of work, effective hourly wage rate, and wage payment for each such mechanic and laborer must be reported and certified on the responsible employer's weekly payroll. Note that the effective hourly wage rate for such mechanics and laborers may fluctuate from week to week. However, the effective hourly wage rate may not be less than the minimum prevailing wage rate for the respective craft. In any case, where the effective rate falls below the corresponding craft prevailing wage rate, the responsible employer must compensate the mechanic at no less than the prevailing wage rate on the wage determination for the craft.

C. Business Owners Working With Their Crew Owners of businesses working with their crew on the same HUD-assisted job site **may** certify to the payment of their own prevailing wages in conjunction with the prevailing wages paid to their employees. This exception to compliance standards **does not** suggest that such owners are not likewise entitled to prevailing wages for their labor. Rather, it accepts the wage payment certification on weekly payroll reports by the owner of his/her own wages as that certification **accompanies** the certification offered for payment of prevailing wages to his/her employees. On weekly payroll reports, include the owner's name, identifying him/her as "owner," and the daily and total hours worked on the covered project for the week. Omit the Rate of Pay and Amount Earned.

D. Owner-operators of Power Equipment Frequently, owner-operators of power equipment (e.g., backhoes, front-end loaders) will contract for services at a rate for both "man and machine." In these cases, the owner-operator includes liability, equipment maintenance, and salary in an hourly or contract rate for services. Because of the prevalence of such practice and the inherent difficulty in ascribing costs for liability and maintenance costs verses hourly labor salary, HUD and its program clients may accept a combined ("man and machine") hourly rate on the responsible contractor's certified payroll provided that such hourly rate may not be less than the rate on the wage determination for the respective power equipment operator. **Note:** Owner-operators of power equipment, like self-employed mechanics, **may not** submit their own payrolls certifying to the payment of their own wage **but** must be carried on the responsible contractor's certified payroll report. Include the name, work classification, and actual hours worked. Upon completion of the contract, verify the pay by taking the amount paid to the subcontractor (documented with copies of all invoices identified for this job) and divide by the hours reported on the certified payrolls. Compare the actual hourly wage rate with the rate in the Wage Decision. If the actual hourly wage is less than the Davis-Bacon Wage Rate, collect and disburse the wage underpayments.

E. "Owner Operator" Truck Drivers A USDOL administration policy excludes bona fide owner-operators of trucks who are independent contractors from Davis-Bacon/CWHSSA provisions concerning their own hours of work and rate(s) of pay. These truck "owner-operators" can certify to their own weekly payrolls **but** the payrolls do not need to show the hours worked or rates allegedly paid - only the notation "Owner-operator." **Note** that any laborers or mechanics, including truck drivers, employed by the owner-operator/independent contractor are subject to Davis-Bacon/CWHSSA provisions in the usual manner.

This policy **does not** pertain to owner-operator of other equipment such as backhoes, bulldozers, cranes and scrapers (i.e., power equipment as noted in the paragraph titled "Owner-operators of Power Equipment, " above).

"Contractor's" Truck Drivers Based on the decision made in the Midway Excavating trial, (Building and Construction Trades Department, AFL-CIO vs. USDOL Wage Appeals Board "Midway") truck drivers employed by contractors are only covered by prevailing wage requirements when they are performing labor on the site of the work. (e.g. if you are building a highway and the truck driver is loading, unloading, spreading, or driving back and forth on the site, then the truck driver is covered). Hauling materials to or from the site, if not performed on the site, it not covered time. HUD has advised that they currently believe unloaded are likewise not covered.

F. Determining Proper Classification for Various Work Questions as to the proper classification of a laborer or mechanic for various types of work are resolved by making an area-practice determination. In determining the proper classification for work performed on a project, it is immaterial whether the contractor is union or nonunion.

On projects where the prevailing wage rate for classification is question within the applicable wage decision are based on negotiated rates, the prevailing practice concerning work performed in those classifications is that practice observed on projects built by contractors who are a signatory to the collective bargaining agreements. Therefore, unless there is a jurisdictional dispute between the crafts, the duties ascribed to any job classification will be the same as those outlined in the appropriate collective bargaining agreements. If the collective bargaining agreements are silent on this issue, the local unions involved must be consulted.

Conversely, in areas where open shop (non-union) rates are determined to prevail for the classifications in question, those prevailing job practices followed on projects by open shop contractors in the same area become area practice.

G. Helpers **The classification of Helper in any trade will be very difficult to have approved by the USDOL.** If the contractor wants to pursue a helper classification through the USDOL, they should contact the Labor Standards Specialist at Commerce.

H. Relatives There are no exceptions made in the enforcement of Davis-Bacon on the basis of family relationship for relatives who are performing the work of laborers or mechanics. They **must be paid the prevailing wage rate for the classification of work performed and be included on the certified payrolls.**

I. Volunteers HUD allows for the waiver of Davis-Bacon wage rates for volunteers that are **not otherwise employed** at any time of the work for which the individual volunteers. Contact Commerce's Labor Standards Specialist for more details if your community plans on using volunteers on the construction site.

J. Job Corps Workers USDOL staff in Washington, DC have informed HUD staff that Job Corps workers are not exempt from Davis-Bacon wage when they are working on a job subject to the Davis-Bacon Act.

K. Employees of a Governmental Body The USDOL has taken the position that the prevailing wage requirements does not apply to employees of a state or political subdivision of a state, but shall apply to employees of a private contractor who is subcontractor of the state or political subdivision. This rule does not apply to the Public Housing Authority (PHA) employees under the U.S. Housing Act of 1937 (see paragraph A. in this section). **Employees of utilities are exempt providing they are only extending existing service to the property.**

L. Employees Performing Work in More than One Classification A person employed as a laborer or mechanic employed on a contract subject to Davis-Bacon and performing work in more than one classification may be paid not less than the predetermined rate for the actual hours spent in each classification, and provided that the time records are kept in accordance with the actual hours spend in each classification. Employees must sign the payroll showing work in more than one classification for the work week. **Work, which is normally performed as part of the mechanic's craft, is not separable.**

M. Laborers and Mechanics - Definition The terms "laborers" and "mechanics" are construed to include at least those workers whose duties are manual or physical in nature as distinguished from mental or managerial. Since the classifications of laborers and mechanics to who specified wage rates are payable are identified in the Davis-Bacon wage rate, there is ordinarily no need to distinguish between laborers and mechanics. However, **mechanics are generally considered to include any worker who uses tools, or who is performing the work of a trade.**

N. Precutting of Parts and Prefabrication of Assemblies The precutting of parts and/or the prefabrication of assemblies are not covered unless conducted in connection with and at the site of the project, or in a temporary plant set up elsewhere solely to supply the needs of the project.

O. Supply and Installation Contracts The manufacturing or furnishing of materials, articles, supplies, or equipment is not subject to prevailing wages unless conducted in connection with and at the site of the project, or in a temporary plant set up elsewhere solely to meet the needs of the project.

P. Start of Construction "Start of Construction," as that term is used in connection with labor standards and prevailing wage requirements, means the beginning of initial site clearance and preparation, provided those activities are pursued diligently and are followed without appreciable delay by other construction activity.

Q. Site of Work The "site of work" is limited to the physical place or places where the construction called for in the contract will remain when work on it has been completed and to other adjacent or nearby property used by the contractor in such construction which can reasonably be said to be included in the "site" because of proximity. **Operations of a commercial or material supplier established in the proximity of but not on the active site of work prior to the opening of bids are not covered by the Act even if dedicated exclusively to the federal project for a time.**

R. Fringe Benefits – Funded Plans A contractor may credit contributions for "bona fide" fringe benefits regardless of whether the USDOL has found the particular benefits to be prevailing in the area. Such fringe benefits must be "bona fide." Ordinarily, bona fide benefits are those common to the construction industry and are paid directly to the employee in cash or into a fund, plan, or program on the employee's behalf. Contractors may take credit for contributions made under such conventional plans without requesting approval of the USDOL.

S. Fringe Benefits – Unfunded Plans Where fringe benefit plans are not of the conventional type, it will be necessary for the USDOL to determine if the benefits are "bona fide." **Contractors seeking approval of unfounded plans must obtain approval from the USDOL.** Contract the Commerce Labor Standards Specialist for more details.

T. Fringe Benefits – General

1. Contributions to funded plans must be made at least quarterly.

2. When the cash paid and the per-hour contribution for benefits do not equal the total rate set forth in the wage decision, the difference must be paid to the employee in cash.

3. Fringe benefits must be paid for straight time and overtime; however, fringe benefits are not included when computing the overtime rate.

4. Employees who are excluded from funded plans for whatever reason must be paid fringe benefits in cash.

5. **Note:** Vacation and sick leave plans are generally unfunded, paid from the contractor's own account, and require USDOL approval before a contractor takes credit toward meeting the fringe benefit obligation.

6. In determining the cash equivalent credit for fringe benefits payments, the period of time to be used is the period covered by the contribution. For example, if an employer contributes to a plan on a weekly basis, the total hours worked each week (federal and nonfederal) by each employee should be divided into the contribution made by the employer.

7. Acceptable fringe benefits include the following: medical or hospital care; pensions on retirement or death; compensation for injuries or illness resulting from occupational activity; or insurance to provide any of the foregoing, unemployment benefits, life insurance, disability and sickness insurance, accident insurance, vacation and holiday pay, defrayment of cost of apprenticeship or other similar programs, or other bona fide fringe benefits; but only where the contractor to subcontractor is not required by other Federal, State, or local law to provide any of such benefits. The Act excludes fringe benefits that a contractor or subcontractor is obligated to provide under other Federal, State, or local law. No credit may be taken for such benefits. For example, payment for workmen's compensation insurance under either a compulsory or elective State statute are not considered payments for fringe benefits under the Act. Payments made for travel, subsistence, or to industry promotion funds are not normally payments for fringe benefits under the Act.

No type of fringe benefits is eligible for consideration as a so-called unfunded plan unless:

a. It could be reasonably anticipated to provide benefits described in the act;
b. It represents a commitment that can be legally enforced;
c. It is carried out under a financially responsible plan or program; and
d. The plan or program providing the benefits has been communicated in writing to the laborers and mechanics affected.

U. Summer Youth Employment Youth who are bona fide students and part of a bona fide "youth opportunity program" may be employed on Davis-Bacon projects on a temporary basis during the summer months and paid below the predetermined Davis-Bacon rates. USDOL All Agency Memoranda #71 and #96 provide policy guidance in this area. HUD requires that the following stipulations be met before summer youth may be employed at less than Davis-Bacon rates:

1. Where collective bargaining agreements representing workers performing similar or related activities at the worksite to which youth are out stationed exists, the union or unions representing those workers must provide concurrence as to the design of the employment project and the use of the youth;

2. Such employment must be provided in accord with statutory safety and minimum wage requirements (both state and federal);

3. Competent supervision must be provided to all youth employment on the project worksites. Ratios of youth to such supervisors should be no greater than four-to-one.

In order to ensure that the administration of summer youth employment complies with USDOL policies and regulations, request for exceptions to the application of Davis-Bacon must be made to the HUD Field Office Labor Relations Staff will advise the requesting contractor of its decision. The specific provisions of the agreement (between management and labor) or the plan of employment must be submitted to the Department of Labor, Wage and Hour and Public Contracts Division, for enforcement purposes. The HUD Field Office Labor Relations Staff will send such plans to the Headquarters Office of Labor Relations.

V. Non-Covered Job Classifications Workers performing the normal duties of the following job classifications are not subject to Davis-Bacon prevailing wage requirements:

1. Project Superintendent.

2. Project Engineer.

3. Project Foreman, as distinguished from a working foreman (working foremen, who devote more than 20 percent of their time during the workweek to mechanic or laborer duties, are laborers and mechanics for the time spent and must be paid the applicable rate for the hours so worked).

4. Watchman.

5. Water Carrier.

6. Messenger, Clerical Workers.

W. Financing of Construction Work – CDBG Laborers and mechanics employed by contractors and subcontractors on construction work financed in whole or in part with Title I assistance are subject to Davis-Bacon wage rates under Section 110 of Title I. To the extent that Part 570 requires broader Davis-Bacon coverage, e.g., on construction work "assisted" under that Part, the regulations shall govern unless an individual waiver is requested and granted by the Assistant Secretary for Community Planning and Development. The use of Title I funds for any of the following items is an example of financing construction work, and Davis-Bacon wage rates shall apply to all construction work performed on the building or property in question: construction loans

or grants; payment for construction materials; payment of interest (or part of the interest) on a construction loan; payment of construction loan origination fees; provisions of a Title I funded permanent loan, mortgage or grant on a structure constructed with a private construction loan when the parties contemplate such ultimate Title I financing at the time of construction; Title I funded "collateral" or "default" accounts established with the lending bank which receive no interest or less than the interest payable on demand accounts. Questions as to whether a use of Title I funds constitutes financing of construction work shall be referred to HUD headquarters for determination.

X. Technical/Maintenance Wage Rates – Public Housing Section 12 of the U.S. Housing Act of 1937 requires that wages prevailing in the locality shall be paid to all architects, technical engineers, draftsmen, and technicians employed in the development, and all maintenance laborers and mechanics employed in the operation of the project. Such wages are determined or adopted by HUD.

Y. Payment of Low- and Moderate-Income (LMI) assessments In some projects federal funds are used to pay special assessments of LMI households, where those assessments are for the purpose of paying for a public improvement. This use of federal funds invokes the Federal Labor Standards Provisions and makes the construction subject to Davis-Bacon wage rates.

Z. Piecework roofers and dry-wall hangers are sometimes paid by piecework. Piecework is work paid for at a fixed rate (piece rate) per piece of work done.

# ATTACHMENT 6-I: FEDERAL LABOR STANDARDS PROVISIONS (4010)

**Federal Labor Standards Provisions**

U.S. Department of Housing and Urban Development

_____

Applicability

The project or Program to which the construction work covered by this contract pertains is being assisted by the United States of America and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provision applicable to such Federal assistance.

**A. 1. (I) Minimum Wages.** All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (19 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at the time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or cost reasonable anticipated for bona fide fringe benefits under Section 1(b)(2), of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers and mechanics, subject to the provisions of 29 CFR-5.5(a)(1)(IV); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification for work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5 (a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, that the employer's payroll records accurately set forth the time spent in each classification in which work Is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR Part 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1 321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii)(a) Any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(b) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate),a report of the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB control number 1215-0140.)

(c) In the event the contractor, the laborers and mechanics to be employed in the classification or their representatives, and HUD or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of interested parties and the recommendation of HUD or its designee, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Officer of Management & Budget under OMB Control # 1215-0140.)

(d) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(b) or (c) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any cost reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

**2. Withholding.** HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is

held by the same prime contractor so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee or helper, employed or working on the site of the work (or under United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, HUD or its designee may, after written notice to the contractor, sponsor, applicant, or owner, take such actions as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased. HUD or its designee may, after written notice to the contractor, disburse such amounts withheld for an on account of the contractor or subcontractor to the respective employees to whom they are due. The Comptroller General shall make such disbursements in the case of direct Davis-Bacon Act Contracts.

**3. Payrolls and basic records.** Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work preserved for a period of four (4) years thereafter for all laborers and mechanics working at the site of the work (or under the United State Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name and address, and social security number of each such worker, his or her correct classification, hourly rates of wage paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in Section 1 (b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5 (a)(1)(iv) that the wages of any laborer or mechanic include the a mount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis-Bacon Act, the contract shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs. (Approved by the Office of Management and Budget under OMB Control Numbers 1215-0140 and 1215-0017.)

(ii) (a) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to HUD or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR Part 5.5 (a)(3)(I). This information may be submitted in any form desired. Optional From WH-347 is available for this purpose and may be purchased from the Superintendent of Document (Federal Stock Number 029-005-00014-1), U.S. Government Printing Office, Washington, DC. 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. (Approved by the Office of Management and Budget under OMB Control Number 1215-0149.)

(b) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by contractor or subcontractor or his/her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be maintained under 29 CFR Part 5.5 (a)(3)(I) and that such information is correct and complete:

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wage earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set in 29 CFR Part 3:

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in applicable wage determination incorporated into the contract.

(c) The weekly submission of a property executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph A. 3. (ii)(b) of this section.

(d) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of United State Code.

(iii) The contractor or subcontractor shall make the records required under paragraph A. 3. (I) of this section available for inspection, copying, or transcription by the authorized representatives of HUD or its designee or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, HUD or its designee may, after written notice to the contractor, sponsor, applicant or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR Part 5.12.

**4 (i) Apprentices and Trainees. Apprentices**. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ration of apprentices of journeymen on the job site in any craft classification shall not be greater than the ration permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeymen's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship

program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

**(ii) Trainees.** Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate that is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In addition, any trainee performing work on the job site in excess of the ration permitted under the registered program shall be paid not less than they applicable wage rate on the wage determination for work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

**(iii) Equal employment opportunity.** The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

**5. Compliance with Copeland Act requirement.** The contractor shall comply with the requirements of 29 CFR Part 3 which are incorporated by reference in this contract.

**6. Subcontracts.** The contractor or subcontractor will insert in any subcontracts the clauses contained in 29 CFR 5.5 (a)(1) through (10) and such other clauses as HUD or its designee may be appropriate instructions require, and also a clause requiring the subcontracts to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.12.

**7. Contract termination; debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

**8. Compliance with Davis-Bacon and Related Act Requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

**9. Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (of any of its subcontractors) and HUS or its designee, between the U.S. Department of Labor, or the employees or their representatives.

**10. (i) Certification of Eligibility.** By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

**(ii)** No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12 (a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

**(iii)** The penalty for making false statements is prescribed in the U.S. Criminal Code 18 U.S.C. 1001. Additionally, U.S. Criminal Code, Section 1010, Title 18, U.S.C. "Federal Housing Administration Transactions", provides in part: "Whoever, for the purpose of…influencing in any way the action of such Administration…makes, utters or publishes any statement, knowing the same to be false…shall be fined not more than $5,000 or imprisoned not more than two years, or both."

**11. Complaints, Proceedings, or Testimony by Employees.** No laborer or mechanic to whom the wage, salary, or other labor standards provisions of this Contract are applicable shall be discharges or in any other manner discriminated against by the Contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable under this Contract to his employer.

**B. Contract Work Hours and Safety Standards Act.** As used in this paragraph, the terms "Laborers" and "Mechanics" include watchmen and guards.

**(1) Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rates of pay for all hours worked in excess of forty hours in such work week.

**(2) Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in subparagraph (1) of this paragraph, the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchman and guards, employed in violation of the clause set forth in subparagraph (1) of this paragraph, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard work week of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this paragraph.

**(3) Withholding for unpaid wages and liquidated damages.** HUD or its designee shall upon its own action or written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contract, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (2) of this paragraph.

**(4) Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraph (1) through (4) of this paragraph and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in subparagraphs (1) through (4) of this paragraph.

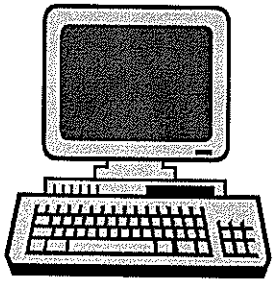
**C. Health and Safety.**

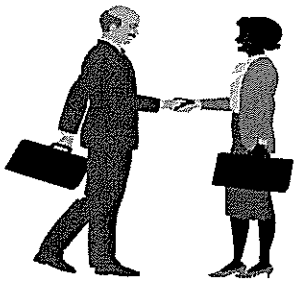
(1) **No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.**

(2) **The Contractor shall comply with all regulations issued by the Secretary of Labor pursuant to Title 29 Part 1926 (formerly part 1518) and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act (Public Law 91-54, 83 Stat. 96).**

**(3)** The Contract shall include the provisions of this Article in every subcontract so that such provisions will be binding on each subcontractor. The Contractor shall take such action with respect to any subcontract as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.

## ATTACHMENT 6-T: WEBSITE ADDRESSES





# TAKE A LOOK AT THESE WEBSITE ADDRESSES!!!

***Department of Commerce Certified Minority Owned Business Firms:***

***http://www.doa.state.wi.us/deo.mbe/minority_search.asp***

***City of Madison Targeted Business Enterprise Program:***

***http://www.ci.madison.wi.us/affact/pubtoc.html***
***City of Madison Affirmative Action Department***

Contact Darlene Moss at (608) 266-7998; Fax: (608) 266-8934
Email Address: darlene.moss@wisconsin.gov

**ATTACHMENT 5-A: EQUAL OPPORTUNITY CLAUSE (EO 11246)**
(FOR CONTRACTORS)

During the performance of this contract, the contractor agrees as follows:

1. The contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed and that employees are treated, without regard to their race, color, religion, sex, or national origin. Such action 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 agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

2. The contractor shall, in all solicitations or advertisement for employees placed by or on behold of the contractor, state that all qualified applicants will receive consideration without regard to race, color, religion, sex, or national origin.

3. The contractor shall send to each labor union or representative of workers with which he/she has a collective bargaining agreement or other contract or understanding, a notice to be provided by the Contract Compliance Officer advising the said labor union or workers' representatives of the contractor's commitment under this section, and shall post copies of the notice in conspicuous place available to employees and applicants for employment.

4. The contractor shall comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations and relevant orders of the Secretary of Labor.

5. The contractor shall furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the Department of Commerce and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and others.

6. In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, the contract may be canceled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965 or by rule, regulation or order of the Secretary of Labor, or as otherwise provided by law.

7. The contractor shall include the provisions of paragraphs 1 through 7 in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as Commerce may direct as a means of enforcing such provisions, including sanctions for noncompliance. Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a

result of such direction by Commerce, the contractor may request the United States to enter into such litigation to protect the interest of the United States.

8. The grantee further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work. Provided that if the grantee participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality, or subdivision of such government which does not participate in work on or under the contract.

9. The grantee agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor; that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance; and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance.

10. The grantee further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for Government contracts and federally assisted construction contracts pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the grantee agrees that if it fails or refuses to take any or all of the following actions: cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurances of future compliance has been received from such applicant, and refer the case to the Department of Justice for appropriate legal proceedings.

## ATTACHMENT 5-B: SECTION 3 CONTRACT LANGUAGE REQUIREMENTS

(Applicable to all contracts exceeding $100,000 where the CDBG contract exceeds $200,000)

**Include** the following language **in all contracts and subcontracts:**

1. Section 3 of the Housing and Urban Development Act of 1968. The work to be performed under this contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (Section 3). The purpose of Section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by Section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

2. The parties to this contract agree to comply with HUD's regulations in 24 CFR part 135, which implement Section 3. As evidence by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 135 regulation.

3. The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this Section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the Section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship, and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.

4. The contractor agrees to include this Section 3 clause in every subcontract subject to compliance with regulations in 24 CFR part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this Section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR part 135.

5. The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR part 135.

6. Non-compliance with HUD's regulations in 24 CFR part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.

7. With respect to work performed in connection with Section 3 covered Indian housing assistance, Section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible: (i) preference and opportunities for training and employment shall be given to Indians; and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-Owned Economic Enterprises. Parties to this contract that are subject to the provisions of Section 3 and Section 7(b) agree to comply with Section 3 to maximum extent feasible, but not in derogation of compliance with section 7(b).

## ATTACHMENT 5-C: AFFIRMATIVE ACTION REQUIREMENTS (EO 11246)

(Applicable to construction contracts/subcontracts exceeding $10,000)

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.

2. The goals and timetables for minority and female participation, expressed in percentage terms for the contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

   Goals for Women = **6.9 percent** (this goal applies nationwide)

   Goals for minority participation = _1.7 percent (this goal applies county-wide)
   **(Insert goals** – see next page**)**

   These goals are applicable to all the contractor's construction work (whether or not it is federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographic are located outside of the covered area, it shall apply the goals established for such geographic area where the work is actually performed. The contractor is also subject to the goals for both its federal and nonfederal construction.

3. The contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3 (a), and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from contractor to contractor or from project to project for the sole purpose of meeting the contractor's goals shall be a violation of the contract, the Executive Order, and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

4. The contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed.

   As used in this notice, and in the contract resulting from this solicitation, the "covered area" is a description of the geographical areas where the contract is to be performed indicating the state, county and city, if any.

## ATTACHMENT 5-D: GOALS FOR WOMEN AND MINORITY UTILIZATION IN CONSTRUCTION

These goals apply to all federally assisted construction contract and subcontracts in excess of $10,000 (EO 11246). All hours of work (federal and nonfederal) in each trade, regardless of the location of work, are subject to these goals.

Directions: Use the applicable county percentage below to fill in the "Goals for minority participation" in *Attachment 5-C: Affirmative Action Requirements (E.O. 11246).*

A. Goals for Women--6.9 percent (this goal applies nationwide).

B. Minority Goals--percentage listed for each county:

| | | | | | |
|---|---|---|---|---|---|
| Adams | 1.7 | Iowa | 1.7 | Polk | 2.2 |
| Ashland | 1.2 | Iron | 1.2 | Portage | .6 |
| Barron | .6 | Jackson | .6 | Price | .6 |
| Bayfield | 1.2 | Jefferson | 7.0 | Racine | 8.4 |
| Brown | 1.3 | Juneau | .6 | Richland | 1.7 |
| Buffalo | .6 | Kenosha | 3.0 | Rock | 3.1 |
| Burnett | 2.2 | Kewaunee | 1.0 | Rusk | .6 |
| Calumet | .9 | La Crosse | .8 | St. Croix | 2.9 |
| Chippewa | .5 | Lafayette | .5 | Sauk | 1.7 |
| Clark | .6 | Langlade | .6 | Sawyer | .6 |
| Columbia | 1.7 | Lincoln | .6 | Shawano | 1.0 |
| Crawford | .5 | Manitowoc | 1.0 | Sheboygan | 7.0 |
| Dane | 2.2 | Marathon | .6 | Taylor | .6 |
| Dodge | 7.0 | Marinette | 1.0 | Trempealeau | .6 |
| Door | 1.0 | Marquette | 1.7 | Vernon | .6 |
| Douglas | 1.0 | Menomonie | 1.0 | Vilas | .6 |
| Dunn | .6 | Milwaukee | 8.0 | Walworth | 7.0 |
| Eau Claire | .5 | Monroe | .6 | Washburn | .6 |
| Florence | 1.0 | Oconto | 1.0 | Washington | 8.0 |
| Fond du Lac | 1.0 | Oneida | .6 | Waukesha | 8.0 |
| Forest | 1.0 | Outagamie | .9 | Waupaca | 1.0 |
| Grant | .5 | Ozaukee | 8.0 | Waushara | 1.0 |
| Green | 1.7 | Pepin | .6 | Winnebago | .9 |
| Green Lake | 1.0 | Pierce | 2.2 | Wood | .6 |

**ATTACHMENT 5-E: FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CLAUSES CONSTRUCTION CONTRACT SPECIFICATIONS (EO 11246)**

(Applicable to construction contracts/subcontracts exceeding $10,000)

1. As used in these specifications: (41 CFR 60-4.3)

   a. "Covered area" means the geographical area described in the solicitation from which this contract resulted.

   b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority.

   c. "Employer Identification Number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.

   d. "Minority" includes:

      i. Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);

      ii. Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish Culture or origin, regardless of race);

      iii. Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands);

      iv. American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 the provisions of these specifications and the notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each contractor or subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved Plan does not excuse any covered contractor's or subcontractor's failure to take good faith effort to achieve the Plan goals and timetables.

4. The contractor shall implement the specific affirmative action standards provided in paragraphs 7(a) through (p) of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the contractor should reasonable be able to achieve in each construction trade in which it has employees in the covered areas. Covered construction contractors performing contracts in geographical areas where they do not have a federal or federally assisted construction contract shall apply the minority and female goals established for the geographic area where the contract is being performed. Goals are published periodically in

the Federal Register in notice form and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from federal procurement contracting officers. The contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the contractor has a collective bargaining agreement to refer either minorities or women, shall excuse the contractor's obligations under these specifications, Executive Order 11246, nor the regulations promulgated pursuant thereto.

6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the contractor during the training period, and the contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

   a. Ensure and maintain a working environment, free of harassment, intimidation, and coercion at all sites, and in all facilities where the contractor's employees are assigned to work. The contractor, where possible, will assign two or more women to each construction project. The contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the contractor's obligation to maintain such a working environment, with specific attention to minority and female individuals working at such sites or in such facilities.

   b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

   c. Maintain a current file of the names, addresses, and telephone numbers of each minority and female applicant and minority or female referral from a union, a recruitment source or community organization and what, if any, action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the contractor by the union, or if referred, not employed by the contractor, this shall be documented in the file with the reason along with whatever additional actions the contractor may have taken.

   d. Provide immediate written notification to the Director when the union contractor has a collective bargaining agreement which has/has not referred a minority person or woman, or when the contractor has other information that the union referral process has impeded the contractor's efforts to meet its obligations.

   e. Develop training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the contractor's employment needs, especially those programs funded or approved by the Department of Labor. The contractor shall provide notice of these programs to the sources compiled under 7(b) above.

f. Disseminate the contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification and discussing the contractor's EEO policy with other contractors and subcontractors with whom the contractor does, or anticipates, doing business.

i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students, and to minority and female recruitment and training organizations serving the contractor's recruitment area and employment needs. Not later than one month prior to the date of the acceptance of applications for apprenticeship of other training by any recruitment source, the contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer, and vacation employment to minority and female youth both on the site and in other areas of a contractor's work force.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments, and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontractors from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations that assist in fulfilling one or more of their affirmative action obligations (7 a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7.a. through p. of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the contractor's minority and female work force participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documents that demonstrate the effectiveness of actions taken on behalf of the contractor. The obligations shall not be a defense for the contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women must be established. The contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the contractor has achieved its goal for women generally, the contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

10. The contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

11. The contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Officer of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specification and Executive Order 11246, as amended.

13. The contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7. If the contractor fails to comply with the requirements of the Executive

Order, the implementing regulations or these specifications, the Director shall proceed in accordance with 41 CFR60-4.8.

14. The contractor shall designate a responsible official to monitor all employment-related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation, if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice trainee, helper or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws that establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

## ATTACHMENT 20: LOBBYING CERTIFICATION FOR CONTRACTS, GRANTS, LOANS, & COOPERATIVE AGREEMENTS

If you are using Force Account for your project, your payroll clerk or Davis-Bacon contact must complete and sign the following affidavit. Keep one copy for your files and mail the original to your project representative at Commerce.

I hereby certify that the _____ is using Force Account
(City/village/Town)

labor for _____
(Description of work)

on the _____, _____
(Project Name) (Contract Number)

No overtime payments will be made to Force Accounts out of CDBG funds.

Separate work hours must be kept and logged when working on CDBG work and nonregular municipality work.

All payrolls and records of payments must be kept in the Labor Standards Files under General Labor Standards.

Failure to submit this form prior to a draw request will force the regular Davis-Bacon Wage Rate that applies to the contract.

_____, _____
(Signature of Payroll Clerk or Davis Bacon Contact) (Title)

_____ _____
(Phone Number) (Date)

**FEBRUARY 1999**

## LIST OF SUBCONTRACTORS

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

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

| Name of Subcontractor | Class of Work | Estimated Value |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

# Disclaimer

Effective May 1, 2007 employers performing work on public works construction projects in Wisconsin for municipal government and state building projects will be required to have a written substance abuse testing program in place. The provisions of this requirement are contained in Act 181. The Department of Workforce Development is not responsible for enforcement of this law or authorized to answer questions concerning the provisions of Act 181. For legal advice on complying with Act 181 you may wish to consult with a private attorney.

**2005 Assembly Bill 736**

Date of enactment: **March 22, 2006**
Date of publication*: **April 5, 2006**

# 2005 WISCONSIN ACT 181

AN ACT *to create* 103.503 of the statutes; **relating to:** substance abuse by employees who are required to be paid the prevailing wage rate for work performed on projects of public works, other than state highway projects.

***The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:***

SECTION **1.** 103.503 of the statutes is created to read:

**103.503 Substance abuse prevention on public works projects. (1)** DEFINITIONS. In this section:

(a) "Accident" means an incident caused, contributed to, or otherwise involving an employee that resulted or could have resulted in death, personal injury, or property damage and that occurred while the employee was performing the work described in s. 66.0903 (4) or 103.49 (2m) on a project.

(b) "Alcohol" has the meaning given in s. 340.01 (1q).

(c) "Contracting agency" means a local governmental unit, as defined in s. 66.0903 (1) (d), or a state agency, as defined in s. 103.49 (1) (f), that has contracted for the performance of work on a project.

(d) "Drug" means any controlled substance, as defined in s. 961.01 (4), or controlled substance analog, as defined in s. 961.01 (4m), for which testing is required by an employer under its substance abuse prevention program under this section.

(e) "Employee" means a laborer, worker, mechanic, or truck driver who performs the work described in s. 66.0903 (4) or 103.49 (2m) on a project.

(f) "Employer" means a contractor, subcontractor, or agent of a contractor or subcontractor that performs work on a project.

(g) "Project" mean a project of public works that is subject to s. 66.0903 or 103.49.

**(2)** SUBSTANCE ABUSE PROHIBITED. No employee may use, possess, attempt to possess, distribute, deliver, or be under the influence of a drug, or use or be under the influence of alcohol, while performing the work described in s. 66.0903 (4) or 103.49 (2m) on a project. An employee is considered to be under the influence of alcohol for purposes of this subsection if he or she has an alcohol concentration that is equal to or greater than the amount specified in s. 885.235 (1g) (d).

**(3)** SUBSTANCE ABUSE PREVENTION PROGRAMS REQUIRED. (a) Before an employer may commence work on a project, the employer shall have in place a written program for the prevention of substance abuse among its employees. At a minimum, the program shall include all of the following:

1. A prohibition against the actions or conditions specified in sub. (2).

2. A requirement that employees performing the work described in s. 66.0903 (4) or 103.49 (2m) on a project submit to random, reasonable suspicion, and post–accident drug and alcohol testing and to drug and alcohol

* Section 991.11, WISCONSIN STATUTES 2003–04 : Effective date of acts. "Every act and every portion of an act enacted by the legislature over the governor's partial veto which does not expressly prescribe the time when it takes effect shall take effect on the day after its date of publication as designated" by the secretary of state [the date of publication may not be more than 10 working days after the date of enactment].

testing before commencing work on a project, except that testing of an employee before commencing work on a project is not required if the employee has been participating in a random testing program during the 90 days preceding the date on which the employee commenced work on the project.

3. A procedure for notifying an employee who violates sub. (2), who tests positive for the presence of a drug in his or her system, or who refuses to submit to drug or alcohol testing as required under the program that the employee may not perform work on a project until he or she meets the conditions specified in sub. (4) (b) 1. and 2.

(b) Each employer shall be responsible for the cost of developing, implementing, and enforcing its substance abuse prevention program, including the cost of drug and alcohol testing of its employees under the program. The contracting agency is not responsible for that cost, for the cost of any medical review of a test result, or for any rehabilitation provided to an employee.

(4) EMPLOYEE ACCESS TO PROJECT. (a) No employer may permit an employee who violates sub. (2), who tests positive for the presence of a drug in his or her system, or who refuses to submit to drug or alcohol testing as required under the employer's substance abuse prevention program under sub. (3) to perform work on a project until he or she meets the conditions specified in par. (b) 1. and 2. An employer shall immediately remove an employee from work on a project if any of the following occurs:

1. The employee violates sub. (2), tests positive for the presence of a drug in his or her system, or refuses to submit to drug or alcohol testing as required under the employer's substance abuse prevention program.

2. An officer or employee of the contracting agency has a reasonable suspicion that the employee is in violation of sub. (2) and requests the employer to immediately remove the employee from work on the project.

(b) An employee who is barred or removed from work on a project under par. (a) may commence or return to work on the project upon his or her employer providing to the contracting agency documentation showing all of the following:

1. That the employee has tested negative for the presence of drugs in his or her system and is not under the influence of alcohol as described in sub. (2).

2. That the employee has been approved to commence or return to work on the project in accordance with the employer's substance abuse prevention program.

(c) Testing for the presence of drugs or alcohol in an employee's system and the handling of test specimens shall be conducted in accordance with guidelines for laboratory testing procedures and chain–of–custody procedures established by the substance abuse and mental health services administration of the federal department of health and human services.

(5) LOCAL ORDINANCES; STRICT CONFORMITY REQUIRED. A local governmental unit, as defined in s. 66.0903 (1) (d), may enact an ordinance regulating the conduct regulated under this section only if the ordinance strictly conforms to this section.

**SECTION 2. Initial applicability.**

(1) This act first applies to a contract to perform work on a project, as defined in section 103.503 (1) (g) of the statutes, as created by this act, for which bids are opened on the effective date of this subsection or, if bids are not solicited for the contract, to a contract to perform such work entered into on the effective date of this subsection, except that this This act first applies to an employee who is affected by a collective bargaining agreement that contains provisions inconsistent with this act on the day on which the collective bargaining agreement expires or is extended, modified, or renewed, whichever occurs first.

**SECTION 3. Effective date.**

(1) This act takes effect on the first day of the 13th month beginning after publication.

**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.

**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.

**ATTACHMENT 10: NOTICE OF CONTRACTOR AWARD**

DATE: TO: Commerce Labor Standards Specialist

FROM: __Mo Hansen_____, City of Waterloo
*(Community Labor Standards Officer)* *(Name of Community)*

SUBJECT: Award of Contract

COMMERCE CONTRACT #: ___CDBG EAP #08-63_____

CONTRACT LINE ITEM(S): __See Attached Bid Form_____

_____

This is to inform you bids for the above project were advertised on

_____
*(Date)*

and opened on _____. (D*ate)*
_____ was
*(Name of Prime Contractor)*

awarded the contract on _____.
*(Date)*

The Determination Number, including Modification
Number, of the applicable wage decision is _____.
*(Number & Mod. Number)*

The estimated start date of
construction is _____.

Below is a list of tentative subcontractors:

| Subcontractor(s) | IRS Employer I.D. Number |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

# NOTICE TO PROCEED

TO: Date: _____

Project: **South Monroe Street**
**Floodplain Improvements**
**CDBG-EAP #08-63**

You are hereby notified to commence work in accordance with the Agreement dated _____, on or before _____, 2012, and you are to complete the work within 90 consecutive calendar days thereafter. The date of completion of all work is therefore _____, 2012.

Marcus A Fink, P.E.
Project Engineer
SAA Design Group
Madison, Wisconsin

ACCEPTANCE OF NOTICE

Receipt of the above Notice to Proceed is hereby acknowledged by
_____.

this ____ day of _____, 2012.

By:_____

Title: _____

# CONTRACT CHANGE ORDER FORM

CHANGE ORDER NO.: DATE:

PROJECT: South Monroe Street Floodplain Improvements

PROJECT NO.: CDBG-EAP #08-63

OWNER: City of Waterloo

CONTRACTOR:

DESCRIPTION OF WORK ADDED OR DEDUCTED:

REASON FOR CHANGE:

---

The original Contract sum was ..... $
Net change by previous Change Orders..... .00
Contract sum prior to this Change Order was..... $
Contract sum will be increased/decreased/unchanged by this Change Order .....
New Contract sum, including this Change Order, will be.....
Contract time will be increased/decreased/unchanged by _____ days.
Therefore, the date of completion as of this Change Order form is _____.

---

RECOMMENDED BY: SAA Design Group, Inc

By: _____
Date

ACCEPTED BY: Contractor

By: _____
Date

APPROVED BY: City of Waterloo

By: _____
Date

SETTLEMENT CERTIFICATION FORM
SOUTH MONROE STREET FLOODPLAIN IMPROVEMENTS
CDBG-EAP #08-63
WATERLOO, WISCONSIN

Submit with Final Payment Request

SAA Design Group, Inc.
717 John Nolen Drive
Madison, Wisconsin 53713

Attention: John A. Lichtenheld, P.E., Project Engineer

Reference: South Monroe Street Floodplain Improvments

City of Waterloo, Wisconsin

CERTIFICATION

The undersigned hereby certifies that all debts and claims against the referenced contract for this project have either been paid in full or have otherwise been satisfied. The acceptance of final payment for the referenced contract by the undersigned shall constitute a waiver of all claims by this CONTRACTOR.

_____
Signature

Title: _____

_____
*CONTRACTOR*

Subscribed to and sworn before me this
_____ day of _____, 2012

_____
Notary Public

My commission expires _____

***

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the Controlling Law.

# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

**ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE**

and

Issued and Published Jointly By

[INSERT LOGOS]

PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE
*a practice division of the*
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

---

AMERICAN CONSULTING ENGINEERS COUNCIL

---

AMERICAN SOCIETY OF CIVIL ENGINEERS

This document has been approved and endorsed by

The Associated General [seal] Contractors of America

Construction Specifications Institute

[seal]

These General Conditions have been prepared for use with the Owner-Contractor Agreements (No. 1910-8-A-1 or 1910-8-A-2) (1996 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other. Comments concerning their usage are contained in the EJCDC User's Guide (No. 1910-50). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (No. 1910-17) (1996 Edition).

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American Consulting Engineers Council
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American Society of Civil Engineers
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# GENERAL CONDITIONS

## ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms1.01 Defined Terms*

A. Wherever used in the Contract Documents and printed with initial or all capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof.

1. *Addenda*--Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the Contract Documents.

2. *Agreement*--The written instrument which is evidence of the agreement between OWNER and CONTRACTOR covering the Work.

3. *Application for Payment*--The form acceptable to ENGINEER which is to be used by CONTRACTOR during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Asbestos*--Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. *Bid*--The offer or proposal of a bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. *Bidding Documents*--The Bidding Requirements and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

7. *Bidding Requirements*--The Advertisement or Invitation to Bid, Instructions to Bidders, Bid security form, if any, and the Bid form with any supplements.

8. *Bonds*--Performance and payment bonds and other instruments of security.

9. *Change Order*--A document recommended by ENGINEER which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

10. *Claim*--A demand or assertion by OWNER or CONTRACTOR seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*--The entire and integrated written agreement between the OWNER and CONTRACTOR concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*--The Contract Documents establish the rights and obligations of the parties and include the Agreement, Addenda (which pertain to the Contract Documents), CONTRACTOR's Bid (including documentation accompanying the Bid and any post Bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Notice to Proceed, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, together with all Written Amendments, Change Orders, Work Change Directives, Field Orders, and ENGINEER's written interpretations and clarifications issued on or after the Effective Date of the Agreement. Approved Shop Drawings and the reports and drawings of subsurface and physical conditions are not Contract Documents. Only printed or hard copies of the items listed in this paragraph are Contract Documents. Files in electronic media format of text, data, graphics, and the like that may be furnished by OWNER to CONTRACTOR are not Contract Documents.

13. *Contract Price*--The moneys payable by OWNER to CONTRACTOR for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of paragraph 11.03 in the case of Unit Price Work).

14. *Contract Times*--The number of days or the dates stated in the Agreement to: (i) achieve Substantial Completion; and (ii) complete the Work so that it is ready for final payment as evidenced by ENGINEER's written recommendation of final payment.

15. *CONTRACTOR*--The individual or entity with whom OWNER has entered into the Agreement.

16. *Cost of the Work*--See paragraph 11.01.A for definition.

17. *Drawings*--That part of the Contract Documents prepared or approved by ENGINEER which graphically shows the scope, extent, and character of the Work to be performed by CONTRACTOR. Shop Drawings and other CONTRACTOR submittals are not Drawings as so defined.

18. *Effective Date of the Agreement*--The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

19. *ENGINEER*--The individual or entity named as such in the Agreement.

20. *ENGINEER's Consultant*--An individual or entity having a contract with ENGINEER to furnish services as ENGINEER's independent professional associate or consultant with respect to the Project and who is identified as such in the Supplementary Conditions.

21. *Field Order*--A written order issued by ENGINEER which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

22. *General Requirements*--Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

23. *Hazardous Environmental Condition*--The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto in connection with the Work.

24. *Hazardous Waste*--The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

25. *Laws and Regulations; Laws or Regulations*--Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

26. *Liens*--Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

27. *Milestone*--A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

28. *Notice of Award*--The written notice by OWNER to the apparent successful bidder stating that upon timely compliance by the apparent successful bidder with the conditions precedent listed therein, OWNER will sign and deliver the Agreement.

29. *Notice to Proceed*--A written notice given by OWNER to CONTRACTOR fixing the date on which the Contract Times will commence to run and on which CONTRACTOR shall start to perform the Work under the Contract Documents.

30. *OWNER*--The individual, entity, public body, or authority with whom CONTRACTOR has entered into the Agreement and for whom the Work is to be performed.

31. *Partial Utilization*--Use by OWNER of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all the Work.

32. *PCBs*--Polychlorinated biphenyls.

33. *Petroleum*--Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

34. *Project*--The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part as may be indicated elsewhere in the Contract Documents.

35. *Project Manual*--The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

36. *Radioactive Material*--Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

37. *Resident Project Representative*--The authorized representative of ENGINEER who may be assigned to the Site or any part thereof.

38. *Samples*--Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

39. *Shop Drawings*--All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for CONTRACTOR and submitted by CONTRACTOR to illustrate some portion of the Work.

40. *Site*--Lands or areas indicated in the Contract Documents as being furnished by OWNER upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by OWNER which are designated for the use of CONTRACTOR.

41. *Specifications*--That part of the Contract Documents consisting of written technical descriptions of materials, equipment, systems, standards, and workmanship as applied to the Work and certain administrative details applicable thereto.

42. *Subcontractor*--An individual or entity having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the Site.

43. *Substantial Completion*--The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of ENGINEER, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

44. *Supplementary Conditions*--That part of the Contract Documents which amends or supplements these General Conditions.

45. *Supplier*--A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with CONTRACTOR or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by CONTRACTOR or any Subcontractor.

46. *Underground Facilities*--All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

47. *Unit Price Work*--Work to be paid for on the basis of unit prices.

48. *Work*--The entire completed construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

49. *Work Change Directive*--A written statement to CONTRACTOR issued on or after the Effective Date of the Agreement and signed by OWNER and recommended by ENGINEER ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

50. *Written Amendment*--A written statement modifying the Contract Documents, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the nonengineering or nontechnical rather than strictly construction-related aspects of the Contract Documents.

1.02 *Terminology1.02 Terminology*

A. *Intent of Certain Terms or Adjectives*

1. Whenever in the Contract Documents the terms "as allowed," "as approved," or terms of like effect or import are used, or the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of ENGINEER as to the Work, it is intended that such action or determination will be solely to evaluate, in general, the completed Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to ENGINEER

any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.10 or any other provision of the Contract Documents.

B. *Day*

1. The word "day" shall constitute a calendar day of 24 hours measured from midnight to the next midnight.

C. *Defective*

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it does not conform to the Contract Documents or does not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract Documents, or has been damaged prior to ENGINEER's recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER at Substantial Completion in accordance with paragraph 14.04 or 14.05).

D. *Furnish, Install, Perform, Provide*

1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of CONTRACTOR, "provide" is implied.

E. Unless stated otherwise in the Contract Documents, words or phrases which have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

## ARTICLE 2 - PRELIMINARY MATTERS

2.01 *Delivery of Bonds*2.01 Delivery of Bonds

A. When CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds as CONTRACTOR may be required to furnish.

2.02 *Copies of Documents2.02 Copies of Documents*

A. OWNER shall furnish to CONTRACTOR up to ten copies of the Contract Documents. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed2.03 Commencement of Contract Times; Notice to Proceed*

A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work2.04 Starting the Work*

A. CONTRACTOR shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction2.05 Before Starting Construction*

A. *CONTRACTOR's Review of Contract Documents:* Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error, ambiguity, or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or clarification from ENGINEER before proceeding with any Work affected thereby;

however, CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless CONTRACTOR knew or reasonably should have known thereof.

B. *Preliminary Schedules:* Within ten days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), CONTRACTOR shall submit to ENGINEER for its timely review:

1. a preliminary progress schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2. a preliminary schedule of Shop Drawing and Sample submittals which will list each required submittal and the times for submitting, reviewing, and processing such submittal; and

3. a preliminary schedule of values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

C. *Evidence of Insurance:* Before any Work at the Site is started, CONTRACTOR and OWNER shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which CONTRACTOR and OWNER respectively are required to purchase and maintain in accordance with Article 5.

2.06 *Preconstruction Conference2.06 Preconstruction Conference*

A. Within 20 days after the Contract Times start to run, but before any Work at the Site is started, a conference attended by CONTRACTOR, ENGINEER, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in paragraph 2.05.B, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

2.07 *Initial Acceptance of Schedules2.07Initial Acceptance of Schedules*

A. Unless otherwise provided in the Contract Documents, at least ten days before submission of the first Application for Payment a conference attended by CONTRACTOR, ENGINEER, and others as appropriate will be held to review for acceptability to ENGINEER as provided below the schedules submitted in accordance with paragraph 2.05.B. CONTRACTOR shall have an additional ten days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to CONTRACTOR until acceptable schedules are submitted to ENGINEER.

1. The progress schedule will be acceptable to ENGINEER if it provides an orderly progression of the Work to completion within any specified Milestones and the Contract Times. Such acceptance will not impose on ENGINEER responsibility for the progress schedule, for sequencing, scheduling, or progress of the Work nor interfere with or relieve CONTRACTOR from CONTRACTOR's full responsibility therefor.

2. CONTRACTOR's schedule of Shop Drawing and Sample submittals will be acceptable to ENGINEER if it provides a workable arrangement for reviewing and processing the required submittals.

3. CONTRACTOR's schedule of values will be acceptable to ENGINEER as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

## ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent3.01 Intent*

A. The Contract Documents are complementary; what is called for by one is as binding as if called for by all.

B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be

provided whether or not specifically called for at no additional cost to OWNER.

C. Clarifications and interpretations of the Contract Documents shall be issued by ENGINEER as provided in Article 9.

3.02 *Reference Standards 3.02 Reference Standards*

A. *Standards, Specifications, Codes, Laws, and Regulations*

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual or code, or any instruction of a Supplier shall be effective to change the duties or responsibilities of OWNER, CONTRACTOR, or ENGINEER, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents, nor shall any such provision or instruction be effective to assign to OWNER, ENGINEER, or any of ENGINEER's Consultants, agents, or employees any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies3.03 Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies*

1. If, during the performance of the Work, CONTRACTOR discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, CONTRACTOR shall report it to ENGINEER in writing at once. CONTRACTOR shall not proceed with the Work affected thereby (except in an emergency as required by paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in paragraph 3.04; provided, however, that CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any such conflict, error, ambiguity, or discrepancy unless CONTRACTOR knew or reasonably should have known thereof.

B. *Resolving Discrepancies*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

a. the provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents3.04 Amending and Supplementing Contract Documents*

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways: (i) a Written Amendment; (ii) a Change Order; or (iii) a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways: (i) a Field Order; (ii) ENGINEER's approval of a Shop Drawing or Sample; or (iii) ENGINEER's written interpretation or clarification.

3.05 *Reuse of Documents3.05 Reuse of Documents*

A. CONTRACTOR and any Subcontractor or Supplier or other individual or entity performing or furnishing any of the Work under a direct or indirect contract with OWNER: (i) shall not have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER or ENGINEER's Consultant, including electronic media

editions; and (ii) shall not reuse any of such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of OWNER and ENGINEER and specific written verification or adaption by ENGINEER. This prohibition will survive final payment, completion, and acceptance of the Work, or termination or completion of the Contract. Nothing herein shall preclude CONTRACTOR from retaining copies of the Contract Documents for record purposes.

## ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS

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4.01 *Availability of Lands4.01 Availability of Lands*

A. OWNER shall furnish the Site. OWNER shall notify CONTRACTOR of any encumbrances or restrictions not of general application but specifically related to use of the Site with which CONTRACTOR must comply in performing the Work. OWNER will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If CONTRACTOR and OWNER are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in OWNER's furnishing the Site, CONTRACTOR may make a Claim therefor as provided in paragraph 10.05.

B. Upon reasonable written request, OWNER shall furnish CONTRACTOR with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and OWNER's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions4.02 Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports of explorations and tests of subsurface conditions at or contiguous to the Site that ENGINEER has used in preparing the Contract Documents; and

2. those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that ENGINEER has used in preparing the Contract Documents.

B. *Limited Reliance by CONTRACTOR on Technical Data Authorized:* CONTRACTOR may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," CONTRACTOR may not rely upon or make any Claim against OWNER, ENGINEER, or any of ENGINEER's Consultants with respect to:

1. the completeness of such reports and drawings for CONTRACTOR's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR, and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. any CONTRACTOR interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*4.03 Differing Subsurface or Physical Conditions

A. *Notice:* If CONTRACTOR believes that any subsurface or physical condition at or contiguous to the Site that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which CONTRACTOR is entitled to rely as provided in paragraph 4.02 is materially inaccurate; or

2. is of such a nature as to require a change in the Contract Documents; or

3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by paragraph 6.16.A), notify OWNER and ENGINEER in writing about such condition. CONTRACTOR shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *ENGINEER's Review:* After receipt of written notice as required by paragraph 4.03.A, ENGINEER will promptly review the pertinent condition, determine the necessity of OWNER's obtaining additional exploration or tests with respect thereto, and advise OWNER in writing (with a copy to CONTRACTOR) of ENGINEER's findings and conclusions.

C. *Possible Price and Times Adjustments*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in CONTRACTOR's cost of, or time required for, performance of the Work; subject, however, to the following:

a. such condition must meet any one or more of the categories described in paragraph 4.03.A; and

b. with respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract Price will be subject to the provisions of paragraphs 9.08 and 11.03.

2. CONTRACTOR shall not be entitled to any adjustment in the Contract Price or Contract Times if:

a. CONTRACTOR knew of the existence of such conditions at the time CONTRACTOR made a final commitment to OWNER in respect of Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or

b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for CONTRACTOR prior to CONTRACTOR's making such final commitment; or

c. CONTRACTOR failed to give the written notice within the time and as required by paragraph 4.03.A.

3. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in paragraph 10.05. However, OWNER, ENGINEER, and ENGINEER's Consultants shall not be liable to CONTRACTOR for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by CONTRACTOR on or in connection with any other project or anticipated project.

4.04 *Underground Facilities4.04*
*Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to OWNER or ENGINEER by the owners of such Underground Facilities, including OWNER, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. OWNER and ENGINEER shall not be responsible for the accuracy or completeness of any such information or data; and

2. the cost of all of the following will be included in the Contract Price, and CONTRACTOR shall have full responsibility for:

a. reviewing and checking all such information and data,

b. locating all Underground Facilities shown or indicated in the Contract Documents,

c. coordination of the Work with the owners of such Underground Facilities, including OWNER, during construction, and

d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to OWNER and ENGINEER. ENGINEER will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, CONTRACTOR shall be responsible for the safety and protection of such Underground Facility.

2. If ENGINEER concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price of Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that CONTRACTOR did not know of and could not reasonably have been expected to be aware of or to have anticipated. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, OWNER or CONTRACTOR may make a Claim therefor as provided in paragraph 10.05.

4.05 *Reference Points4.05 Reference Points*

A. OWNER shall provide engineering surveys to establish reference points for construction which in ENGINEER's judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of OWNER. CONTRACTOR shall report to ENGINEER whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site4.06 Hazardous Environmental Condition at Site*

A. *Reports and Drawings:* Reference is made to the Supplementary Conditions for the identification of those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that have been utilized by the ENGINEER in the preparation of the Contract Documents.

B. *Limited Reliance by CONTRACTOR on Technical Data Authorized:* CONTRACTOR may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," CONTRACTOR may not rely upon or make any Claim against OWNER, ENGINEER or any of ENGINEER's Consultants with respect to:

1. the completeness of such reports and drawings for CONTRACTOR's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

3. any CONTRACTOR interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

C. CONTRACTOR shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. CONTRACTOR shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by CONTRACTOR, Subcontractors, Suppliers, or anyone else for whom CONTRACTOR is responsible.

D. If CONTRACTOR encounters a Hazardous Environmental Condition or if CONTRACTOR or anyone for whom CONTRACTOR is responsible creates a Hazardous Environmental Condition, CONTRACTOR shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by paragraph 6.16); and (iii) notify OWNER and ENGINEER (and promptly thereafter confirm such notice in writing). OWNER shall promptly consult with ENGINEER concerning the necessity for OWNER to retain a qualified expert to evaluate such condition or take corrective action, if any.

E. CONTRACTOR shall not be required to resume Work in connection with such condition or in any affected area until after OWNER has obtained any required permits related thereto and delivered to CONTRACTOR written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If OWNER and CONTRACTOR cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by CONTRACTOR, either party may make a Claim therefor as provided in paragraph 10.05.

F. If after receipt of such written notice CONTRACTOR does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then OWNER may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If OWNER and CONTRACTOR cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in paragraph 10.05. OWNER may have such deleted portion of the Work performed by OWNER's own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, OWNER shall indemnify and hold harmless CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and the officers, directors, partners, employees, agents, other consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by CONTRACTOR or by anyone for whom CONTRACTOR is responsible. Nothing in this paragraph 4.06.E shall obligate OWNER to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

H. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultants, and the officers, directors, partners, employees, agents, other consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by CONTRACTOR or by anyone for whom CONTRACTOR is responsible. Nothing in this paragraph 4.06.F shall obligate CONTRACTOR to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

I. The provisions of paragraphs 4.02, 4.03, and 4.04 are not intended to apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

## ARTICLE 5 - BONDS AND INSURANCE

### 5.01 *Performance, Payment, and Other Bonds5.01 Performance, Payment, and Other Bonds*

A. CONTRACTOR shall furnish performance and payment Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all CONTRACTOR's obligations under the Contract Documents. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as provided otherwise by Laws or Regulations or by the Contract Documents. CONTRACTOR shall also furnish such other Bonds as are required by the Contract Documents.

B. All Bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in

Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All Bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.

C. If the surety on any Bond furnished by CONTRACTOR is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.01.B, CONTRACTOR shall within 20 days thereafter substitute another Bond and surety, both of which shall comply with the requirements of paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers 5.02Licensed Sureties and Insurers*

A. All Bonds and insurance required by the Contract Documents to be purchased and maintained by OWNER or CONTRACTOR shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue Bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance5.03 Certificates of Insurance*

A. CONTRACTOR shall deliver to OWNER, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by OWNER or any other additional insured) which CONTRACTOR is required to purchase and maintain. OWNER shall deliver to CONTRACTOR, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by CONTRACTOR or any other additional insured) which OWNER is required to purchase and maintain.

5.04 *CONTRACTOR's Liability Insurance5.04 CONTRACTOR's Liability Insurance*

A. CONTRACTOR shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from CONTRACTOR's performance of the Work and CONTRACTOR's other obligations under the Contract Documents, whether it is to be performed by CONTRACTOR, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;

2. claims for damages because of bodily injury, occupational sickness or disease, or death of CONTRACTOR's employees;

3. claims for damages because of bodily injury, sickness or disease, or death of any person other than CONTRACTOR's employees;

4. claims for damages insured by reasonably available personal injury liability coverage which are sustained: (i) by any person as a result of an offense directly or indirectly related to the employment of such person by CONTRACTOR, or (ii) by any other person for any other reason;

5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and

6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance so required by this paragraph 5.04 to be purchased and maintained shall:

1. with respect to insurance required by paragraphs 5.04.A.3 through 5.04.A.6 inclusive, include as additional insureds (subject to any customary exclusion in respect of professional liability) OWNER, ENGINEER, ENGINEER's Consultants, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

3. include completed operations insurance;

4. include contractual liability insurance covering CONTRACTOR's indemnity obligations under paragraphs 6.07, 6.11, and 6.20;

5. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least thirty days prior written notice has been given to OWNER and CONTRACTOR and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the CONTRACTOR pursuant to paragraph 5.03 will so provide);

6. remain in effect at least until final payment and at all times thereafter when CONTRACTOR may be correcting, removing, or replacing defective Work in accordance with paragraph 13.07; and

7. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment (and CONTRACTOR shall furnish OWNER and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to OWNER and any such additional insured of continuation of such insurance at final payment and one year thereafter).

5.05 *OWNER's Liability Insurance5.05 OWNER's Liability Insurance*

A. In addition to the insurance required to be provided by CONTRACTOR under paragraph 5.04, OWNER, at OWNER's option, may purchase and maintain at OWNER's expense OWNER's own liability insurance as will protect OWNER against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance5.06 Property Insurance*

A. Unless otherwise provided in the Supplementary Conditions, OWNER shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an additional insured;

2. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, false work, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, and such other perils or causes of loss as may be specifically required by the Supplementary Conditions;

3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by OWNER prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by ENGINEER;

5. allow for partial utilization of the Work by OWNER;

6. include testing and startup; and

7. be maintained in effect until final payment is made unless otherwise agreed to in writing by OWNER, CONTRACTOR, and ENGINEER with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.

B. OWNER shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants, and any other individuals or entities identified in the Supplementary Conditions, each of

whom is deemed to have an insurable interest and shall be listed as an insured or additional insured.

C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to OWNER and CONTRACTOR and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with paragraph 5.07.

D. OWNER shall not be responsible for purchasing and maintaining any property insurance specified in this paragraph 5.06 to protect the interests of CONTRACTOR, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by CONTRACTOR, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

E. If CONTRACTOR requests in writing that other special insurance be included in the property insurance policies provided under paragraph 5.06, OWNER shall, if possible, include such insurance, and the cost thereof will be charged to CONTRACTOR by appropriate Change Order or Written Amendment. Prior to commencement of the Work at the Site, OWNER shall in writing advise CONTRACTOR whether or not such other insurance has been procured by OWNER.

5.07 *Waiver of Rights**5.07 Waiver of Rights*

A. OWNER and CONTRACTOR intend that all policies purchased in accordance with paragraph 5.06 will protect OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or additional insureds thereunder. OWNER and CONTRACTOR waive all rights against each other and their respective officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors, ENGINEER, ENGINEER's Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by OWNER as trustee or otherwise payable under any policy so issued.

B. OWNER waives all rights against CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants, and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to OWNER's property or the Work caused by, arising out of, or resulting from fire or other peril whether or not insured by OWNER; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by OWNER during partial utilization pursuant to paragraph 14.05, after Substantial Completion pursuant to paragraph 14.04, or after final payment pursuant to paragraph 14.07.

C. Any insurance policy maintained by OWNER covering any loss, damage or consequential loss referred to in paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against CONTRACTOR, Subcontractors, ENGINEER, or ENGINEER's Consultants and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds**5.08 Receipt and Application of Insurance Proceeds*

A. Any insured loss under the policies of insurance required by paragraph 5.06 will be adjusted with OWNER

and made payable to OWNER as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of paragraph 5.08.B. OWNER shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order or Written Amendment.

B. OWNER as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to OWNER's exercise of this power. If such objection be made, OWNER as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, OWNER as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, OWNER as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace5.09 Acceptance of Bonds and Insurance; Option to Replace*

A. If either OWNER or CONTRACTOR has any objection to the coverage afforded by or other provisions of the Bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by paragraph 2.05.C. OWNER and CONTRACTOR shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the Bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent Bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer5.10 Partial Utilization, Acknowledgment of Property Insurer*

A. If OWNER finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

## ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence6.01 Supervision and Superintendence*

A. CONTRACTOR shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of OWNER or ENGINEER in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents. CONTRACTOR shall be responsible to see that the completed Work complies accurately with the Contract Documents.

B. At all times during the progress of the Work, CONTRACTOR shall assign a competent resident superintendent thereto who shall not be replaced without written notice to OWNER and ENGINEER except under extraordinary circumstances. The superintendent will be CONTRACTOR's representative at the Site and shall have authority to act on behalf of CONTRACTOR. All communications given to or received from the superintendent shall be binding on CONTRACTOR.

6.02 *Labor; Working Hours6.02 Labor; Working Hours*

A. CONTRACTOR shall provide competent, suitably qualified personnel to survey, lay out, and construct the Work as required by the Contract Documents. CON-

TRACTOR shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, and CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday, or any legal holiday without OWNER's written consent (which will not be unreasonably withheld) given after prior written notice to ENGINEER.

6.03 *Services, Materials, and Equipment6.03 Services, Materials, and Equipment*

A. Unless otherwise specified in the General Requirements, CONTRACTOR shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All warranties and guarantees specifically called for by the Specifications shall expressly run to the benefit of OWNER. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule6.04 Progress Schedule*

A. CONTRACTOR shall adhere to the progress schedule established in accordance with paragraph 2.07 as it may be adjusted from time to time as provided below.

1. CONTRACTOR shall submit to ENGINEER for acceptance (to the extent indicated in paragraph 2.07) proposed adjustments in the progress schedule that will not result in changing the Contract Times (or Milestones). Such adjustments will conform generally to the progress schedule then in effect and additionally will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the progress schedule that will change the Contract Times (or Milestones) shall be submitted in accordance with the requirements of Article 12. Such adjustments may only be made by a Change Order or Written Amendment in accordance with Article 12.

6.05 *Substitutes and "Or-Equals"6.05 Substitutes and Or-Equals*

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to ENGINEER for review under the circumstances described below.

1. *"Or-Equal" Items:* If in ENGINEER's sole discretion an item of material or equipment proposed by CONTRACTOR is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by ENGINEER as an "or-equal" item, in which case review and approval of the proposed item may, in ENGINEER's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment ENGINEER determines that: (i) it is at least equal in quality, durability, appearance, strength, and design characteristics; (ii) it will reliably perform at least equally well the function imposed by the design concept of the completed Project as a functioning whole, and;

b. CONTRACTOR certifies that: (i) there is no increase in cost to the OWNER; and (ii) it will conform substantially, even with deviations, to the detailed requirements of the item named in the Contract Documents.

2. Substitute Items

a. If in ENGINEER's sole discretion an item of material or equipment proposed by CONTRACTOR does not qualify as an "or-equal" item under paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. CONTRACTOR shall submit sufficient information as provided below to allow ENGINEER to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by ENGINEER from anyone other than CONTRACTOR.

c. The procedure for review by ENGINEER will be as set forth in paragraph 6.05.A.2.d, as supplemented in the General Requirements and as ENGINEER may decide is appropriate under the circumstances.

d. CONTRACTOR shall first make written application to ENGINEER for review of a proposed substitute item of material or equipment that CONTRACTOR seeks to furnish or use. The application shall certify that the proposed substitute item will perform adequately the functions and achieve the results called for by the general design, be similar in substance to that specified, and be suited to the same use as that specified. The application will state the extent, if any, to which the use of the proposed substitute item will prejudice CONTRACTOR's achievement of Substantial Completion on time, whether or not use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) to adapt the design to the proposed substitute item and whether or not incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute item from that specified will be identified in the application, and available engineering, sales, maintenance, repair, and replacement services will be indicated. The application will also contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change, all of which will be considered by ENGINEER in evaluating the proposed substitute item. ENGINEER may require CONTRACTOR to furnish additional data about the proposed substitute item.

B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is shown or indicated in and expressly required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by ENGINEER. CONTRACTOR shall submit sufficient information to allow ENGINEER, in ENGINEER's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The procedure for review by ENGINEER will be similar to that provided in subparagraph 6.05.A.2.

C. *Engineer's Evaluation:* ENGINEER will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to paragraphs 6.05.A and 6.05.B. ENGINEER will be the sole judge of acceptability. No "or-equal" or substitute will be ordered, installed or utilized until ENGINEER's review is complete, which will be evidenced by either a Change Order for a substitute or an approved Shop Drawing for an "or equal." ENGINEER will advise CONTRACTOR in writing of any negative determination.

D. *Special Guarantee:* OWNER may require CONTRACTOR to furnish at CONTRACTOR's expense a special performance guarantee or other surety with respect to any substitute.

E. *ENGINEER's Cost Reimbursement:* ENGINEER will record time required by ENGINEER and ENGINEER's Consultants in evaluating substitute proposed or submitted by CONTRACTOR pursuant to paragraphs 6.05.A.2 and 6.05.B and in making changes in the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) occasioned thereby. Whether or not ENGINEER approves a substitute item so proposed or submitted by CONTRACTOR, CONTRACTOR shall reimburse OWNER for the charges of ENGINEER and ENGINEER's Consultants for evaluating each such proposed substitute.

F. *CONTRACTOR's Expense:* CONTRACTOR shall provide all data in support of any proposed substitute or "or-equal" at CONTRACTOR's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*6.06 *Concerning Subcontractors, Suppliers, and Others*

A. CONTRACTOR shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to OWNER as indicated in paragraph 6.06.B), whether initially or as a replacement, against whom OWNER may have reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to OWNER in advance for acceptance by OWNER by a specified date prior to the Effective Date of the Agreement, and if CONTRACTOR has submitted a list thereof in accordance with the Supplementary Conditions, OWNER's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. CONTRACTOR shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued or Written Amendment signed. No acceptance by OWNER of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of OWNER or ENGINEER to reject defective Work.

C. CONTRACTOR shall be fully responsible to OWNER and ENGINEER for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as CONTRACTOR is responsible for CONTRACTOR's own acts and omissions. Nothing in the Contract Documents shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between OWNER or ENGINEER and any such Subcontractor, Supplier or other individual or entity, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

D. CONTRACTOR shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR.

E. CONTRACTOR shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with ENGINEER through CONTRACTOR.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for CONTRACTOR by a Subcontractor or Supplier will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and ENGINEER. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in paragraph 5.06, the agreement between the CONTRACTOR and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against OWNER, CONTRACTOR, ENGINEER, ENGINEER's Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, CONTRACTOR will obtain the same.

6.07 *Patent Fees and Royalties*6.07 *Patent Fees and Royalties*

A. CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of OWNER or ENGINEER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by OWNER in the Contract Documents. To the

fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultants, and the officers, directors, partners, employees or agents, and other consultants of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits6.08 Permits*

A. Unless otherwise provided in the Supplementary Conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. CONTRACTOR shall pay all charges of utility owners for connections to the Work, and OWNER shall pay all charges of such utility owners for capital costs related thereto, such as plant investment fees.

6.09 *Laws and Regulations6.09 Laws and Regulations*

A. CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor ENGINEER shall be responsible for monitoring CONTRACTOR's compliance with any Laws or Regulations.

B. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, CONTRACTOR shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work; however, it shall not be CONTRACTOR's primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve CONTRACTOR of CONTRACTOR's obligations under paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work may be the subject of an adjustment in Contract Price or Contract Times. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in paragraph 10.05.

6.10 *Taxes6.10 Taxes*

A. CONTRACTOR shall pay all sales, consumer, use, and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas6.11 Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas*

1. CONTRACTOR shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultant, and the officers, directors, partners, employees, agents, and other consultants of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against OWNER, ENGINEER, or any other party indemnified hereunder to the extent caused by or based upon CONTRACTOR's performance of the Work.

B. *Removal of Debris During Performance of the Work:* During the progress of the Work CONTRACTOR shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. *Cleaning:* Prior to Substantial Completion of the Work CONTRACTOR shall clean the Site and make it ready for utilization by OWNER. At the completion of the Work CONTRACTOR shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading Structures:* CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 *Record Documents*6.12 *Record Documents*

A. CONTRACTOR shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to ENGINEER for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to ENGINEER for OWNER.

6.13 *Safety and Protection6.13 Safety and Protection*

A. CONTRACTOR shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. CONTRACTOR shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property. All damage, injury, or loss to any property referred to in paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by CONTRACTOR, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of OWNER or ENGINEER or ENGINEER's Consultant, or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of CONTRACTOR or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them). CONTRACTOR's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and ENGINEER has issued a notice to OWNER and CONTRACTOR in accordance with paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative6.14 Safety Representative*

A. CONTRACTOR shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs6.15 Hazard Communication Programs*

A. CONTRACTOR shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies6.16 Emergencies*

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, CONTRACTOR is obligated to act to prevent threatened damage, injury, or loss. CONTRACTOR shall give ENGINEER prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If ENGINEER determines that a change in the Contract Documents is required because of the action taken by CONTRACTOR in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples6.17 Shop Drawings and Samples*

A. CONTRACTOR shall submit Shop Drawings to ENGINEER for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals. All submittals will be identified as ENGINEER may require and in the number of copies specified in the General Requirements. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show ENGINEER the services, materials, and equipment CONTRACTOR proposes to provide and to enable ENGINEER to review the information for the limited purposes required by paragraph 6.17.E.

B. CONTRACTOR shall also submit Samples to ENGINEER for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals. Each Sample will be identified clearly as to material, Supplier, pertinent data such as catalog numbers, and the use for which intended and otherwise as ENGINEER may require to enable ENGINEER to review the submittal for the limited purposes required by paragraph 6.17.E. The numbers of each Sample to be submitted will be as specified in the Specifications.

C. Where a Shop Drawing or Sample is required by the Contract Documents or the schedule of Shop Drawings and Sample submittals acceptable to ENGINEER as required by paragraph 2.07, any related Work performed prior to ENGINEER's review and approval of the pertinent submittal will be at the sole expense and responsibility of CONTRACTOR.

D. *Submittal Procedures*

1. Before submitting each Shop Drawing or Sample, CONTRACTOR shall have determined and verified:

a. all field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

b. all materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work;

c. all information relative to means, methods, techniques, sequences, and procedures of construction and safety precautions and programs incident thereto; and

d. CONTRACTOR shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

2. Each submittal shall bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR's obligations under the Contract Documents with respect to CONTRACTOR's review and approval of that submittal.

3. At the time of each submittal, CONTRACTOR shall give ENGINEER specific written notice of such variations, if any, that the Shop Drawing or Sample submitted may have from the requirements of the Contract Documents, such notice to be in a written communication separate from the submittal; and, in addition, shall cause a specific notation to be made on each Shop Drawing and Sample submitted to ENGINEER for review and approval of each such variation.

E. *ENGINEER's Review*

1. ENGINEER will timely review and approve Shop Drawings and Samples in accordance with the schedule of Shop Drawings and Sample submittals acceptable to ENGINEER. ENGINEER's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Docu-

C. *Payment Becomes Due*

1. Thirty days after the presentation to OWNER of the Application for Payment and accompanying documentation, the amount recommended by ENGINEER will become due and, when due, will be paid by OWNER to CONTRACTOR.

14.08 *Final Completion Delayed*14.08 *Final Completion Delayed*

A. If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed, and if

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

15.01 OWNER May Suspend Work15.01 OWNER May Suspend Work

A. At any time and without cause, OWNER may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to CONTRACTOR and ENGINEER which will fix the date on which Work will be resumed. CONTRACTOR shall resume the Work on the date so fixed. CONTRACTOR shall be allowed an adjustment in the Contract Price or an

F. *Resubmittal Procedures*

1. CONTRACTOR shall make corrections required by ENGINEER and shall return the required number of corrected copies of Shop Drawings and submit as required new Samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by ENGINEER on previous submittals.

6.18 *Continuing the Work6.18 Continuing the Work*

A. CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by paragraph 15.04 or as OWNER and CONTRACTOR may otherwise agree in writing.

2. recommendation by ENGINEER or payment by OWNER of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by ENGINEER or any payment related thereto by OWNER;

4. use or occupancy of the Work or any part thereof by OWNER;

5. any acceptance by OWNER or any failure to do so;

6. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by ENGINEER;

7. any inspection, test, or approval by others; or

8. any correction of defective Work by OWNER.

6.20 *Indemnification6.20 Indemnification*

OWNER may deem expedient. In such case, CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by OWNER arising out of or relating to completing the Work, such excess will be paid to CONTRACTOR. If such claims, costs, losses, and damages exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such claims, costs, losses, and damages incurred by OWNER will be reviewed by ENGINEER as to their reasonableness and, when so approved by ENGINEER, incorporated in a Change Order. When exercising any rights or remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

C. Where CONTRACTOR's services have been so terminated by OWNER, the termination will not affect any rights or remedies of OWNER against CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

15.03 *OWNER May Terminate For Convenience15.03 OWNER May Terminate For Convenience*

A. Upon seven days written notice to CONTRACTOR and ENGINEER, OWNER may, without cause and without prejudice to any other right or remedy of OWNER, elect to terminate the Contract. In such case, CONTRACTOR shall be paid (without duplication of any items):

1. for completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. for expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

3. for all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. for reasonable expenses directly attributable to termination.

B. CONTRACTOR shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *CONTRACTOR May Stop Work or Terminate15.04 CONTRACTOR May Stop Work or Terminate*

A. If, through no act or fault of CONTRACTOR, the Work is suspended for more than 90 consecutive days by OWNER or under an order of court or other public authority, or ENGINEER fails to act on any Application for Payment within 30 days after it is submitted, or OWNER fails for 30 days to pay CONTRACTOR any sum finally determined to be due, then CONTRACTOR may, upon seven days written notice to OWNER and ENGINEER, and provided OWNER or ENGINEER do not remedy such suspension or failure within that time, terminate the Contract and recover from OWNER payment on the same terms as provided in paragraph 15.03. In lieu of terminating the Contract and without prejudice to any other right or remedy, if ENGINEER has failed to act on an Application for Payment within 30 days after it is submitted, or OWNER has failed for 30 days to pay CONTRACTOR any sum finally determined to be due, CONTRACTOR may, seven days after written notice to OWNER and ENGINEER, stop the Work until payment is made of all such amounts due CONTRACTOR, including interest thereon. The provisions of this paragraph 15.04 are not intended to preclude CONTRACTOR from making a Claim under paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to CONTRACTOR's stopping the Work as permitted by this paragraph.

## ARTICLE 16 - DISPUTE RESOLUTION

16.01 *Methods and Procedures16.01 Methods and Procedures*

A. Dispute resolution methods and procedures, if any, shall be as set forth in the Supplementary Conditions. If no method and procedure has been set forth, and subject to the provisions of paragraphs 9.09 and 10.05, OWNER and CONTRACTOR may exercise such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any dispute.

## ARTICLE 17 - MISCELLANEOUS

17.01 *Giving Notice17.01* *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times17.02* *Computation of Times*

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies17.03* *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations17.04* *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Agreement.

17.05 *Controlling Law17.05* *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

## SUPPLEMENTARY CONDITIONS

A. These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract and other provisions of the Contract Documents as indicated below. All provisions that are not so amended or supplemented remain in full force and effect.

B. The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below which are applicable to both the singular and plural thereof.

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SC-1.01 Defined Terms

Insert in the first sentence of paragraph 1.01.A of the General Conditions after the phrase “printed with initial capital letters”, the phrase “or with all capital letters”.

Add the following new paragraph immediately following paragraph 1.01.A:

B. Wherever the term County is used in these documents, it shall refer to the Sheboygan County, Wisconsin, as represented by its elected officials. The terms “County” and “OWNER” in this respect shall be considered synonymous.

SC-1.01.A.17 Drawings

The following Drawings are part of the Contract Documents:

Drawings:

| | | |
|---|---|---|
| T1–Title Sheet | D1 General Notes | D2–D9-Details |
| EC1–Erosion-Control Plan | G1–Grading Plan | P1-P2 Paving Plans |
| W1-Water Main Plan | F-1 Foundation Plan | M-1 Pavement Marking Plan |

X1-X4 Cross-sections

incorporated herein by reference, and drawings bound in the project manual.

SC-1.01.A.52 Work Change Directive

Amend the phrase “and signed by OWNER” in the first sentence of paragraph 1.01.A.52. of the General Conditions to read as follows, “and signed by OWNER and CONTRACTOR”.

SC-1.01.A.53 OWNER’s Consultants

Add the following new sub-paragraph to paragraph 1.01.A. of the General Conditions:

53. OWNER’s Consultants -- The following is a list of OWNER’s Consultants on the project:

SAA Design Group, Inc.
717 John Nolen Drive
Madison, WI 53713
608.255.0800
www.saa-madison.com

SC-2.01 Delivery of Bonds and Evidence of Insurance

Delete paragraph 2.01.A. of the General Conditions in its entirety and insert the following in its place:

A. When CONTRACTOR delivers the executed counterparts of the Agreement to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds, insurance certificates, insurance endorsements, and other documents as CONTRACTOR may be required to furnish.

Delete paragraph 2.01.B. of the General Conditions in its entirety and insert the following in its place:

B. Evidence of Insurance: Before any Work at the Site is started, CONTRACTOR shall deliver to OWNER with copies to each additional insured identified in the Supplementary Conditions OWNER-approved copies of certificates of insurance, copies of endorsements, and other evidence of insurance which either of them or any additional insured may reasonably request, which CONTRACTOR is required to purchase and maintain in accordance with Paragraphs 5.04 and 5.06.

SC-2.03 Commencement of Contract Times; Notice to Proceed

In the last sentence of Paragraph 2.03 of the General Conditions, change “sixtieth day” to “eighty-fifth day”.

SC-2.05 Before Starting Construction

Add the following paragraph immediately following paragraph 2.05.A.3. of the General Conditions:

4. a proposed listing of subcontractors and major material and equipment suppliers. The list shall include any proposed substitutions in accordance with paragraph 6.05 of the General Conditions.

SC-2.05, 2.06, 2.07 Schedules and Conferences

The Bid will be considered the schedule of values of the work required by the General Conditions.

SC-3.03.A Reporting Discrepancies

Add the following paragraph immediately following paragraph 3.03.A.3. of the General Conditions:

4. If CONTRACTOR proceeds with work that CONTRACTOR had actual knowledge or should have known that a conflict, error, ambiguity, or discrepancy existed as indicated above, correction of work constructed without such notification to ENGINEER shall be at CONTRACTOR’s expense, (except in an emergency as authorized by paragraph 6.16).

SC-4.02 Subsurface and Physical Conditions

Add the following new paragraph immediately following paragraph 4.02.B. of the General Conditions:

C. Explorations and tests of subsurface conditions at the Site were not conducted and reports and drawings of surface and subsurface structures were not utilized in the preparation of the Drawings and Specifications. CONTRACTOR shall conduct its own personal investigation to determine physical conditions at the Site which may affect the Work, including compliance with OSHA excavation and trenching requirements.

SC-5.01 Performance, Payment and Other Bonds

Add the following new paragraphs immediately following paragraph 5.01.C. of the General Conditions:

D. The forms of the performance and payment Bonds included shall be used for the Contract. Note instructions thereon as to the form applicable. Each form contemplates one corporate surety only. In case co-sureties or individual sureties will be furnished, proper forms therefore shall be obtained. Besides the stipulations of paragraphs 5.01 through 5.03 of the General Conditions, the surety on the Bonds shall provide a certificate indicating surety is licensed to underwrite Contracts in Sheboygan County.

E. Every Bond must run to OWNER.

F. If the principal is an individual, his/her full name and residence shall be inserted in the body thereof, and he/she shall sign the Bonds with his/her usual signature on the line opposite the scroll seal. If the principals are partners, their individual names shall appear in the body of the Bonds, with the recital that they are partners comprising a firm, naming it, and all the members of the firm shall execute the Bonds as individuals.

G. The signature of a witness shall appear in the appropriate places, attesting the signatures of each individual party to the Bonds.

H. If the principal is a corporation, the name of the state in which incorporated shall be inserted in the appropriate place in the body of the Bonds, and said instrument shall be executed and attested under the corporate seal as indicated on the form. If the corporation has no seal, the fact shall be stated, in which case a scroll or adhesive seal shall appear following the corporate name. This also applies to execution by surety.

I. <u>The date of the Bonds must not be prior to the Effective Date of Agreement</u> for which given.

J. A power of attorney, authorizing the execution of the Bonds by an attorney-in-fact, or agent, shall be attached to each executed counterpart of the Bonds.

<u>SC-5.03 Certificates of Insurance</u>

Delete paragraph 5.03.A. of the General Conditions in its entirety and insert the following in its place:

A. CONTRACTOR shall deliver to OWNER, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance, copies of endorsements, and other evidence of insurance requested by OWNER or any other additional insured, which CONTRACTOR is required to purchase and maintain in accordance with paragraphs 5.04 and 5.06 of the General Conditions.

Add the following new paragraphs immediately following paragraph 5.03.B. of the General Conditions:

C. Failure of OWNER to demand such certificates or other evidence of full compliance with these insurance requirements or failure of OWNER to identify a deficiency from evidence provided shall not be construed as a waiver of CONTRACTOR's obligation to maintain such insurance.

D. By requiring such insurance and insurance limits herein, OWNER does not represent that coverage and limits will necessarily be adequate to protect CONTRACTOR, and such coverage and limits shall not be deemed as a limitation on CONTRACTOR's liability under the indemnities granted to OWNER in the Contract Documents.

SC-5.04 CONTRACTOR's Liability Insurance

Add the following new paragraphs immediately after paragraph 5.04.B of the General Conditions:

C. The limits of liability for the insurance required by paragraph 5.04 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations. The types of insurance and the limits of liability indicated are the minimum required. Neither OWNER or ENGINEER warrant the adequacy of the types of insurance or the limits of liability required. Any policy exclusions shall be indicated on the insurance certificate. Insurance shall be provided on an occurrence form basis. CONTRACTOR shall provide verification of all coverages with or on the insurance certificate.

1. Workers' Compensation, and related coverages under paragraphs 5.04.A.1. and 5.04.A.2. of the General Conditions:

| | | |
|---|---|---|
| a. | State: | Statutory |
| b. | Applicable Federal (e.g., Longshoreman's): | Statutory |
| c. | Employer's Liability: | |
| | Bodily Injury by Accident: | |
| | Each Accident | $ 100,000 |
| | Bodily Injury by Disease: | |
| | Policy Limit | $ 500,000 |
| | Each Employee | $ 100,000 |

2. CONTRACTOR's General Liability under paragraphs 5.04.A.3 through 5.04.A.6. of the General Conditions which shall be written on a commercial general liability form:

a. Policy Limits:

| | | |
|---|---|---|
| 1) | General Aggregate Limit (other than P-CO) | $ 1,000,000 |
| 2) | Products - Completed Operations Aggregate Limit | $ 1,000,000 |
| 3) | Personal and Advertising Injury Limit (Per Person/Organization) | $ 1,000,000 |
| 4) | Each Occurrence Limit (Bodily Injury and Property Damage) | $ 1,000,000 |
| 5) | Fire Legal Liability Damage Limit | $ 50,000 |

(Any One Fire)

6) Medical Expense Limit $ 5,000
(Any One Person)

b. Policy shall include as a minimum the following coverages:

1) Broad Form Property Damage Coverage.

2) An elimination of the exclusions with respect to property under the care, custody, or control of CONTRACTOR. In lieu of elimination of the exclusion, CONTRACTOR may provide Builder's Risk or Installation Floater coverage for property under the care, custody, or control of CONTRACTOR.

3) Explosion, Collapse, and Underground coverages where applicable under Property Damage Liability Insurance.

4) Contractual Liability Coverage.

5) Independent Contractor Coverage.

6) General Aggregate Limits specified above shall apply separately to this project by attachment of: "Amendment of Limits of Insurance - Designated Projects" Endorsement (ISO Form No. CG 25011185) or "Amendment - Aggregate Limits of Insurance - Per Project" Endorsement (ISO Form CG 25031185) or equivalent endorsement coverage.

3. Commercial Automobile Liability under paragraph 5.04.A.6. of the General Conditions:

a. Bodily Injury:

Each Person $ 1,000,000

Each Occurrence $ 1,000,000

Property Damage:

Each Occurrence $ 1,000,000

or

b. Combined Single Limit
(Bodily Injury and Property Damage): $ 1,000,000

c. Policy shall include contractual liability coverage and coverage on all owned, nonowned and hired vehicles.

4. Umbrella Coverage:

a. Umbrella policy (pay on behalf form) with limits of $2,000,000 for bodily injury, personal injury and property damage on a combined basis shall be provided with the stated underlying limits of paragraphs 5.04.C.1, 5.04.C.2, and 5.04.C.3. If CONTRACTOR desires to reduce underlying limits to minimums required by its

insurance carrier, the umbrella limit must accordingly be increased to maintain overall total level of coverage.

b. Policy shall include OWNER and any others required by paragraph 5.04.B.1. of the General Conditions as additional insureds.

c. The stated limits of paragraphs 5.04.C.1, 5.04.C.2, and 5.04.C.3 can be obtained through individual policies or in conjunction with an umbrella policy (pay on behalf form) to arrive at the total limits requested.

D. Regardless whether or not an Owner's and Contractor's Protective (OCP) policy or Project Management Protective Liability policy is furnished, insurance certificates for commercial general, automobile, umbrella, and builders risk shall specifically indicate by name the additional insureds which are to include OWNER and ENGINEER as well as other persons or entities so identified. Certificates shall be Acord 25-S or equivalent.

1. CONTRACTOR shall purchase and maintain liability insurance, as described above, specifically naming as additional insureds OWNER and ENGINEER as well as other individuals or entities so identified (see paragraph 1.01.A.53. of the Supplementary Conditions), and specifically stating the following language as the Additional Insurance Endorsement on Form CG 20 26 11 85 or equivalent form.

"That the persons insured under this policy are amended to include as an additional insured, OWNER and ENGINEER as well as other individuals and entities so identified, but only with respect to liability arising out of (1) operations performed for the additional insured by the named insured or (2) acts or failure to act by the additional insured in connection with general supervision, inspection and/or coordination of CONTRACTOR's operations.",

or, in lieu of providing Form CG 20 26 11 85 with the above language, provide Form CG 20 09 03 97, or equivalent form.

2. As an alternative to providing either Form CG 20 26 11 85 or Form CG 20 09 03 97, CONTRACTOR may furnish to OWNER an Owners' and Contractors' Protective (OCP) policy or a Project Management Protective Liability policy, with ENGINEER as additional insured. OCP policy or Project Management Protective Liability policy shall provide for bodily injury and property damage coverage equal to the sum of: the general aggregate limit for commercial general liability plus the amount specified for the umbrella coverage. OCP policy or Project Management Protective Liability policy shall provide coverage arising out of:

a. operations performed by CONTRACTOR at the project location.

b. acts or omissions in connection with the general supervision of such operations.

Endorsements, OCP, and/or Project Management Protective Liability policy shall not exclude supervisory or inspection services.

3. Policies of insurance shall also include OWNER's consultants as additional insureds under the provisions of paragraphs 5.04.A.3 through 5.04.A.5. of the General Conditions.

SC-5.04.B Regarding Contractor's Liability Insurance

Amend in paragraphs 5.04.B.3 and 5.04.B.7 of the General Conditions the phrase “completed operations insurance” to read “products and completed operations insurance.”

Amend in paragraph 5.04.B.5 of the General Conditions the phrase “materially changed” to read “materially changed with respect to coverage on the project.”

Delete in paragraph 5.04.B.7. of the General Conditions the phrase “and any insurance coverage written on a claims-made basis,”

Amend paragraph 5.04.B.7. of the General Conditions by replacing the phrase “ remain in effect for at least two years after final payment” with the phrase “remain in effect at least until final payment”.

SC-5.06.A CONTRACTOR’s Installation Floater Insurance

Delete paragraph 5.06.A. of the General Conditions in its entirety and insert the following in its place:

> A. CONTRACTOR shall purchase Installation Floater Insurance of the “all risk” type in the amount of the total value of the materials and equipment supplied under the Contract which will also include the interests of OWNER, OWNER’s consultants, subcontractors, ENGINEER, ENGINEER’s consultants and any other individuals or entities identified in the Supplementary Conditions, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured. Insurance certificate shall specifically indicate by name the additional insureds which are to include OWNER, ENGINEER, OWNER’s Consultant and subcontractors as well as other individuals or entities so identified. The materials and equipment shall be insured from the time CONTRACTOR takes possession of them until they are installed and tested by CONTRACTOR and the project has received final acceptance as complete by OWNER. The policies of insurance required to be purchased and maintained by CONTRACTOR in accordance with this paragraph 5.06.A shall comply with the requirements of paragraph 5.06.C. of the General Conditions.

SC-5.06.B Boiler and Machinery and Additional Property Insurance

Delete paragraph 5.06.B. of the General Conditions in its entirety.

SC-5.06.D Deductible Provisions

Delete the first sentence of paragraph 5.06.D. of the General Conditions and insert the following in its place:

> CONTRACTOR shall pay all deductible provisions of insurances. The maximum deductible shall be $5,000.

SC-5.06.E Policies of Insurance

Amend paragraph 5.06.E. of the General Conditions by inserting “OWNER” for “CONTRACTOR” and “CONTRACTOR” for “OWNER.”

SC-6.03.B Materials and Equipment Warranty

Add the following to the end of paragraph 6.03.B. of the General Conditions:

Suppliers shall be deemed to impliedly warrant that their products and all component materials incorporated into them are suitable and fit for the intended use of such products and shall be free from defect in material, workmanship or design, such warranty to run to the benefit of OWNER. The foregoing applies whether the products or their component materials are specified in the Contract Documents or are of Supplier's design.

SC-6.06 Concerning Subcontractors, Suppliers and Others

Add the following to the end of paragraph 6.06.A. of the General Conditions:

If OWNER or ENGINEER after due investigation has reasonable objection to any proposed subcontractor, supplier, or other individual or entity, either may request CONTRACTOR submit an acceptable substitute without an increase in Contract Price.

Delete from the first sentence of paragraph 6.06.C.2 the phrase "anything in the Contract Documents."

Add the following new paragraph immediately following paragraph 6.06.G of the General Conditions:

H. OWNER or ENGINEER may furnish to any such Subcontractor, Supplier, or other individual or entity, to the extent practicable, information about amounts paid to CONTRACTOR on account of Work performed for CONTRACTOR by a particular Subcontractor, Supplier, or other individual or entity.

SC-6.08 Permits

See General Requirements for additional permit information.

SC-6.10 Taxes

CONTRACTOR, if not a Wisconsin resident, shall comply with the provisions of Section 71.80 (16) Wisconsin Statutes.

SC-6.12 Record Documents

In the first sentence of paragraph 6.12.A. of the General Conditions, change the phrase "one record copy" to "two record copies".

Delete the last sentence of paragraph 6.12.A. of the General Conditions, and replace it with the following:

Within 30 days following completion of the work and prior to final payment, these record documents, samples, and shop drawings shall be delivered by CONTRACTOR to OWNER.

SC-6.14 Safety Representative

Add the following new paragraph immediately following paragraph 6.14.A. of the General Conditions:

B. CONTRACTOR shall keep at the Site at all times during the progress of the Work a competent person to comply with OSHA requirements. The competent person shall be one who is capable of identifying existing and predictable hazards in the surroundings, or working

conditions that are unsanitary, hazardous or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

SC-6.20 Indemnification

Add the following to the end of paragraph 6.20.A. of the General Conditions:

CONTRACTOR shall, at its own expense, appear, defend, and pay all fees of attorneys and all costs and other expenses arising therefrom or incurred in connection therewith; and, if any judgments shall be rendered against any individual or entity indemnified hereunder in any such action, CONTRACTOR shall, at its own expense, satisfy and discharge same. CONTRACTOR expressly understands and agrees that any Letter of Credit or insurance protection required by the Contract, or otherwise provided by CONTRACTOR, shall in no way limit the responsibility to indemnify, keep and, save harmless, and defend any individual or entity indemnified hereunder as herein provided.

Delete paragraph 6.20.C. of the General Conditions in its entirety and insert the following paragraphs in its place:

C. The indemnification obligations of CONTRACTOR under paragraph 6.20.A shall not extend to the liability of ENGINEER and ENGINEER's consultants, officers, directors, employees, or agents caused by the professional negligence, errors, or omissions of any of them.

D. For any matter for which ENGINEER is indemnified under paragraph 6.20.A, CONTRACTOR shall pay for ENGINEER's reasonable defense, including, but not limited to, all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs or awards until ENGINEER is found negligent. If ENGINEER is found negligent, ENGINEER shall reimburse CONTRACTOR for the prorata extent of ENGINEER's negligence for the cost of ENGINEER's reasonable defense.

SC-7.04 Claims Between Contractors

Add the following new section immediately following section 7.03 of the General Conditions:

7.04 Claims Between Contractors

A. Should CONTRACTOR cause damage to the work or property of any separate contractor at the Site, or should any claim arising out of CONTRACTOR's performance of the Work at the Site be made by any separate contractor against CONTRACTOR, OWNER, ENGINEER, ENGINEER's Consultants, or the construction coordination, CONTRACTOR shall promptly attempt to settle with such separate contractor by agreement or to otherwise resolve the dispute by arbitration or at law.

B. CONTRACTOR shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultants, the construction coordinator and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them from and against all claims, costs, losses and damages (including, but not limited to, fees and charges of engineers, architects, attorneys, and other professionals and court and arbitration costs) arising directly, indirectly, or consequentially out of any action, legal or equitable, brought by any separate contractor against OWNER, ENGINEER, ENGINEER's Consultants, or the construction coordinator to the extent said claim is based on or arises out of CONTRACTOR's performance of the Work. Should a separate contractor cause damage to the Work or property of CONTRACTOR or should the performance of work by any separate contractor at the Site give rise to any other

Claim, CONTRACTOR shall not institute any action, legal or equitable, against OWNER, ENGINEER, ENGINEER's Consultants, or the construction coordinator or permit any action against any of them to be maintained and continued in its name or for its benefit in any court or before any arbiter which seeks to impose liability on or to recover damages from OWNER, ENGINEER, ENGINEER's Consultants, or the construction coordinator on account of any such damage or Claim.

C. If CONTRACTOR is delayed at any time in performing or furnishing Work by any act or neglect of a separate contractor, and OWNER and CONTRACTOR are unable to agree as to the extent of any adjustment in Contract Times attributable thereto, CONTRACTOR may make a Claim for an extension of times in accordance with Article 12. An extension of the Contract Times shall be CONTRACTOR's exclusive remedy with respect to OWNER, ENGINEER, ENGINEER's Consultants, and construction coordinator for any delay, disruption, interference, or hindrance caused by any separate contractor. This paragraph does not prevent recovery from OWNER, ENGINEER, ENGINEER's Consultant, or construction coordinator for activities that are their respective responsibilities.

SC-9.03 Project Representative

Add the following new paragraphs immediately following paragraph 9.03.A. of the General Conditions:

B. The duties and responsibilities of the resident project representative include the following:

1. Review schedules as required in paragraph 2.05.A. of the General Conditions and amendment thereto.

2. Attend conferences and meetings with CONTRACTOR.

3. Serve as liaison between OWNER and CONTRACTOR.

4. Conduct on-site observation of the work.

5. Observe tests, equipment, and system startups.

6. Report to OWNER when clarifications and interpretations of the Contract Documents are needed. Consider, evaluate, and report to OWNER, CONTRACTOR's requests for modification.

7. Maintain orderly records, keep a daily log (when on a part-time basis, keep log for days visiting site), and furnish periodic reports to OWNER of the progress of the work.

8. Before project completion, prepare final list of items to be completed or corrected and make recommendations to OWNER concerning acceptance of the work.

C. The resident project representatives shall not:

1. Authorize any deviation from the Contract Documents or substitutions of materials or equipment.

2. Exceed limitations of ENGINEER's authority as set forth in the Contract Documents.

3. Undertake any of the responsibilities of CONTRACTOR, subcontractor, or Contractor's superintendent.

4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences, or procedures of construction.

5. Advise on, issue directions regarding, or assume control over safety precautions and programs in connection with the work.

6. Accept shop drawing or sample submittals from anyone other than CONTRACTOR.

7. Authorize OWNER to occupy the project in whole or in part.

8. Participate in specialized field or laboratory tests or inspections conducted by others except as specifically authorized by OWNER.

SC-11.03 Unit Price Work

Delete paragraph 11.03.D. of the General Conditions in its entirety and insert the following in its place:

D. The unit price of an item of Unit Price Work shall be subject to reevaluation and adjustment under the following conditions:

1. If the total cost of a particular item of Unit Price Work amounts to 15% or more of the Contract Price and the variation in the quantity of that particular item of Unit Price Work performed by CONTRACTOR differs by more than 25% from the estimated quantity of such item indicated in the Agreement; and

2. If there is no corresponding adjustment with respect to any other item of Work; and

3. If CONTRACTOR believes that it has incurred additional expense as a result thereof; or

4. If OWNER believes that the quantity variation entitles it to an adjustment in the unit price,

either OWNER or CONTRACTOR may make a claim for an adjustment in the Contract Price in accordance with paragraph 10.05 of the General Conditions if the parties are unable to agree as to the effect of any such variations in the quantity of Unit Price Work performed.

SC-12.01 Change of Contract Price

Add the following sentence at the end of paragraph 12.01.B.2:

The overhead and profit allowance for lump sum work shall be in accordance with paragraph 12.01.C.2. unless OWNER and CONTRACTOR agree that these allowances are not appropriate for the Work involved.

Delete paragraph 12.01.C.2.e. of the General Conditions in its entirety and insert the following in its place:

e. the amount of credit to be allowed by CONTRACTOR to OWNER for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost; and

SC-13.03.A Tests and Inspections

Add the following to the beginning of paragraph 13.03.A. of the General Conditions:

All work is subject to testing to indicate compliance with the Contract Document requirements. Tests and inspection of work may be conducted by OWNER, ENGINEER, or an independent laboratory employed by OWNER. Tests may also be performed in the field by ENGINEER as a basis for acceptance of the work.

Add the following to the end of paragraph 13.03.A. of the General Conditions:

Samples required for testing shall be furnished by CONTRACTOR at no cost to OWNER. In the event that completed Work does not conform to specification requirements during the initial test, the Work shall be corrected and retested for conformance. The entire cost of retesting completed Work shall be borne by CONTRACTOR. This shall include the extra cost for inspection to OWNER which will be deducted from the final amount due CONTRACTOR.

SC-13.07.A Correction Period

Delete in paragraph 13.07.A. of the General Conditions the phrase “If within one year after the date of Substantial Completion” and insert the following in its place, “If within one year of the date of final payment or other date established by OWNER”.

SC-14.02 Progress Payments

Add the following to the end of paragraph 14.02.A.1. of the General Conditions:

In accordance with the 1997 Wisconsin Act No. 237, CONTRACTOR shall pay all claims for labor and materials, CONTRACTOR shall maintain a list of all subcontractors and suppliers, and OWNER may make direct payment to a subcontractor or pay CONTRACTOR with checks made payable to CONTRACTOR and to one or more subcontractors.

Add the following new paragraphs immediately following paragraph 14.02.A.3. of the General Conditions:

4. No advanced payment for shop drawing preparation will be made. Shop drawing costs will be paid when equipment and materials are delivered and suitably stored on the site.

5. All stored equipment and materials for which payment is requested shall have two copies of invoices included with the pay request. Equipment shall be identified thoroughly on the invoices, including serial numbers.

6. Payment for the stored equipment and material which are on the site shall not exceed the invoiced amount for each item, less the Contract retainage. The overhead and profit for the stored item shall not be invoiced until the item is installed.

7. Payment for off-site storage is normally reserved for sensitive or very large pieces of equipment that in ENGINEER's opinion would not be practical to have stored on the site. Payment for off-site stored items shall be limited to 75% of the invoiced value of the item, less Contract retainage. CONTRACTOR shall reimburse OWNER the cost of inspecting off-site stored items. When off-site storage is approved, CONTRACTOR shall provide Insurance Certificates and Document of Ownership to OWNER.

SC-16.01 Dispute Resolution: Methods and Procedures

Delete paragraphs 16.01.A. through 16.01.C. of the General Conditions in their entirety and insert the following in their place:

A. Dispute resolution methods and procedures, if any, shall be as set forth in the Supplementary Conditions. If no method and procedure has been set forth, and subject to the provisions of paragraphs 9.09 and 10.05, OWNER and CONTRACTOR may exercise such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any dispute.

END OF SECTION

# SECTION 01000
# GENERAL SPECIFICATIONS

## PART ONE – GENERAL

1.01 LOCATION

A. Location of the work is as described on the Title Sheet of the plans or in the Special Provisions.

1.02 WORK REQUIRED

A. As described in the Advertisement for Bids and Proposal. The special provisions shall supersede the general specifications.

1.03 CONTRACT DRAWINGS

A. Location of the work, together with details for construction is as shown on drawings. These drawings, together with the specifications, form a part of the contract.

B. Where figures are shown on drawings, they shall take precedence over scaled distances and dimensions. In the event of any discrepancy between plans and these specifications, interpretation of the Engineer shall be decisive thereon. Figured dimensions on plans are to be taken as correct, but Contractors are required to check carefully all dimensions before beginning work thereon. Should errors be discovered, the Engineer's attention shall be called to same and proper corrections made. All notes on plans shall be fully observed by the Contractor and are a part of the Contract.

C. After award of contract but before fabrication of materials, and in ample time to permit satisfactory progress of the work, Contractors or manufacturers shall submit to the Engineer for approval drawings and/or schedules required for the work, in such detail as may be necessary for the Engineer to inform himself/herself of design and character of the various materials which the Contractor proposes to use. Upon approval of drawings, lists, prints, samples and other data, same shall become a part of contract and materials furnished shall be in conformance with this data.

D. Approval of drawings, lists, prints, samples and other data shall become a part of contract and materials furnished shall be in conformance with this data. Approval of these drawings, lists, samples and other data shall in no way release the Contractor from responsibility for proper fulfillment of requirements of this contract nor from his liability to replace materials should they prove defective or fail to meet specified requirements.

1.04 CONTOURS OR PROFILES

A. Contours or profiles of ground are shown on plans.

B. This data is believed to be reasonably correct but is not guaranteed to be absolutely so and, together with any schedule or quantities, is presented only as an approximation.

## 1.05 LINES AND GRADES

A. All work under this contract shall be built in accordance with lines and grades shown on plans and as given by the Engineer. These lines and grades may be modified as provided in contract.

B. The Engineer will furnish and set survey stakes for general location, alignment, grade, side slopes and other necessary points, with proper notes thereon and accompanied by necessary detailed instructions. Grade stakes or reference marks so given shall be carefully preserved.

C. The Contractor shall provide such materials and give such assistance as may be required for making measurements and for setting line. Grade boards, stakes or reference marks so given shall be carefully preserved.

D. The Contractor shall keep the Engineer informed a reasonable time in advance (at least 48 hours) as to his need for additional lines and grades in order that same may be furnished and all necessary measurements made for record and payment with minimum of inconvenience to the Engineer or of delay to the Contractor.

E. Unless otherwise noted, the Owner will provide stakes to mark grade and alignment of the work. The Contractor shall, at his own expense, furnish and place in position all necessary stakes and grade boards for locating the work. The Contractor shall also furnish, at his own expense, twilled lines, plummets and graduated poles for use in obtaining line and grade.

F. The Contractor shall take care not to disturb any survey stakes or monuments, or if they are to be disturbed and have to be moved, he shall have them properly referenced and reset or shall pay the cost of necessary survey and resetting.

## 1.06 BOUNDARIES OF WORK

A. The Owner will acquire ownership, easement or permit for occupation of properties on which the work is to be constructed and the Contractor shall not enter or occupy with persons, tools, equipment or materials any private ground outside these limits without consent of the property owner.

B. Other contractors of the Owner may, for all purposes required by their contracts, enter upon the work and premises used by the Contractor. The Contractor shall give to other contractors of the Owner all reasonable facilities and assistance for completion of adjoining work.

C. All work done shall be in compliance with any applicable permit requirements.

## 1.07 PROTECTION OF WORK

A. The Contractor shall provide and maintain proper barricades, fences, signal lights or watchmen to properly protect work, persons, animals, and property against injury. He shall also furnish and maintain signboards lettered "CLOSED" in large, readable type, on all approaches leading to the work as may be directed by the Engineer. These statements or specific duties on part of the Contractor shall not be considered as a limitation on general duties imposed by contract or specifications.

B. The Owner reserves the right to remedy any neglect on the part of the Contractor as regards protection of the work after 24-hours notice in writing, except in case of emergency when they shall have the right to remedy any neglect without notice, and in either case to deduct the cost of such remedy from any money due or to become due the Contractor.

## 1.08 BID ITEMS

A. The Contractor shall bid on construction of work under this contract on the basis of unit price and lump sum items as stated in the Proposal. Where unit prices are requested, quantities are subject to variation and final payment will be made on an agreed quantity as stated in specifications. Quantities for bid items which constitute completed work will be measured for payment according to provisions for those items and in terms of unit provided for such items.

B. All work included but not listed as bid items shall be considered as work incidental and subsidiary to the several bid items and will not be measured for payment.

## 1.09 TEMPORARY SERVICES

A. Water. The Contractor shall provide, at his own expense, water for his own use.

B. Lighting and Power. The Contractor shall provide, at his own expense, temporary lighting and facilities required for proper prosecution and inspection of the work.

C. Sanitary Regulations.

1. The Contractor shall prohibit and prevent the committing of nuisances on the site of the work or on adjoining property and shall discharge any employee who violates this ruling.

2. The Contractor shall supply ample toilet facilities for employees and a drinking water supply and shall maintain same, all in strict conformity with the law.

3. Heating. The Contractor shall provide temporary heat whenever required on account of work being carried on during cold weather and to prevent freezing of water pipes and other damage to work. No special item of payment will be provided for this item of work, but the Contractor shall be fully responsible and pay all costs.

## 1.10 TEMPORARY STRUCTURES

A. The Contractor shall provide his own material shed or other temporary structures, which shall be of substantial construction and neat appearance.

## 1.11 ORDER OF WORK

A. Order of work is subject to approval and direction of the Engineer.

## 1.12 TIME OF COMPLETION

A. See "INSTRUCTIONS TO BIDDERS."

## 1.13 CLEANING UP

A. Upon completion of his work, the Contractor shall repair or replace all improvements disturbed by construction work.
B. All surplus materials, tools, equipment and all surplus earth shall be removed and the premises left free of everything and in the condition it existed before operations commenced, or in its completed condition as planned and specified.

## 1.14 CHANGES AND INCREASED OR DECREASED QUANTITIES OF WORK

A. The Owner reserves and shall have the right to make such changes from time to time in the plans, character or quantity of work as may be considered necessary or desirable to complete, fully and acceptably, the proposed construction in a satisfactory manner, provided such alterations do not change the total cost of the project, based on originally estimated quantities and unit prices bid, by more than 25% and provided further that such alterations do not change the total cost of any major item, based on originally estimated quantities and unit price bid, by more than 25%.

B. A major item shall be construed to be any item the total cost of which is equal to or greater than 10% of the total contract price, computed on the basis of proposal quantity and contract unit price.

C. Should it become necessary for the best interests of the Owner to make changes in excess of those herein specified, same shall be covered by a supplemental agreement.

D. The Contractor shall not work on any alteration requiring a supplemental agreement until an agreement setting forth the adjusted prices has been executed by the Owner and the Contractor.

E. Should any of the changes not requiring a supplemental agreement be made as herein provided, the Contractor shall perform the work as altered, increased or decreased at the contract unit price or prices.

F. In case a satisfactory adjustment in price cannot be reached for any item requiring a supplemental agreement, the Owner reserves the right to terminate the contract as it applies to the items in question and to make such arrangements as may be deemed necessary to complete the work.

## 1.15 GUARANTEE OF MATERIALS AND WORKMANSHIP

A. All materials and workmanship furnished under these several specifications shall be guaranteed for a period of not less than one (1) year from date of completion and acceptance of the entire project by the Owner.

B. Terms of the Performance Bonds shall run for the life of the guarantee.

## 1.16 MEASUREMENT AND PAYMENT

A. Measurement. Bid items which will be measured for payment are listed in Proposal. All work included but not listed as bid items shall be considered as work incidental and subsidiary to the several bid items and will not be measured for payment.

B. Payment. Unit prices bid shall be considered compensation in full for all material, labor, equipment and appurtenances required to complete the work and shall include all materials, excavation, pipe laying, concrete construction, backfilling, restoration of surfaces, and final cleanup and removal of excess materials.

## 1.17 EROSION CONTROL

A. The Contractor shall take the necessary precautions during construction to minimize erosion of disturbed areas. Sedimentation basins or erosion control berms to prevent eroded soil or silt from reaching properties or streets shall be provided as shown on plans or directed by the Engineer.

B. Erosion control berms shall have a 15-foot long minimum washed stone filter at the low point to allow retained water to seep out. Filter stone shall be 3-inch minimum size. Berms shall be constructed at the commencement of grading operations. When the project is completed, all facilities constructed to prevent erosion shall be obliterated and areas shall be graded, topsoiled and seeded.

C. In street areas, if erosion control berms have retained water and have caused soft subgrade conditions, said soft or unsuitable areas shall be undercut and replaced with

suitable materials prior to placing crushed stone base course. Such undercutting and replacement shall be done as an incidental item at the Contractor's expense. Erosion control measure shall be installed before construction operations begin.

D. The cost of constructing, maintaining and removing erosion control devices shall be incidental work and shall be included in other appropriate bid items, unless addressed by specific bid items.

E. The Contractor shall make himself aware of and execute any local, county, state, or federal erosion control regulations or permits.

1.18 DUST CONTROL

A. The Contractor shall take necessary precautions during construction to minimize air-borne dust and dirt from leaving construction site.

B. Dust control shall be achieved by watering or the use of chemicals, as approved by the Engineer.

1.19 TRAFFIC CONTROL

A. Contractor shall provide and erect traffic signs and barricades to insure that work is not damaged by traffic.

B. Contractor shall maintain traffic throughout the project in such a manner that adjacent property owners can drive through the project and have access to and from their property.

C. Contractor may close single driveways for construction of curb and gutter and driveway replacement only after 48 hours notice is given to the property owner.

1.20 SOIL CONDITIONS

A. Soil borings are, if included, attached.

1.21 PRECONSTRUCTION CONFERENCE

A. Upon awarding of the contract, the Contractor shall notify and advise the Engineer of the time and place of a preconstruction conference. The Engineer will notify the Municipality, Utilities and other interested parties of the conference data and location.

B. No construction shall take place on the project prior to the preconstruction conference.

## 1.22 CUTTING AND PATCHING

A. Perform all cutting necessary for installation of new work or joining and keying of new work to existing work. Items removed temporarily for the convenience of the Contractor shall be removed and replaced by the Contractor as approved by the Engineer.

B. Neatly replace, patch and finish in kind adjacent surfaces or features displaced or disturbed in performance of the work. Make the joinings of new and existing work as inconspicuous as possible. Upon completion of the work, there shall be no discrepancy between new work and existing work. All broken and cut units shall be replaced with new units.

C. Where cutting and patching is required, the Contractor shall hire workers skilled in such cutting and patching to do the work.

D. The use of equipment which produces excessive dust or is unusually loud or is otherwise objectionable to the Owner shall be discontinued at the Owner's request.

E. Wherever any existing material, equipment or appurtenances, etc. not noted for removal, are damaged, cost of repair or replacement will be charged to the Contractor responsible for the damage.

## 1.23 RESPONSIBILITY FOR EXISTING UTILITIES

A. The Owner and his agents make no guarantee as to the actual size, location or condition of the underground and above ground utilities as shown on the drawings. Variations from the size or location as shown on the drawings, or the malfunctioning of the existing utilities, shall not be cause for extra payment under this Contract. The Contractor shall notify the various utilities involved so that all underground utilities can be located prior to construction underground.

B. During the installation of underground utilities appurtenances, the Contractor shall inspect all existing underground utilities and appurtenances for condition and soundness. The condition of all existing underground utilities shall be reported to the Owner immediately after exposing. The Contractor shall not proceed with his work until the Owner has been notified. The Owner shall then be given time to inspect and correct, if required, any existing sewers, manholes, water main, or other underground utilities and appurtenances.

C. The Contractor shall keep an accurate and complete record of all existing underground utilities encountered and shall provide the Owner a copy of this record. The record shall include a description of the item encountered, opinion as to condition, and adequate measurements and depths so that the item can be located in the future.

D. The Contractor shall satisfactorily repair any above ground utility or underground utility (water, sewer, gas, telephone, electric, etc.) that is damaged by construction operations. Any additional costs incurred because of failure of the Contractor to report the condition of any and all existing utilities encountered shall be paid by the Contractor.

**PART TWO – PRODUCTS**

NOT USED

**PART THREE – EXECUTION**

NOT USED

END OF SECTION 01000

# SECTION 02111
# CLEARING AND GRUBBING

## PART ONE – GENERAL

1.01 SECTION INCLUDES

A. Clearing and Grubbing as shown in the plans and described herein.

B. Clearing and Grubbing shall consist of cutting and disposing of trees and removing and disposing of stumps, where designated on the plan or directed by the Engineer.

C. Trees under six inches (6") in diameter, shrubs, brush, windfalls, logs and other vegetation within the right-of-way, where designated on the plan or directed by the Engineer, shall be removed, such work being incidental to other items of work.

D. Trees over 4 inches in diameter shall only be removed if marked in the field by the Engineer.

1.02 QUALITY ASSURANCE

A. Permits and Regulations

1. All demolition and site clearance is subject to all provisions of applicable local ordinances and regulations.
2. All local codes, rules and regulations governing the respective utilities shall be observed in executing all work under this section

1.03 JOB CONDITIONS

A. Protection

1. Protect from damage existing items indicated to remain by the erection of barriers or by other means approved by the Engineer.
2. All open depressions, excavations, pits, and the like, shall be barricaded. Adequate barricades shall be provided at all times. Barricades shall be constructed of materials which must conform to local safety regulations and must be acceptable to the Engineer. Remove barricades and fences when no longer required.
3. Keep all public highways and roads clean of spillage at all times. All potholes, ruts, pavement damage shall be repaired by the contractor immediately
4. It is the intent that barricades placed by the Contractor for safety or protection purposes is constructed of materials of the Contractor's choice, in accordance with applicable codes and regulations.

B. Utility Protection

1. The Contractor shall protect all existing utilities from damage resulting from his operations

C. Tree Protection

1. Protect all trees to remain within the contract limit lines from damage or injury by any construction operation or equipment, from abuse by workmen, or any other danger that might arise as a result of this work.
2. Where existing trees are vulnerable to damage by construction operations, the Contractor shall erect suitable barriers around trees to be protected.
3. Any damage to trees resulting from insufficient protection shall be repaired by a competent trees surgeon to the satisfaction of the Engineer without cost to the Owner.
4. Remove barriers when protection is no longer required.

## PART TWO – PRODUCTS

NOT USED

## PART THREE – EXECUTION

### 3.01 CONSTRUCTION METHODS

A. Where trees cannot be felled without danger to traffic or injury to other trees, structures or property, they shall be cut in sections from the top down.

B. All desirable and structurally sound trees, saplings or shrubs suitable for shade or street beautification purposes shall be saved unless otherwise ordered by the Engineer. Trees, saplings and shrubs designated to be left in place shall not be damaged or injured by the Contractor. The absence of specific orders to remove trees, saplings or shrubs shall be considered as orders to save such trees, saplings or shrubs. Trimming of limbs of trees or saplings or trimming of shrubs shall not be done without the permission of the Engineer.

C. Under proposed concrete sidewalk, concrete curb and gutter, all types of pavement, permanent structures and at such other places as directed by the Engineer, all tree stumps shall be completely removed by excavation. Tree stumps under other areas in the right-of-way may be removed with stump cutting machinery to a depth of at least twelve inches (12") below the original ground area in fill areas, and at least twelve inches (12") below the subgrade in cut areas.

D. The Contractor shall provide a disposal area for all trees, stumps, limbs, brush and vegetation from the project at no additional cost to the Owner.

**END OF SECTION 02111**

# SECTION 02120
# REMOVAL OF MISCELLANEOUS STRUCTURES

## PART ONE – GENERAL

### 1.01 SECTION INCLUDES

A. This work shall consist of removing, wholly or in part, pavements, surface and base courses, curb and gutter, sidewalks, crosswalks, driveways, steps, masonry, surface drains, guard rail, fences, poles, buildings, manholes, catchbasins, inlets and culverts occurring within the right-of-way, whether specified or subsequently found necessary and required.

B. This work shall also consist of salvaging and disposing of the resulting materials and backfilling the resulting trenches and pits; or, when specified, abandoning manholes, catchbasins or inlets by closing, filling or sealing as hereinafter provided.

### 1.02 QUALITY ASSURANCE

A. Permits and Regulations

1. All demolition and site clearance is subject to all provisions of applicable local ordinances and regulations.

2. All local codes, rules and regulations governing the respective utilities shall be observed in executing all work under this section

### 1.03 JOB CONDITIONS

A. Protection

1. Protect from damage existing items indicated to remain by the erection of barriers or by other means approved by the Engineer.

2. All open depressions, excavations, pits, and the like, shall be barricaded. Adequate barricades shall be provided at all times. Barricades shall be constructed of materials which must conform to local safety regulations and must be acceptable to the Engineer. Remove barricades and fences when no longer required.

3. Keep all public highways and roads clean of spillage at all times. All potholes, ruts, pavement damage shall be repaired by the contractor immediately

4. It is the intent that barricades placed by the Contractor for safety or protection purposes be constructed of materials of the Contractor's choice, in accordance with applicable codes and regulations.

B. Utility Protection

1. The Contractor shall protect all existing utilities from damage resulting from his operations

C. Tree Protection

1. Protect all trees to remain within the contract limit lines from damage or injury by any construction operation or equipment, from abuse by workmen, or any other danger that might arise as a result of this work.

2. Where existing trees are vulnerable to damage by construction operations, the Contractor shall erect suitable barriers around trees to be protected.

3. Any damage to trees resulting from insufficient protection shall be repaired by a competent trees surgeon to the satisfaction of the Engineer without cost to the Owner.

4. Remove barriers when protection is no longer required.

D. Shoring and Bracing

1. Shore and brace excavations as required to prevent cave-ins. Shoring and bracing shall be constructed of sound material, accurately placed, and securely braced. The Contractor shall assume full responsibility for adequate construction of shoring and bracing and shall b e responsible for the safety of all persons occupying excavated sites.

2. Provide shoring, including soldier beams and wood lagging or other protective measures, as may be necessary to protect at all times adjacent structures, facilities, and utilities. Assume the responsibility for the adequacy of the design, installation, and effectiveness of all shoring and other protective methods utilized, and repair damage resulting from failure to take adequate measures for protection of persons and adjacent property (including, but not limited to, land, structures, facilities, pavement, utilities, and grades). Remove shoring when no longer required.

3. Prior to installation, make every effort to determine the presence of existing underground conditions not indicated. If unknown services or obstructions are discovered, the Contractor shall notify the Engineer before proceeding.

4. Remove all shoring and bracing prior to backfilling.

E. Environmental Protection

1. When necessary, wet down materials or use other suitable methods to limit the amount of dust and dirt rising and scattering in the air to the lowest practical level.

F. Historic Structures

1. If archeological materials, including submerged features, artifacts, or structural materials are encountered, halt construction activities. Report the discovery to the Engineer immediately.

PART TWO – PRODUCTS

**2.01** BACKFILL MATERIALS

A. Satisfactory soil shall be excavated materials from on-site grading operations free of deleterious foreign matter. All backfill shall be free of vegetable matter, debris, frozen matter, and concrete or stone larger than three inches in its greatest dimension.

B. Select fill shall be embankment material as described in the State of Wisconsin Department of Transportation Standard Specifications for Highway and Structure Construction, Latest Edition.

PART THREE – EXECUTION

3.01 CONSTRUCTION METHODS

A. Removing Structures

1. All existing structures, with all attached parts and connections, shown on the plans to be removed or that interfere with the new construction, shall be entirely removed within the limits shown, unless otherwise provided. No equipment or devices shall be used which might damage structures, facilities or property which are to be preserved and retained. All operations necessary for the removal of any existing structure, which might endanger the new construction, shall be completed prior to the construction of the new work.

2. All walls, piers, surface drains, foundations and similar masonry structures shall be removed entirely unless otherwise directed by the Engineer.

3. In removing manholes, catch basins and inlets, any live sewers connected with them shall be rebuilt and properly reconnected, and satisfactory bypass service shall be maintained during such construction operations.

4. Pipe culverts designated for salvage shall be removed, stored, transported and handled in a manner that will preclude damage to the culverts.

5. When a portion of the existing structure is to be retained, care shall be taken during construction operations not to impair the value of the retained portion. Reinforcing bars which are to be left in place to project into new work as dowels or ties shall not be injured during removal of the concrete.

6. In removing pavement, curb, gutter, sidewalk, crosswalks, driveways, steps and similar structures, where portions of the existing structure are to be left in the surface of the finished work, the structure shall be removed to an existing joint or saw cut and chipped to a true line with a face perpendicular to the surface of the existing structure. Sufficient removal shall be made to provide for proper grades and connections to the new work.

7. Where existing culverts, manholes, catch basins and similar structures are to be extended or otherwise incorporated in the new work, only such part or parts of the existing structure shall be removed as are necessary to provide a proper connection to the new work. The connecting edges shall be cut, chipped and trimmed to the required lines and grades without weakening or damaging the part of the retained structure.

8. Buildings to be removed shall be razed, all material and debris resulting therefrom disposed of, and any resulting openings backfilled. The building or buildings to be removed will be designated in the contract by a general description and with reference to a survey station. All buildings to be removed and all materials resulting from the razing of buildings shall become the property of the Contractor unless otherwise provided in the contract. The Owner assumes no responsibility for the condition of any building at any time, and no guarantee is made or implied that any building will remain in the condition the Bidder finds it when the building is examined incident to preparing the proposal.

9. The Contractor shall procure all permits necessary for razing and removing buildings, including those necessary where streets or alleys are obstructed by the work. The razing of buildings and the removal of the materials thereof shall be performed in a safe manner and in compliance with the requirements of the Wisconsin Department of Commerce and any applicable City ordinances. Where hazardous conditions are created incident to the contract operations, the Contractor shall furnish, erect and maintain suitable barricades to protect and safeguard the public.

10. The Contractor shall notify public utility companies and the Municipal Engineer of the municipality serving the building in sufficient time prior to razing operations to permit them to disconnect, plug and/or remove such of their facilities as may be in the building. Municipal water service lines shall be shut off at the curb boxes and sewer connections shall be tightly plugged or sealed.

11. Unless otherwise provided, the removal of a building shall include the removal of foundation walls to the elevation of the basement floor or two feet (2') below the original ground, or two feet (2') below the proposed earth subgrade, whichever is lower. Before backfilling, all debris shall be removed. Holes shall be broken in basement floors to permit drainage.

B. Abandoning Structures

1. If the contract calls for abandoning manholes, catch basins or inlets, they shall be thoroughly cleaned and the existing pipe connections shall be plugged with brick or concrete block masonry or with concrete of the class and grade specified for structures. The roofs of the structure shall be removed. The walls of the structures shall be removed to the required elevation. Before backfilling, all debris shall be removed. Holes shall be broken in the floors of the structures to permit drainage.

C. Disposing of Materials

1. All materials having salvage value shall be carefully removed to avoid damage and shall become the property of the Contractor unless otherwise designated.

D. Backfilling

1. All trenches, holes and pits resulting from removal or abandoning of miscellaneous structures shall be filled with satisfactory soil or with select fill, if so provided or required, placed in layers not more than twelve inches (12") in thickness. Each layer shall be thoroughly compacted by means of approved tampers, rollers or with vibrators. Water shall not be used to expedite settlement of backfill except with the approval of the Engineer; this provision shall not be construed to require an excavation to be dewatered before placing backfill if backfilling can be performed in such manner as to displace the water or prevent its entrapment in the backfill.

2. Unless otherwise provided in the contract, backfilling shall be made to the elevation of the natural ground, the proposed finished earth subgrade or finished slopes, as may be necessary due to the location of the removed structure.

END OF SECTION 02120

# SECTION 02140
# DEWATERING

## PART ONE – GENERAL

1.01 SECTION INCLUDES

A. Dewatering and disposal of pumped water.

1.02 REFERENCES

A. Codes and Standards

1. Perform the work in compliance with applicable requirements of governing authorities having jurisdiction.

1.03 PERMITS

A. Contractor shall obtain any and all dewatered disposal permits as may be required by governing authorities having jurisdiction.

## PART TWO – PRODUCTS

NOT USED

## PART THREE – EXECUTION

3.01 DEWATERING

A. The Contractor shall, at his own expense, keep all excavations clear of water while structures, pipeline and appurtenances are being built. Under no conditions, except by written consent of the Engineer, will the Contractor be allowed to lay work in water, and no water shall be allowed to flow over the work until structures and pipe are in a watertight condition.

B. Wherever required, the Contractor shall excavate in advance of completed work and lead water into sumps or pump wells.

C. The Contractor shall dispose of water from the work in a suitable manner without damage to adjacent property or sewers.

D. No water shall be drained into work built or under construction unless consent of the Engineer is first obtained.

**END OF SECTION 02140**

# SECTION 02200
# SITE PREPARATION /EARTHWORK

## PART ONE – GENERAL

1.01 SECTION INCLUDES

A. Provide all labor, materials, and equipment necessary to complete all site preparation and earthwork in accordance with these specifications.

B. Contractor shall satisfy themselves as to the extent of their work and conditions on the site prior to submitting a bid.

C. Contractor shall restore any subgrades, fill material, base course, compaction, or other work disturbed while performing work under this contract.

1.02 QUALITY ASSURANCE

A. Reference Standards

1. ASTM D698 – Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5-lb. Rammer and 12-in. Drop.

2. ASTM D1556 – Test Method for Density of Soil in Place by Sand-Cone Method.

3. ASTM D2167 – Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.

4. ASTM D2922 – Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

5. ASTM D2937 – Test Method for Density of Soil in Place by the Drive-Cylinder Method.

B. Construction Standards

1. Unless otherwise noted, work shall conform to the latest edition of the State of Wisconsin Standard Specifications for Road and Bridge Construction.

C. Testing

1. Final stripping, excavation, subgrade preparation, all backfilling, base course, and bedding operations shall be monitored and tested by a qualified independent geotechnical engineer hired by the Contractor to verify acceptable subgrade material and material compaction before further construction work is performed.

2. Owner will engage soil testing and inspection source to perform sampling and testing of soil materials proposed for use in the work and field testing facilities for quality control during earthwork operations.

3. As a minimum, field density tests shall be performed as scheduled below in accordance with ASTM D1556 sand cone method), or ASTM D2167 rubber balloon method), ASTM D2922 nuclear method), or ASTM D2937 drive cylinder method) as applicable:

   a. Footing Subgrade:

      (1) For each strata of cohesionless sand soil on which footings will be placed, at least one test to verify required design bearing capacities. Subsequent verification and approval of each footing subgrade may be based on a visual comparison of each subgrade with related testing strata, when acceptable to Owner's Representative.

      (2) For each strata consisting of cohesive clay soil the excavation shall be observed by the geotechnical engineer or owners representative to verify estimated bearing capacity.

      (3) If fill is required below footings, fill material must be approved by the geotechnical engineer and density tests performed to verify compaction.

4. Paving and Building Slab Subgrade: At least one field density test of subgrade for every 1000 square foot of building slab, but in no case less than three tests in an isolated area. In each compacted fill layer, one field density test for every 1000 square foot of overlaying building slab or paved area, but in no case less than three tests in an isolated area. [Specifier: For very large building or paving areas, testing frequency could be reduced to one every 5000 square feet.]

5. Backfill: For each compacted fill layer, one field density test for every 1000 square foot of horizontal area of backfill but in no case less than 3 tests around an isolated structure or building.

6. If an opinion of Geotechnical Engineer or Owner's Representative, based on testing service reports and inspection, subgrade or fills which have been placed are below specified density, contractor shall provide additional compaction and testing at no additional expense to Owner.

D. Compaction

Each contractor/subcontractor shall be responsible to confirm that final compaction of underlying subgrade work under other contracts, subcontracts or bid packaged has been performed and verified complete and acceptable by field tests prior to beginning subsequent work.

E. Quality Control

The Contractor shall be fully responsible for whatever other quality control measures, tests, or procedures are necessary to perform, complete, maintain, verify the work to be in conformance with the specifications regardless of initial acceptance tests or other measures which may be taken independently by the Owner.

1.03 SUBMITTALS

A. Refer to Division 1 for Submittal Requirements.

1. Gradation reports for proposed fill, bedding and base course material.

2. Results of moisture/density analysis for proposed fill, bedding, and base course material.

3. Results of all field density tests and retests.

**PART TWO – PRODUCTS**

2.01 MATERIALS

A. General

1. Material shall conform to the following. Compact as described herein unless noted otherwise. Standard Proctor, ASTM D698.

B. Granular Fill/Select Fill

1. Materials: Shall be nonexpansive compacted granular fill consisting of crushed or granular granitic stone or pit-run sand and gravel, free of debris and organic matter. All such fill shall meet the following acceptance criteria:

| | |
|---|---|
| Percent Passing 3-inch Sieve | 100 |
| Percent Passing No. 4 Sieve | 50-100 |
| Percent Passing No. 200 Sieve | 10 max. |
| Plasticity Index | 0 |
| Expansion Index | 0 |

2. Application: All fill below footings, structures, and building floors shown on the plans.

C. Random Fill

1. Materials: Compacted random fill unless noted otherwise. Random fill material may be excavated material or equal, fee from vegetative matter, or other

deleterious substances and shall not contain large rocks, lumps, or soils of high plasticity.

D. Topsoil

1. Materials: Fertile, friable, natural loam, surface soil, reasonably free of subsoil, clay lumps, brush, weeds and other litter, and free of roots, stumps, stones larger than 2" in any dimension and other extraneous or toxic matter harmful to plant growth. Obtain from site and/or local sources having well-drained site characteristics. Do not obtain from bogs or marshes.

## PART THREE – EXECUTION

### 3.01 CLEARING AND GRUBBING

A. Remove and dispose of all vegetation, logs, trees, brush and other rubbish from within the building area, paved areas and grading limits unless noted otherwise. All stumps and roots shall be removed to a depth of 12 inches below natural ground or finished grade, whichever is lower.

B. Contractor shall dispose of and replace any excavated materials rendered unacceptable for reuse due to freezing, contamination with unacceptable materials, unacceptable moisture content or other causes.

### 3.02 STRIPPING AND STORING TOPSOIL

A. Strip topsoil from within the building area, paved areas and grading limits. Topsoil shall be stockpiled for later spreading to obtain finish grades.

### 3.03 COMPACTION OF EXISTING SOILS

A. All existing soils below areas to be paved and within building walls shall be compacted or proof rolled as specified herein.

B. Cohesionless soils shall be proof rolled and compacted with a minimum of three passes with a heavy, steel wheeled, vibratory roller or equivalent approved method. Cohesive soils should remain as undisturbed as possible except to proof roll with a loaded tandem axle truck prior to placing fill or construction. Soft or yielding areas shall be removed and replaced or otherwise improved to the Engineer's or Owner's requirements.

C. Adjust moisture as required and compact with vibrating roller in 8" minimum loose lifts, or in 6" maximum loose lifts using hand tampers in local areas. Compact to minimum 98% of the Standard Proctor maximum density below footings and within the perimeter of new buildings and miscellaneous structures, and to minimum 95% of the Standard Proctor maximum density below exterior pavements.

D. Fill material shall be placed in layers which, when compacted, shall not exceed 12 inches. Each layer shall be spread evenly and shall be thoroughly blade-mixed during spreading to insure uniformity of material in each layer. After each layer has been placed and evenly spread, it shall be thoroughly compacted to maximum practical density to avoid future settlement. Compaction shall be by means of tamping or sheepsfoot rollers, multiple-wheel pneumatic-tired rollers, or other types of rollers or equivalent which will be capable of compacting the fill to the desired density. Rolling shall be accomplished while fill material is at the desired moisture content. Rolling of each layer shall be continuous over its entire area and sufficient passes shall be made by rolling equipment to insure that the desired maximum practical density has been obtained.

1. Application: Use for all fill material above the footings outside the building perimeter, and outside the limits of paved areas, sidewalks and stairs; and anywhere else other fill materials are not noted or specified or required by manufacturers or agencies.

E. Placement: Place and work to achieve a final stable minimum thickness indicated, free of settlement.

1. Application: Use over all unpaved areas within stripping/grading limits.

F. Alert Owner to any unexpected soft areas encountered prior to taking corrective measures.

## 3.04 DEWATERING

A. The Contractor shall provide all temporary trenches, ditches, sumps, pumps and other dewatering provisions as may be necessary to maintain dry excavation; prevent accumulation of water in, above or adjacent to building subgrades; and to prevent migration or collection of water in filled areas under new structures.

## 3.05 PROTECTING ADJACENT STRUCTURES

A. Excavation to line and grade as indicated on the drawings. Any excavation cuts carried to an elevation below the required elevation shall be refilled with the appropriate fill as described below, and compacted as described. Excavated material shall be piled in such a manner as to prevent sloughing-in on excavated areas, and to prevent contamination with material which would render it unsuitable for reuse as backfill. Rocks in excess of one (1) cubic yard shall be removed and disposed of off-site.

B. Notify Owner upon completion of excavation and subgrade preparation operations to permit Owner inspection, evaluation and verification of subgrade conditions before beginning subsequent operations.

C. Alert Owner to any unexpected random fill areas or soft spots encountered during the

work.

D. Stockpile acceptable excavated material for reuse later. Stockpile remainder of material stripped from these areas out of the way for later use in general landscaping and shaping outside the limits of buildings and pavements.

## 3.06 EXCAVATION

A. Preparing Areas to be Filled: Where fills are made on hillsides or slopes, keyways shall be excavated into the slope of the original ground upon which fill is to be placed. Where the nature of the ground justifies taking greater precautions for binding the fill to the original ground, steps shall be cut into the original ground before filling is begun.

B. Moisture Content. Moisture content of fill material shall be such that fill can be compacted to maximum practical density. If moisture content of fill material is below the amount needed to create the necessary density, the proper amount of water shall be added. Similarly, if moisture content of fill material is above the amount necessary to create the desired density, fill material shall be aerated by blading or other satisfactory method until moisture content of fill material is satisfactory. If saturated fill cannot be adequately dried, fill shall be removed and replaced.

C. Seasonal Limits

1. No fill material shall be placed, spread or rolled while the ground or fill is frozen or thawing, or during unfavorable weather conditions.

2. When the work is interrupted by heavy rain, fill operations shall not be resumed until moisture content and density of fill are as previously specified.

D. General Backfill Limits

1. Unless otherwise noted or required for finish materials, backfill shall be brought to the following levels.

a. Backfill within new building perimeters shall be carried to an elevation to accommodate floor elevations and bedding materials shown on the plans unless otherwise noted.

b. Backfill outside building limits shall be carried to an elevation required to accommodate thickness of base courses and pavements.

c. Backfill not within other limits described above shall be carried to an elevation of 4" below finished grade for topsoil, unless otherwise required for other site improvements or landscaping.

2. Coordinate and sequence fill operations as necessary with portions of work being

done by others including but not limited to:

a. Utility work.

b. Foundation insulation installation.

3. Backfill and compact both sides of walls equally and temporarily brace as required to prevent movement or damage of new construction due to unequal loads until final slabs are in place and have reached specified 28 day strength.

4. Final trim and fill subgrades, bedding and base course to achieve final floor/paving slopes and elevations indicated on the drawings.

## 3.07 FINISH GRADING

A. Spread stockpiled topsoil and furnish and spread additional topsoil as required to a minimum depth of 4" on unpaved areas within the grading limits to obtain finish elevations as indicated on the drawings. Slope the grade away from the building so that the site will be free-draining and without mounds or depressions. Slopes shall not be steeper than 4 horizontal to vertical unless otherwise indicated.

## 3.08 FINAL CLEANUP

A. Any surplus excavation, fill, spoil and topsoil becomes the property of the Contractor and shall be removed from the site, unless otherwise approved by Owner to be neatly stockpiled in a location approved by the Owner for the Owner's future use.

**END OF SECTION 02200**

# SECTION 02215
# EROSION AND SEDIMENT CONTROL

## PART ONE – GENERAL

### 1.01 SECTION INCLUDES

A. Erosion and sedimentation control on project site.

B. The General Criteria are minimum requirements for controlling erosion and sedimentation from construction site activities. These specifications are modeled after the Erosion Control.

C. The General Criteria relate to the application of erosion and sediment control practices specified; however, other innovative practices or modifications to specified practices may be used if approved by the City Engineer prior to installation. Such practices must be thoroughly described and detailed to the satisfaction of the City Engineer.

### 1.02 GENERAL CRITERIA

A. Stabilization of Denuded Areas and Soil Stockpiles

1. Permanent or temporary soil stabilization must be applied to denuded areas within 15 days after final grade is reached on any portion of the site. Soil stabilization must also be applied within 15 days to denuded areas which may not be at final grade but will remain dormant (undisturbed) for longer than 60 days.

2. Soil stabilization refers to measures which protect soil from the erosive forces of raindrop impact and flowing water. Applicable practices include vegetative establishment, mulching, and the early application of gravel base on areas to be paved. Soil stabilization measures should be selected to be appropriate for the time of year, site conditions and estimated duration of use.

3. Soil stockpiles must be stabilized or protected with sediment trapping measures to prevent soil loss.

B. Establishment of Permanent Vegetation.

1. A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved which, in the opinion of the Engineer or his designated agent, is mature enough to control soil erosion satisfactorily and to survive severe weather conditions.

C. Protection of Adjacent Properties.

1. Properties adjacent to the site of a land disturbance shall be protected from sediment deposition. This may be accomplished by preserving a well-vegetated buffer strip around the lower perimeter of land disturbance, by installing perimeter controls such as sediment barriers, filters or dikes, or sediment basins, or by a combination of such measures.

D. Timing and Stabilization of Sediment Trapping Measures.

1. Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment on-site must be constructed as a first step in grading and be made functional before upslope land disturbance takes place. Earthen structures such as dams, dikes, and diversions must be seeded and mulched within 15 days of installation.

E. Cut and Fill Slopes.

1. Cut and fill slopes must be designed and constructed in a manner which will minimize erosion. Consideration must be given to the length and steepness of the slope, the soil type, upslope drainage area, groundwater conditions and other applicable factors. Slopes which are found to be eroding excessively within one year of construction must be provided with additional slope stabilizing measures until the problem is corrected. The following guidelines are provided to aid site planners and plan reviewers in developing an adequate design.

    a. Roughened soil surfaces are generally preferred to smooth surfaces on slopes.

    b. Diversions should be constructed at the top of long steep slopes which have significant drainage areas above the slope. Diversions or terraces may also be used to reduce slope length.

    c. Concentrated stormwater should not be allowed to flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume or slope drain structure.

    d. Wherever a slope face crosses a water seepage plane, thus endangering the stability of the slope, adequate drainage or other protection should be provided.

F. Stabilization of Waterways and Outlets.

1. All on-site stormwater conveyance channels shall be designed and constructed to withstand the expected velocity of flow from a 2-year frequency storm without erosion. Stabilization adequate to prevent erosion must also be provided at the outlets of all pipes and paved channels.

G. Storm Sewer Inlet Protection.

1. All storm sewer inlets which are made operable during construction shall be protected so that sediment-laden water will not enter the conveyance system without first being filtered or otherwise treated to remove sediment.

H. Working in or Crossing Watercourses.

1. Construction vehicles should be kept out of watercourses to the extent possible. Where in-channel work is necessary, precautions must be taken to stabilize the work area during construction to minimize erosion. The channel (including bed and banks) must always be re-established immediately after in-channel work is completed.

2. Where a live (wet) watercourse must be crossed by construction vehicles during construction, a TEMPORARY STREAM CROSSING must be provided.

I. Underground Utility Construction.

1. The construction of underground utility lines shall be subject to the following criteria:

    a. No more than 500 feet of trench are to be opened at one time.

    b. Where consistent with safety and space considerations, excavated material is to be placed on the uphill side of trenches.

c. Trench dewatering devices shall discharge in a manner which will not adversely affect flowing streams, drainage systems or off-site property.

J. Construction Access Routes.

1. Wherever construction vehicle access routes intersect paved public roads, provisions must be made to minimize the transport of sediment (mud) by runoff or vehicle tracking onto the paved surface. Where sediment is transported onto a public road surface, the roads shall be cleaned thoroughly at the end of each day. Sediment shall be removed from roads by shoveling or sweeping and be transported to a sediment controlled disposal area. Street washing shall be allowed only after sediment is removed in this manner.

K. Disposition of Temporary Measures.

1. All temporary erosion and sediment control measures shall be disposed of within 30 days after final site stabilization is achieved or after the temporary measures are no longer needed, unless otherwise authorized by the Engineer. Trapped sediment and other disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation.

L. Maintenance.

1. All temporary and permanent erosion and sediment control practices must be maintained and repaired as needed to assure continued performance of their intended function.

## PART TWO – PRODUCTS

### 2.01 STONE STABILIZATION PAD AGGREGATE

A. A stone stabilized pad located at points of vehicular ingress and egress on a construction site shall be established.

B. The aggregate layer must be at least 6 inches thick. It must extend the full width of the vehicular ingress and egress area. The length of the entrance must be at least 50 feet.

C. If conditions on the site area such that the majority of the mud is not removed by the vehicles traveling over the gravel, then the tires of the vehicles must be washed before vehicle enters a public road. Wash water must be carried away from the entrance to a settling area to remove sediment. A wash rack may also be used to make washing more convenient and effective.

D. The entrance shall be located to provide for maximum use by all construction vehicles.

E. The area of the entrance shall be cleared of all vegetation, roots, and other objectionable material. The gravel shall be placed to the specified dimensions. Any drainage facilities required because of washing shall be constructed according to specifications. If wash racks are used, they shall be installed according to manufacturer's specifications.

F. The entrance shall be maintained in a condition which will prevent tracking or flow of mud onto public right-of-way. This may require periodic top dressing with 3-inch stone, as conditions demand, and repair and/or cleanout of any structures used to trap sediment. All materials spilled, dropped, washed, or tracked from vehicles onto roadways or into storm drains must be removed immediately.

## 2.02 SILT FENCE

A. A silt fence is a temporary sediment barrier consisting of a filter fabric stretched across and attached to supported posts and entrenched. There are two types. The Silt Fence is a temporary linear filter barrier constructed of synthetic filter fabric, posts, and, depending upon the strength of the fabric used, wire fence for support. The Filter Barrier is constructed of stakes and burlap or synthetic filter fabric.

1. Materials

a. Synthetic filter fabric shall be a pervious sheet of propylene, nylon, polyester or ethylene yarn and shall be certified by the manufacturer or supplier as conforming to the following requirements:

| Physical Property | Test | Requirements |
|---|---|---|
| Filtering Efficiency | VTM-51 | 75% (minimum) |
| Tensile Strength at 20% (maximum) Elongation* | VTM-52 | Extra Strength- 50 lbs/lin. in. (minimum) Standard Strength- 30 lbs./lin. in. (minimum) |
| Flow Rate | VTM-51 | 0.3 gal./squ. ft./min. (minimum) |
| * Requirements reduced by 50 percent after 6 months of installation. | | |

urlap shall be 10 ounce per square yard fabric.

c. Posts for Silt Fences shall be either 4-inch diameter wood or 1.33 pounds per linear foot steel with a minimum length of 5 feet. Steel posts shall have projections for fastening wire to them.

d. Stakes for Filter Barriers shall be 1" x 2" wood (preferred) or equivalent metal with a minimum length of 3 feet.

e. Wire fence reinforcement for silt fences using standard strength filter cloth shall be a minimum of 42 inches in height, a minimum of 14 gauge and shall have a maximum mesh spacing of 6 inches.

2. Filter Barrier. This sediment barrier may be constructed using burlap or standard strength synthetic filter fabric. It is designed for low or moderate flows not exceeding 1 cfs.

a. The height of a filter barrier shall be a minimum of 15 inches and shall not exceed 18 inches.

b. Burlap or standard strength synthetic filter fabric shall be purchased in a continuous roll and cut to the length of the barrier to avoid the use of joints (and thus improve the strength and efficiency of the barrier).

c. The stakes shall be spaced a maximum of 3 feet apart at the barrier location and driven securely into the ground to a depth of at least 8 inches.

d. A trench shall be excavated approximately 4 inches wide and 4 inches deep along the line of stakes and upslope from the barrier.

e. The filter material shall be stapled to the wooden stake, and 8 inches of the fabric shall be extended into the trench. Heavy duty wire staples at least 2-inch long shall be used. Filter material shall not be stapled to existing trees.

f. The trench shall be backfilled and the soil compacted over the filter material.

g. If a filter barrier is to be constructed across a ditch line or swale, the barrier shall be of sufficient length to eliminate end flow, and the plan configuration shall resemble an arc or horseshoe with the ends oriented upslope.

h. Filter barriers shall be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized.

3. Silt Fence. This sediment barrier utilizes standard strength or extra strength synthetic filter fabrics. It is designed for situations in which only sheet or overland flows are expected.

a. The height of a silt fence shall not exceed 36 inches (higher fences may impound volumes of water sufficient to cause failure of the structure).

b. The filter fabric shall be purchased in a continuous roll cut to the length of the barrier to avoid the use of joints. When joints are necessary, filter cloth shall be spliced together only at a support post, with a minimum 6-inch overlap, and securely sealed.

c. Posts shall be spaced a maximum of 10 feet apart at the barrier location and driven securely into the ground (minimum of 12 inches). When extra strength fabric is used without the wire support fence, post spacing shall not exceed 6 feet.

d. A trench shall be excavated approximately 4 inches wide and 4 inches deep along the line of posts and upslope from the barrier.

e. When standard strength filter fabric is used, a wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy duty wire staples at least 1 inch long, tie wires or hog rings. The wire shall extend into the trench a minimum of 2 inches above the original ground surface.

f. The Standard Strength filter fabric shall be stapled or wired to the fence, and 8 inches of the fabric shall be extended into the trench. The fabric shall not extend more than 36 inches above the original ground surface. Filter fabric shall not be stapled to existing trees.

g. When extra strength filter fabric and closer post spacing are used, the wire mesh support fence may be eliminated. In such a case, the filter fabric is stapled or wired directly to the posts with all the provisions of Item No. 6 applying.

h. The trench shall be backfilled and the soil compacted over the filter fabric.

i. Silt fences shall be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized.

## PART THREE – EXECUTION

### 3.01 TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

A. A stone stabilized pad located at points of vehicular ingress and egress on a construction site shall be established per the drawings.

### 3.02 CONSTRUCTION ROAD STABILIZATION

A. Access roads, subdivision roads, parking areas, and other on-site vehicle transportation routes shall be temporarily stabilized with stone immediately after grading.

1. Temporary Access Roads and Parking Areas. Temporary roads shall follow the contour of the natural terrain to the extent possible. Slopes shall not exceed 10 percent.

2. Temporary parking areas shall be located on naturally flat areas where possible to minimize grading. Grades should be sufficient to provide drainage but should not exceed 4 percent.

3. Roadbeds shall be at least 14 feet wide for one-way traffic and 20 feet wide for two-way traffic.

4. All cuts and fills shall be 2:1 or flatter to the extent possible.

5. Drainage ditches shall be provided as needed and shall be constructed as shown on the detailed plans.

6. The roadbed or parking surface shall be cleared of all vegetation, roots and other objectionable material.

7. A 6-inch course of WDOT No. 1 aggregate shall be applied immediately after grading or the completion of utility installation within the right-of-way. Filter fabric may be applied to the roadbed for additional stability in accordance with fabric manufacturer's specifications.

8. Vegetation. All roadside ditches, cuts, fills and disturbed areas adjacent to parking areas and roads shall be stabilized with appropriate temporary or permanent vegetation according to the applicable standards and specifications.

9. Maintenance. Both temporary and permanent roads and parking areas may require periodic top dressing with new gravel. Seeded areas adjacent to the roads and parking areas shall be checked periodically to insure that a vigorous stand of vegetation is maintained. Roadside ditches and other drainage structures shall be checked regularly to insure that they do not become clogged with silt or other debris.

### 3.03 STRAW BALE BARRIER

A. A temporary sediment barrier consisting of a row of entrenched and anchored straw bales shall be erected as needed to control sheet or channel flow of water.

1. Sheet Flow Applications

a. Bales shall be placed in a single row, lengthwise on the contour, with ends of adjacent bales tightly abutting one another.

b. All bales shall be either wire-bound or string-tied. Straw bales shall be installed so that bindings extend around the sides rather than along the tops and bottoms of the bales (in

order to prevent deterioration of the bindings).

c. The barrier shall be entrenched and backfilled. A trench shall be excavated the width of a bale and the length of the proposed barrier to a minimum depth of 4 inches. After the bales are staked and chinked as hereinafter described, the excavated soil shall be backfilled against the barrier. Backfill soil shall conform to the ground level on the downhill side and shall be built up to 4 inches against the uphill side of the barrier.

d. Each bale shall be securely anchored by at least two stakes or re-bars driven through the bale. The first stake in each bale shall be driven toward the previously laid bale to force the bales together. Stakes or re-bars shall be driven deep enough into the ground to securely anchor the bales.

e. The gaps between bales shall be chinked (filled by wedging) with straw to prevent water from escaping between the bales. (Loose straw scattered over the area immediately uphill from a straw bale barrier tends to increase barrier efficiency.)

f. Inspection shall be frequent and repair or replacement shall be made promptly as needed.

g. Straw bale barriers shall be removed when they have served their usefulness, but not before the upslope areas have been permanently stabilized.

2. Channel Flow Applications

a. Bales shall be placed in a single row, lengthwise, oriented <u>perpendicular</u> to the contour, with ends of adjacent bales tightly abutting one another.

b. The remaining steps for installing a straw bale barrier for sheet flow applications apply here, with the following addition.

c. The barrier shall be extended to such a length that the bottoms of the end bales are higher in elevation than the top of the lowest middle bale to assure that sediment-laden runoff will flow either through or over the barrier but not around it.

3. Maintenance

a. Straw bale barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall.

b. Close attention shall be paid to the repair of the damaged bales, end runs and undercutting beneath bales.

c. Necessary repairs to barriers or replacement of bales shall be accomplished promptly.

d. Sediment deposits should be removed after each rainfall. They must be removed when the level of deposition reaches approximately one-half the height of the barrier.

e. Any sediment deposits remaining in place after the straw bale barrier is no longer required shall be dressed to conform to the existing grade prepared and seeded.

## 3.04 SILT FENCE MAINTENANCE

A. Silt fences and filter barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately.

B. Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and the barrier still be necessary, the fabric shall be replaced promptly.

C. Sediment deposits should be removed after each storm event. They must be removed when deposits reach approximately one-half the height of the barrier.

D. Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required shall be dressed to conform with the existing grade, prepared and seeded.

## 3.05 STORM DRAIN INLET PROTECTION

A. Storm drain inlet protection may be accomplished by use of a sediment filter or an excavated impounding area around a storm drain drop inlet or curb inlet.

1. Straw Bale Drop Inlet Structure

   a. Bales shall be either wire-bound or string-tied with the bindings around the sides rather than over and under the bales.

   b. Bales shall be placed lengthwise in a single row surrounding the inlet, with the ends of adjacent bales pressed together.

   c. The filter barrier shall be entrenched and backfilled. A trench shall be excavated around the inlet the width of a bale to a minimum depth of 4 inches. After the bales are staked, the excavated soil shall be backfilled and compacted against the filter barrier.

   d. Each bale shall be securely anchored and held in place by at least two stakes or re-bars driven through the bale.

   e. Loose straw shall be wedged between bales to prevent water from entering at gaps.

2. Gravel and Wire Mesh Drop Inlet Sediment Filter

   a. Wire mesh shall be laid over the drop inlet so that the wire extends a minimum of 1 foot beyond each side of the inlet structure. Hardware cloth or comparable wire mesh with 1/2 inch openings shall be used. If more than one strip of mesh is necessary, the strips shall be overlapped.

   b. WDOT No. 1 Coarse Aggregate shall be placed over the wire mesh. The depth of stone shall be at least 12 inches over the entire inlet opening. The stone shall extend beyond the inlet opening at least 18 inches on all sides.

3. Excavated Drop Inlet Sediment Trap

   a. The excavated trap shall be sized to provide a minimum storage capacity calculated at the rate of 67 cubic yards for 1 acre of drainage area. A trap shall be no less than 1 foot nor more than 2 feet deep measured from the top of the inlet structure. Side slopes shall not be steeper than 2:1.

   b. The slope of the basin may vary to fit the drainage area and terrain. The trap shall be checked and modifications shall be made as necessary to insure satisfactory trapping of sediment. Where an inlet is located so as to receive concentrated flows, such as in a highway median, it is recommended that the basin have a rectangular shape in a 2:1 ratio, with the length oriented in the direction of the flow.

4. Maintenance

   a. The structure shall be inspected after each rain and repairs made as needed.

   b. Sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode. If a stone filter becomes clogged with sediment so that it no longer adequately performs its function, the stones must be pulled away from the inlet, cleaned and replaced.

   c. Structures shall be removed and the area stabilized when the remaining drainage area has been properly stabilized.

## 3.06 TEMPORARY EARTHEN BERM

A. This term indicates a temporary ridge of compacted soil located at the top or base of a sloping disturbed area.

   1. Height. The minimum allowable height measured from the upslope side of the dike is 18 inches.

   2. Side Slopes. Slope of side must be 1.5H:1V or flatter. (Minimum base width shall be 4.5 feet.)

   3. Grade. The channel behind the dike shall have a positive grade to a stabilized outlet. If the channel slope is less than or equal to 2%, no stabilization is required. If the slope is greater than 2%, the channel shall be stabilized in accordance with Standard Specifications.

   4. Outlet

      a. The diverted runoff, if free of sediment, must be released through a stabilized outlet or channel.

      b. Sediment-laden runoff must be diverted and released though a sediment trapping facility.

   5. Construction Specifications

      a. Whenever feasible, the dike should be built before construction begins on the project.

      b. The dike should be adequately compacted to prevent failure.

      c. Temporary or permanent seeding and mulch shall be applied to the dike within 15 days of construction.

      d. The dike shall be located to minimize damages by construction operations and traffic.

   6. Maintenance. The measure shall be inspected after every storm and repairs made to the dike, flow channel and outlet, as necessary. Approximately once every week, whether a storm has occurred or not, the measure shall be inspected and repairs made if needed. Damages cause by construction traffic or other activity must be repaired before the end of each working day.

## 3.07 TEMPORARY STONE WEEPER

A. This term indicates a small temporary ponding area, formed by constructing an earthen embankment with a gravel outlet, across a drainage swale.

1. Construction Specifications.

a. Embankment Cross-section. The maximum height of the sediment trap embankment shall be 5 feet as measured from the low point. Minimum top widths (W) and outlet heights (Ho) for various embankment heights (H) are shown in the table below. Side slopes of the embankment shall be 2:1 or flatter.

MINIMUM TOP WIDTH (W) REQUIRED FOR SEDIMENT TRAP EMBANKMENTS ACCORDING TO HEIGHT OF EMBANKMENT (feet)

| H | Ho | W |
|---|---|---|
| 1.5 | 0.5 | 2.0 |
| 2.0 | 1.0 | 2.0 |
| 2.5 | 1.5 | 2.5 |
| 3.0 | 2.0 | 2.5 |
| 3.5 | 2.5 | 3.0 |
| 4.0 | 3.0 | 3.0 |
| 4.5 | 3.5 | 4.0 |
| 5.0 | 4.0 | 4.5 |

Source: Virginia Soil & Water Conservation Commission

b. Removal. Sediment traps must be removed after the contributing drainage area is stabilized. Plans shall show how the site of the sediment trap is to be graded and stabilized after removal.

c. The area under the embankment shall be cleared, grubbed, and stripped of any vegetation and root mat. To facilitate cleanout, the pool area shall be cleared.

d. Fill material for the embankment shall be free of roots or other woody vegetation, organic material, large stones, and other objectionable material. The embankment shall be compacted in 8-inch layers by traversing with construction equipment.

e. The earthen embankment shall be seeded with temporary or permanent vegetation within 15 days of construction.

f. Construction operations shall be carried out in such a manner that erosion and water pollution are minimized.

g. The structure shall be removed and the area stabilized when the upslope drainage area has been stabilized.

h. All cut and fill slopes shall be 2:1 or flatter.

2. Maintenance

a. Sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to 1/2 the design volume of the trap. Sediment removed from the basin shall be deposited in a suitable area and in such a manner that it will not erode.

b. The structure shall be checked regularly to insure that it is structurally sound and has not been damaged by erosion or construction equipment. The height of the outlet shall be checked to inure that its center is at least one foot below the top of the embankment.

## 3.08 CHECK DAMS

A. Check dams are small temporary dams constructed across a swale or drainage ditch.

1. Specifications. No formal design is required for a check dam; however, the following criteria should be adhered to when specifying check dams.

a. The drainage area of the ditch or swale being protected should not exceed 10 acres. The maximum height of the check dam should be 2 feet. The center of the check dam must be at least 6 inches lower than the outer edges. The cross-sections of the dams should be as shown on the detail drawing. The maximum spacing between the dams should be such that the toe of the upstream dam is at the same elevation as the top of the downstream dam.

b. Stone check dams should be constructed of 3-inch washed stone. The stone should be placed according to the configuration with standard detail. Hand or mechanical placement will be necessary to achieve complete coverage of the ditch or swale and to insure that the center of the dam is lower than the edges.

c. Sediment Removal. While this practice is not intended to be used primarily for sediment trapping, some sediment will accumulate behind the check dams. Sediment should be removed from behind the check dams when it is accumulated to one-half of the original height of the dam.

d. Removal. Check dams must be removed when their useful life has been completed. In temporary ditches and swales, check dams should be removed and the ditch filled in when it is no longer needed. In permanent structures, check dams should be removed when a permanent lining can be installed. In the case of grass-lined ditches, check dams should be removed when the grass has matured sufficiently to protect the ditch or swale. The area beneath the check dam should be seeded and mulched immediately after they are removed.

2. Maintenance

a. Check dams should be checked for sediment accumulation after each significant rainfall. Sediment should be removed when it reaches one-half of the original height or before.

b. Regular inspections should be made to insure that the center of the dam is lower than the edges. Erosion caused by high flows around the edges of the dam should be corrected immediately.

## 3.09 LEVEL SPREADER

A. A level spreader is an outlet for dikes and diversions consisting of an excavating depression construction at zero grade across a slope.

1. Specifications

a. Width. The minimum acceptable width shall be 6 feet.

b. Depth. The depth of the level spreader as measured from the lip shall be at least 6 inches. The depth shall be uniform across the entire length of the measure.

c. Grade

(1) The grade of the channel for the last 20 feet of the dike or diversion entering the level spreader shall be less than or equal to 1%.

(2) The grade of the level spreader shall be 0%.

d. Level spreaders must be constructed on undisturbed soil (not fill material).

e. The entrance to the spreader must be shaped in such a manner as to insure that runoff enters directly onto the 0% channel.

f. The level lip shall be constructed on zero percent grade to insure uniform spreading of storm runoff.

g. The released runoff must outlet onto undisturbed stabilized areas in sheet flow and not be allowed to reconcentrate below the structure.

2. Maintenance. The measure shall be inspected after every rainfall and repairs made if required. The Contractor shall avoid the placement of any material on and prevent construction traffic across the structure. If the measure is damaged by construction traffic, it shall be repaired immediately.

**END OF SECTION 02215**

# SECTION 02220
# UNCLASSIFIED EXCAVATION

## PART ONE – GENERAL

1.01 SECTION INCLUDES

A. Unclassified Excavation

1. Unclassified Excavation shall consist of loosening, loading, hauling and disposal of all materials of every description encountered in the performance of the work other than specific materials which have been classified and bid upon, including Rock Excavation, Removal of Miscellaneous Structures, and Clearing and Grubbing. This work shall include the removal and disposal of surface and base course curb and gutter and unsuitable materials; excavating to the lines and grades shown on the drawings; constructing embankments to the lines and grades shown on the drawings in so far as is possible with excavated material; the trimming and finishing of the roadway; and maintaining such work in a finished condition until acceptance.

B. Rock Excavation

1. Rock excavation shall include all hard, solid rock in ledges, bedded deposits and unstratified masses and all conglomerate deposits or any other material so firmly cemented as to present all the characteristics of solid rock, which material is so hard or so firmly cemented that, as determined by the Engineer, it is not practicable to excavate and remove same without blasting or the use of jackhammers. Rock excavation shall also include all rock boulders necessary to be removed having a volume of one cubic yard (27 cubic feet) or more. Rock excavation shall not apply to plain or bituminous bound bases or surface courses of macadam, gravel or broken stone. Blasted or ripped rock may be used for embankment fill, if in the opinion of the Engineer, proper compaction can be obtained.

## PART TWO – PRODUCTS

NOT USED

## PART THREE – EXECUTION

3.01 CONSTRUCTION METHODS

A. All excavation as shown on the accompanying cross sections and plans shall be done by the Contractor to the line and grade established by the Engineer. All topsoil and organic materials shall be stripped from the project as shown on the cross sections, and as directed by the Engineer. All earth sub-base shall be compacted in accordance

with the requirements for Standard Compaction Section 02221(3.03). The finished grade in the terrace shall be a straight line grade between the top of the curb and the top of the outside edge of the sidewalk.

B. The Contractor shall make all major excavation of existing material in the area between the curb line and the property line before curb and gutter is installed. No mechanical equipment or vehicles will be allowed over or on concrete curb and gutter, concrete sidewalk and concrete driveway aprons for at least seven (7) days after pouring of said structures; any damage caused by the Contractor shall be removed and replaced at the Contractor's expense. No material either from or for the area back of the curb line shall be dumped or shoved onto new bituminous pavement for rehandling by mechanical equipment.

C. On-site borrow shall consist of excavating earth below the lines and grades shown in a designated borrow area(s) on the site; moving the excavated earth to such areas on the site where it is needed to complete construction of fills or embankments as shown on the plans and at other locations where directed by the Engineer.

D. Concrete curb and gutter, concrete sidewalk, concrete driveway aprons and pavements damaged or dislocated in line or elevation or both by the Contractor in the work of excavating, filling, rolling and grading shall be replaced by the Contractor immediately at the Contractor's expense. The Contractor shall operate equipment in such a manner that equipment tires or tracks do not discolor, mark, and/or damage existing curb and gutter, sidewalk or pavements. The Contractor shall take all necessary precautions to protect existing trees in the terrace. When the trees are to be removed, they shall be so designated by the Engineer and payment made as described under Clearing and Grubbing.

E. The Engineer reserves the right to order additional excavation when conditions of the subsoil require such extra work. The additional excavation shall be measured in the field and calculated from those measurements. Unless included as a bid item, payment for additional excavation shall be made on the basis of the unit price bid per cubic yard of Unclassified Excavation. Except when ordered by the Engineer, if the sub-base has been undercut by the Contractor, then the Contractor shall, at no expense to the Owner, return the sub-base under the roadway, curb and gutter, and sidewalk to the correct grade with compacted crushed stone as directed by the Engineer.

F. Unless otherwise specified, the Contractor shall dispose of all excess unclassified excavation at a site to be provided by the Contractor at no additional cost to the Owner. When a point of disposal of unclassified excavation is specified in the contract, then all unclassified excavation shall be the property of the Owner and shall be hauled to and dumped and spread at the point of disposal noted in the contract to the satisfaction of the Engineer. All costs of disposal of excess unclassified excavation shall be included in the unit price bid for Unclassified Excavation. When directed by the Engineer, the Contractor shall dispose of excess excavation at a point of disposal other than that noted in the contract.

G. During construction, the roadway, ditches and channels shall be maintained in a well-drained condition at all times by keeping excavation areas and embankments sloped to the approximate section of the ultimate earth grade. Blading or leveling operations will be required when placing embankments and during the process of excavation except when such excavation is in ledge rock or areas where leveling is not practical or necessary. If it is necessary in the prosecution of the work to interrupt existing surface drainage, sewers or underdrainage, temporary drainage shall be provided until permanent drainage work is completed. The construction of all temporary drainage installations shall be considered as incidental to the construction of the work. The Contractor shall be responsible for and shall take all reasonable and necessary precautions to preserve and protect all existing tile drains, sewers and other subsurface drains or parts thereof which, in the judgment of the Engineer, may be continued in service without change. Any and all damages to such facilities resulting from negligence or carelessness on the part of the Contractor's operations shall be repaired at the Contractor's expense.

H. All suitable material removed from excavation may be used in the construction of terraces, as far as practicable, and at such other places as shown on the plans. All excavated slopes or areas and all embankment slopes or areas designated to be covered with topsoil shall be undercut or underfilled to the necessary depth to provide for the specified amount of topsoil to be placed and finished to the required grade line and section. Excavation shall be so performed as to avoid removing or loosening any material outside the required slopes, and any such material which may be removed or loosened shall be replaced and thoroughly compacted to the required cross-section.

I. All intersecting roads, approaches, entrances and driveways shall be graded as shown on the plans or as laid out in the field by the Engineer. The work of constructing intersections and private entrances, trimming shoulders and slopes, finishing and blading the earth subgrade and completing the ditches to proper alignment, grade and cross section shall follow the rough grading closely.

J. Grading operations shall not be performed to the detriment of the work of trimming and finishing the roadway and blading and maintaining the roadbed and earth subgrade. The area of erosive land exposed to the elements by the grading operations at any one time shall be subject to the approval of the Engineer and the duration of such exposure prior to final trimming and finishing of the area shall be as short as practicable. Construction in and adjacent to storm sewers, rivers, streams, lakes or other waterways shall be performed in such a manner as to avoid washing, sloughing or deposition of materials into such waterways which would obstruct or impair the flow thereof thus endangering the roadway or stream banks, or which would result in undue or avoidable contamination, pollution or siltation of such waterways. The Engineer shall have full authority to order the suspension of grading and other operations pending the adequate and proper performance of the trimming, finishing and maintenance work or to restrict the area of erosive land exposed to the elements.

K. Rock, when encountered in excavation, shall be removed to a depth of two feet (2') below the finished grade within the street right-of-way and one foot (1') below finished grade outside the right-of-way. In the event design details covering the depth of rock excavation are incorporated in the plans, the work shall conform thereto. When excavation methods chosen and employed by the Contractor leave undrained pockets in the rock surface, the Contractor shall, at no expense to the Owner, properly drain such depressions or, when permitted by the Engineer, fill the depressions with approved impermeable material, i.e., lean concrete.

L. Excavation of rock cuts shall be performed by such methods and with such equipment that the resulting back slopes conform to the slopes shown on the plans or to the slopes designated by the stakes set for excavation, without creating depressions in or substantial displacement of material outside the lines, limits or slope planes defined by the stakes. Back slopes in rock cut shall be "scaled" to dislodge loose rock, and material so removed shall be disposed of in the manner prescribed for other excavation. The slopes of rock cuts when designated to receive topsoil shall be undercut the necessary depth to provide for placing the specified amount of topsoil and finished to the required section.

M. Grading, trimming and finishing shall be completed prior to construction of the base course. Adjustment in slopes to avoid injury to standing trees or to harmonize with existing landscape features, especially at the intersection of cuts and fills, shall be made and the transition to such adjusted slopes shall be gradual. Crests of earth cut banks shall be rounded as indicated on the plans or as directed by the Engineer. All earth slopes shall be constructed to a surface that will merge with adjacent terrain and be in substantial accordance with the cross sections. The horizontal serrated condition of slopes ordinarily left by excavating equipment shall be partially smoothed by means of blading or other operations so the slopes will have a general contour of the required slope but may be slightly rough and irregular.

N. During grading operations and pending placement of base course, the Contractor shall provide continuous maintenance of the entire roadbed and perform all blading and repair work necessary to keep the grade smooth and to the required grade and cross section. Washouts caused by erosion shall be refilled with acceptable material and properly compacted.

O. No project will be accepted until all excess mud, terrace dirt, bituminous material, rocks and crushed stone have been removed from the sidewalk, terrace, gutter and pavement. Work days may be charged against the Contractor until all cleanup is complete and to the satisfaction of the Engineer.

**END OF SECTION 02220**

# SECTION 02230
# BASE COURSE

## PART ONE – GENERAL

### 1.01 DESCRIPTION

A. This item shall consist of a dense compacted base course composed of two (2) or more courses or layers of coarse aggregate, either crushed stone or crushed concrete, fine aggregate, and binder or filler blended as necessary to produce an intimate mixture, of the required gradation and stability, constructed on the prepared foundation in accordance with the specifications and in conformity with the lines, grades, thickness and typical cross sections shown on the plans or established by the Engineer.

### 1.02 MATERIALS

A. The determination of the acceptability of the aggregates will be made by field evaluation and/or laboratory test. The Engineer reserves the right to prohibit the use of material from any source, plant, pit, quarry or deposit where the character of the material or method of operation is such as to make improbable the furnishing of aggregates conforming to the requirements of these specifications, unless satisfactory evidence is shown that material conforming to specification requirements is produced.

B. Unless otherwise specified in the contract, the aggregate shall have a percentage of wear of not more than fifty (50) as determined by AASHTO Designation T96. At least fifty percent (50%) by count of the number of particles of aggregate retained on the No. 4 sieve shall have at least one (1) fractured surface or face resulting from the mechanical crushing operations of the aggregate. When the fraction of the aggregates retained on the No. 4 sieve is subjected to five (5) cycles of the sodium sulphate soundness test, AASHTO Designation T104, the weighted loss shall not exceed eighteen percent (18%) by weight. Sampling and testing shall be in accordance with AASHTO standard methods.

C. Unless specified in the contract or permitted by the Engineer, crushed concrete, crushed bituminous pavements, and mixtures thereof shall not be used for constructing Crushed Aggregate Base Course.

D. The aggregates shall be well-graded between the limits specified and shall conform to the following gradation requirements of Section 305.2.2.1 of the State of Wisconsin Department of Transportation Standard Specifications for Highway and Structure Construction, 2003 Edition.

E. Unless otherwise provided in the contract, aggregates for the top layer of base course shall be Base Aggregate Dense ¾ inch and aggregates for the bottom layer shall be Base Aggregate Dense 1 ¼ inch. Base Aggregate ¾ inch shall be used for top dressing and final finishing.

### 1.03 EQUIPMENT

A. Equipment and tools necessary for performing and maintaining all parts of the work, satisfactory as to design, capacity and mechanical condition for the purpose intended, must be on the job before the work is started. Any equipment which is not maintained in full working order, or which, as used by the Contractor, is inadequate to obtain the results prescribed, shall be repaired, improved, replaced or supplemented to obtain the progress and quality of work contemplated by the contract.

## PART TWO - CONSTRUCTION METHODS

### 2.01 PREPARATION OF FOUNDATION

A. The foundation shall be so prepared and constructed that it will have uniform density throughout. It shall be brought to the required alignment and cross section with equipment and methods adapted for the purpose. Upon completion of the shaping and compacting operations, the foundation shall be smooth, at required density, and at the proper elevation and contour to receive the course to be constructed on it.

B. The Engineer reserves the right to make such minor adjustments in the finished grade line from that shown on the plans as may be necessary or desirable to maintain the characteristics of a stabilized foundation by minimizing the amount of cutting into or filling over such stabilized foundation, provided such adjustments do not impair the riding qualities, drainage or appearance of the finished pavement or cause, in effect, a deviation from a grade established by appropriate municipal ordinance.

C. Areas of yielding or unstable material shall be excavated and backfilled with approved material as ordered by the Engineer. This work shall be measured and paid for under the appropriate contract items, or as Extra Work in the absence of such a contract item or items.

D. Base material shall not be placed on a foundation that is soft or spongy or one that is covered by ice or snow. Base material shall not be placed on a dry or dusty foundation where the existing condition would cause rapid dissipation of moisture from the base material and hinder or preclude its proper compaction. Such dry foundations shall have water applied to them and shall be reworked or recompacted if necessary.

### 2.02 SPREADING AND SHAPING

A. Equipment used for spreading and shaping the crushed aggregate base course shall be designed and operated so as to spread the material in uniform layers without undue segregation. Power graders and blade graders used for spreading and shaping shall have weight, rigidity and design suitable for the work. Power graders shall have sufficient power to properly perform the work. Other types of equipment for spreading and shaping the material will be permitted, provided the work performed or produced by them is equivalent to or better than the work obtainable from blade machines. All equipment necessary for spreading and shaping, compaction, and water sprinkling of the base material shall be on the site prior to beginning the work of installing the base material.

B. Crushed aggregate base course shall not be installed until curbs and gutters and other concrete structures have cured sufficiently to withstand hauling and placing operations.

C. The material shall be deposited on the foundation or previously placed layer in a manner to minimize segregation and to facilitate spreading to a uniform layer of the required dimensions. Excessive manipulation which will cause segregation between the coarse and fine materials shall be avoided. No crushed aggregate shall be placed between the curbs until the curbs have been adequately backfilled. The work shall, in general, proceed from the point on the project nearest the source of supply of the aggregate in order that the hauling equipment will travel over the previously placed material, and the hauling equipment shall be routed as uniformly as possible over all portions of previously constructed courses or layers of the base course. Stockpiling of the aggregates shall be performed in such a manner as to facilitate the recovery of the maximum amount of stockpiled material and to minimize segregation of the material.

D. The crushed aggregate base course shall be constructed in two (2) or more layers as directed by the Engineer. The material shall be spread in uniform uncompacted lifts, not to exceed five inches (5") in depth.

E. Top dressing and final finishing of the crushed aggregate base course shall be performed with Gradation No. 3 crushed aggregate after compaction of the lower layers of the base is complete, and after depressions and high points in the crown and along the gutter edges have been brought to grade. This material shall also be water sprinkled and compacted. The maximum compacted depth of this material shall be one inch (1").

F. Completion of the crushed aggregate base course shall not precede the work of installing the bituminous prime coat to such an extent that the crushed aggregate base course may be damaged in the interim.

## 2.03 COMPACTION AND WATER SPRINKLING

A. Prior to and during compaction operations, the material shall be shaped and maintained to proper dimensions and contour by means of blade graders or other suitable equipment. The surface of each layer shall be kept true and smooth at all times.

B. All crushed aggregate shall be thoroughly water sprinkled before spreading begins to prevent segregation.

C. The crushed aggregate base course shall be placed to the satisfaction of the Engineer to provide the required compaction. After leveling and water sprinkling, each layer of crushed aggregate shall be compacted to the degree that no further appreciable consolidation or movement of the base is evidenced under the action of the compaction equipment. The required compaction shall be attained for each layer before any material for a succeeding layer is placed thereon.

D. The required compaction shall be equivalent to that required for Fill, Special Compaction 02221 3.04.

E. The compaction shall be performed by means of tamping rollers, pneumatic rollers, vibratory rollers or other types of equipment which will produce the required results in the materials encountered, and be subject to the approval of the Engineer. Tandem or three-wheel rollers, if used on the project, shall weigh at least ten (10) tons. Hauling and leveling equipment shall be routed and distributed over each layer of crushed aggregate in such a manner as to make use of the compaction afforded thereby.

F. All areas where proper compaction is not obtainable due to segregation of materials, excess fines, or other deficiencies in the crushed aggregate shall be reworked as necessary or the material in them removed and replaced with material that will yield the required results. Such reworking and replacement shall be at the Contractor's expense.

G. Unless directed by the Engineer, no bituminous prime coat material shall be applied to the crushed aggregate base course until the day after the final water sprinkling.

## 2.04 DRIVEWAYS

A. Where shown on the plans or directed by the Engineer, the Contractor shall construct driveways of Base Aggregate Dense ¾ inch. Unless otherwise specified, driveways shall be six inches (6") in depth.

## PART THREE - MEASUREMENT AND PAYMENT

### 3.01 METHOD OF MEASUREMENT

A. The item of Crushed Aggregate Base Course shall be measured by the cubic yard measured in place. The quantity to be measured for payment shall be the amount of material required and incorporated in the work in accordance with the contract.

B. The Contractor shall furnish and deliver to the Engineer a ticket with each load showing the net weight of the load of crushed aggregate. All tickets for materials delivered to a project shall be presented to the Owner's representative on the project within twenty-four (24) hours after delivery of the material to the project. Tickets presented after the time specified may be rejected due to inability to substantiate actual use of the material on the project.

C. Aggregates which contain total moisture at the time of delivery in excess of seven percent (7%) shall have such moisture content in excess of seven percent (7%) deducted from the measured weight. Determination of the moisture content of the aggregates shall be based on and expressed as a percent of the dry weight of the aggregates.

### 3.02 BASIS OF PAYMENT

A. The quantity of crushed aggregate measured as provided above will be paid for at the contract unit price per cubic yard for Crushed Aggregate Base Course, complete in place, which price shall be full compensation for furnishing, placing, watering, drying, compacting and maintaining the crushed aggregate base course; for preparing foundation; for stockpiling, if required; and for furnishing all labor, tools, equipment and incidentals necessary to complete the work unless otherwise noted.

**END OF SECTION 02230**

# SECTION 02520
# STORM SEWERAGE AND DRAINAGE

## PART ONE – GENERAL

### 1.01 SECTION INCLUDES

A. Reinforced concrete pipe, Class III and corrugated metal pipe. Work consists of furnishing and installing reinforced concrete pipe and corrugated metal pipe in accordance with the standard specifications, as shown on the plans and as hereinafter provided.

B. New storm sewer inlets where shown on the plans shall be in accordance with this specification and the detail shown on Details.

### 1.02 REFERENCES

A. State of Wisconsin Department of Transportation Standard Specifications for Highway and Structure Construction, Latest Edition ("Standard Specifications").

B. American Association of State Highway Transportation Officials (AASHTO).

C. ASTM C478 – Specification for Precast Reinforced Concrete Manhole Sections.

## PART TWO - PRODUCTS

### 2.01 REINFORCED CONCRETE PIPE AND ENDWALLS

A. Reinforced concrete pipe shall conform to the requirements of the Specification for Reinforced Concrete Culvert, Storm Drain and Sewer Pipe, AASHTO M207, for the class of pipe specified, except that the concrete mixture shall contain not less than 6 bags of Portland cement, blended cement or Portland cement plus pozzolanic admixture, per cubic yard.

B. Reinforced concrete pipe endwalls shall conform to the requirements of the Specification for Reinforced Concrete Culvert, Storm Drain and Sewer Pipe, AASHTO M207, for the class of pipe specified, except that the concrete mixture shall contain not less than 6 bags of Portland cement, blended cement or Portland cement plus pozzolanic admixture, per cubic yard.

### 2.02 MANHOLES AND INLETS

A. Manholes shall be 48-Inch ID with eccentric cone as shown on details. Manhole cover shall be Neenah R-1550 Type B nonrocking with concealed pick holes.

B. Manholes shall be constructed with precast concrete in accordance with ASTM C478. Cast iron frames and covers shall be as specified in Section 02730 (2.08) (C). Except that all covers shall have cat on top the words "Storm Sewer" in 3" high raised letters.

C. Inlets shall be constructed of Class A or reinforced concrete in accordance with Section 03310, Cast-In-Place Concrete.

### 2.03 CORRUGATED METAL PIPE

A. All corrugated metal pipe shall be galvanized copper bearing steel and shall be 16 gauge thickness for all pipe sizes up to and including 24" diameter. 30" and 36" diameter shall be 14 gauge. Galvanizing shall be not less than 2 oz. of zinc per square foot on each side of the metal.

B. Connecting bands for corrugated metal pipe shall be 16 gauge galvanized copper bearing steel and shall meet the latest AASHTO. specification M36 for spiral corrugations. "Dimpled" bands are not acceptable. Galvanizing shall be not less than 2 oz. of zinc per square foot on each side of metal sheets.

## PART THREE - EXECUTION

### 3.01 CONSTRUCTION METHODS

A. Inlets shall be constructed as shown on the drawings and in accordance with Section 03320, Miscellaneous Concrete Structures.

B. All concrete pipe joints shall be sealed with a gasket or approved mastic jointing compound. For pipe diameter 20 inches or less, an approved mastic jointing compound shall be placed on all external joints.

C. When the inside joint opening between the ends of pipes exceeds the permissible joint opening, the entire inner joint shall be pointed with mortar.

**END OF SECTION 02520**

# SECTION 02575
# PAVEMENT CUTTING AND REPLACEMENT

## PART ONE - GENERAL

### 1.01 PAVEMENT CUTTING

A. All cuts of existing pavement shall be made by pavement sawing.

B. Work shall include the furnishing of all equipment, materials, water and labor to mark and saw cut the existing pavement.

C. All saws must be capable of cutting a true and vertical face to full depth of concrete. Lines and vertical face made by sawing shall be protected and maintained during subsequent operations.

D. Cost of pavement cutting shall be included in the price per linear foot of laying pipe.

### 1.02 PAVEMENT REPLACEMENT

A. The Contractor shall replace all bituminous and concrete surfaces, including base courses, removed for sewer and water installation or street work.

B. A bituminous concrete surface course shall be supplied and placed as pavement for the street restoration detailed in this specification and in Sections 450, 451 and 460 of the State of Wisconsin Department of Transportation Standard Specifications for Highway and Structure Construction, 2003 Edition.

1. Pavement section shall consist of a surface course of thickness as shown on detail sheets.

2. Aggregate gradation for surface course shall be as specified In Section 460.2.2.3 of the aforementioned Standard Specifications.

3. Asphalt cement shall be in the range of 6% for surface course. Asphalt cement shall be penetration grade 85-100 or 120-150, at the Contractor's option.

4. Depth of base course under replacement surfaces shall be in accordance with applicable detail mentioned in "1." above.

C. Trench backfill under replacement surfaces shall be unfrozen materials from excavation, placed and mechanically compacted in 8-inch layers in such fashion as to preclude settlement. The Contractor will be responsible for repairing settled surfaces after trench backfill has gone through one (1) winter time freezing/thawing cycle.

D. Replacing existing pavement and base course shall be considered incidental to the work. No additional payment shall be made for replacing existing pavement and base course disturbed as a result of this work.

## PART TWO-PRODUCTS

NOT USED

## PART THREE-PRODUCTS

NOT USED

**END OF SECTION 02575**

**SECTION 02665**
**WATER MAIN**

## PART ONE – GENERAL

1.01 SECTION INCLUDES

A. Work shall include the furnishing of all material and installation and testing of water mains, complete with valves, hydrants, fittings, connections, house services and other specials, as shown on the drawings or as specified herein.

1.02 QUALITY ASSURANCE

A. Reference Standards

1. Performance and material requirements shall meet specific Reference Standards as referred to hereinafter under individual items:

   ANSI – American National Standards Institute
   ASTM – American Society of Testing and Materials
   AWWA – American Water Works Association

B. Certification and Inspection

1. All pipe, valves hydrants, and fittings delivered to the job shall be accompanied by certification papers showing that it has been tested in accordance with the applicable specifications for this project.

2. All pipe and fittings will be inspected by the Contractor upon delivery to the job site. No cracked, broken, or damaged pipe will be allowed in this work.

3. Each piece of ductile iron pipe and each fitting shall have its weight and class designation conspicuously painted or cast on it. All other pipe materials shall have the class designation painted thereon. Where required, other designation marks shall be painted on the pipe or fittings to indicate correct location in the pipeline in conformity to a detailed layout plan.

1.03 SHOP DRAWINGS

A. Before starting fabrication of C.I. or D.I. pipe, fittings and valves, the Contractor shall submit to the Engineer working drawings showing piping, and descriptive lists of all pipe, fittings, hangers, supports and appurtenances. Working drawings may be made with marked sets of sepia prints or original drawings.

B. Where special fittings are required, they shall be shown in large detail with all necessary dimensions.

C. The Owner reserves the right to refuse to make partial payments until satisfactory working drawings and descriptive lists of C.I. or D.I. pipe, fittings and valves have been submitted.

D. Each section of pipe shall bear the manufacturer's serial number and shall be certified by the manufacturer to meet standard specifications. Each section of pipe shall be visually inspected in the field for manufacturer's certification.

1.04 GUARANTEE

A. The Contractor shall guarantee all workmanship and materials against defects for a period of one (1) year after acceptance, said guarantee to run to the Owner.

B. The Owner reserves the right to inspect pipe in place after acceptance any time within the period of guarantee, which is one (1) year after acceptance of completed work. Any faults resulting from conditions of manufacture, delivery or installation shall be corrected under the conditions of the guarantee.

## PART TWO – PRODUCTS

2.01 GENERAL

A. All materials shall be new and free of defects. Water main shall be ductile iron pipe as specified herein.

2.02 DUCTILE IRON PIPE

A. Ductile Iron Pipe

1. Use AWWA C151 (ANSI A21.51) ductile iron pipe, thickness class 52, bituminous outside, AWWA C104 (ANSI A21.4) cement-mortar lining, mechanical or push-on joints.

2. All pipe shall have a minimum of 6.5 feet of cover over top of pipe.

3. Pipe manufacturer shall furnish a sworn statement that inspection and all specified tests have been made and the results comply with the requirements of AWWA C151.

4. Use AWWA C110 (ANSI A21.10) fittings, with bituminous outside coating and AWWA C104 cement-mortar lining.

5. External copper straps shall be securely attached across each joint and shall be capable of providing an electrical conductivity of 350 to 400 amps at 25 to 30 volts without appreciable variance.

B. Service Connections

1. Pipe. 1-inch copper pipe, Type K, soft, fittings to be flared unless otherwise noted on the drawings.

2. Corporation Stop. Mueller H15008 for copper service pipe.

3. Key Stops. Mueller H15154 for 1-inch copper pipe, supplied with Mueller 6 foot - 6 inch H10385 arch base boxes, complete with stationary rod and one-piece lid.

## 2.03 HYDRANTS

A. All fire hydrants shall fully comply with AWWA Standard C502, latest revisions. All threaded and metal-to-metal bearing surfaces in bonnet shall be sealed away from line pressure by no less than two (2) "O" rings.

B. All hydrants shall have two (2) 2.5-inch hose connections and one (1) 4.5-inch steamer connection with National Standard threads, with centerline of steamer nozzle at least 18 inches from the ground line. Nozzles may be either leaded and caulked or threaded into place. In case of threaded construction, "O" rings shall be used as pressure seals.

C. Hydrants shall be of dry top design with their own relubricating systems located in the bonnet so that all threads are relubricated each time the hydrant is operated. All hydrants shall be provided with a metal rainshield or a weather cap to protect the operating nut from freezing.

D. All hydrants shall be of the compression type main valve, closing with line pressure. Main valve opening shall be 5.25 inches in size. All hydrants shall open counterclockwise.

E. All hydrants shall have 1.5-inch pentagon shape operating nut, hose nozzle caps and steamer cap. Operating nut shall be made of one-piece, all bronze.

F. All hydrants shall be of the traffic model design, consisting of a two-part safety flange and a safety stem coupling. Design shall permit rotation of upper barrel to position nozzle in any direction. Nozzle placement shall not be restricted by bolt hole placement.

G. Seat ring shall thread directly into a bronze busing or drain ring. Main valve assembly is to include a drain valve to operate automatically each time hydrant is operated. Drainway shall be all bronze. Main valve and seat ring shall be removable through upper barrel from above ground without disassembling at ground line flanges.

H. Depth of bury shall be the same as specified for pipe. Inlet connections shall be of enlarged type M.J. shoe. Connection shall fit either Class B cast iron pipe or centrifugally cast pipe by just changing a gasket.

I. Acceptable hydrants will be Mueller A423 only. The manufacturer shall supply data and drawings per Section 1.8 of AWWA C502.

## 2.04 DISTRIBUTION VALVES

A. All hydrant lead valves and distribution system valves shall be full opening, iron body, non-rising stem, and resilient seated wedge type valves that equal or exceed AWWA C500.

B. Valves shall be designed so that a complete zero leakage shutdown may be effected with flow in either direction at pressures of up to 200 psi, which shall be the working water pressure rating of valves, and they shall be suitable for throttling if required.

C. When fully opened, valves shall have a smooth, unobstructed waterway that is free of cavities or projections which could permit accumulation of solids. All internal ferrous metal surfaces shall have an approved epoxy coating to provide a corrosion-resistant barrier between base metal and surroundings. Epoxy coating shall be applied holiday-free to a thickness of not less than 4 mils, shall be non-toxic after application, and shall impart no taste to water.

D. Valves shall have two (2) O-ring stem seals. Stem shall have thrust collar and bearing surfaces isolated from the waterway and provided with continuous lubrication, or shall be provided with non-corrosive thrust bearings above and below the thrust collar. Valves shall be capable of being repacked in fully open position under pressure, as stipulated in paragraph 16.5, AWWA C500.

E. All valves shall open by turning left and shall be furnished with all joint material.

F. Approved valves will be Mueller A2370-20, Clow Style 2832, epoxy-lined, or equal or as called for on the plans.

G. Submit manufacturer's data per Section 1.3 of AWWA C500.

H. Valve boxes to be Mueller Buffalo type adjustable valve boxes (iron), complete with round or oval base adjustable box and lids, or approved equal.

## 2.05 POLYETHYLENE FILM

A. Polyethylene encasement furnished under these specifications shall conform to AWWA C105 or ANSI A21.5. Film shall be Class "C", black, with a minimum nominal thickness of 0.008 inch (8 mils). Tape for securing the film shall be a thermoplastic material with a pressure sensitive adhesive face capable of bonding to metal, bituminous coating and polyethylene. Tape shall have a minimum thickness of 8 mils and a minimum width of 1 inch.

B. The polyethylene film envelope shall be as free as is commercially possible of gels, streaks, pinholes, particles of foreign matter, and undispersed raw materials. There shall be no other visible defect such as holes, tears, blisters or thinning out at folds.

C. When required, manufacturers shall furnish a certification detailing the conformance of the material to the requirements of AWWA C105 or ANSI A21.5. Certification shall be submitted in triplicate to the Engineer.

## PART THREE - EXECUTION

### 3.01 PIPE HANDLING AND LAYING

A. All pertinent provisions of AWWA C600 shall apply for laying ductile iron pipe.

B. All pipe, fittings, valves, hydrants and appurtenances shall be subject to field inspection after delivery to job and no material which is rejected shall be used in construction of the work.

C. No pipe or fitting that is known to be defective shall be laid in the work. Any piece that is found to be defective after it has been laid shall be removed by the Contractor and replaced by a sound and perfect piece. If the major part of a defective pipe is sound, the good end may be cut off and used. Every such cut shall be square and ground smooth. Cut surfaces shall be painted with two coats of an approved asphaltum metal protective paint.

D. The Contractor shall replace or repair, at his own expense, any pipe that is damaged in hauling and handling so that it cannot be used. Pipe shall be handled with rope or band slings; wire cables through pipe will not be allowed because of injury to joints. Proper facilities shall be provided for lowering sections of pipe into trench without damage to pipe or coatings.

E. All pipe shall be laid true to line and grade. Pipes shall be firmly bedded and held in position both for line and grade. All spaces and voids below horizontal diameter shall be solidly and completely filled and compacted. No length of pipe shall be laid until previously-laid length of pipe has been sufficiently backfilled to hold it securely in place during jointing operation.

F. Pipe shall be clean when installed and maintained clean at all times until acceptance. Provisions shall be made for ends of pipe to be bulkheaded to prevent entrance of dirt or other foreign substances. Bulkheads shall be placed at night or whenever pipe laying is stopped for any reason. All stubs for connecting to future mains shall be closed with suitable caps or plugs, blocked and sealed.

G. The Contractor shall take adequate precautions against flotation where pipe is being laid below possible groundwater levels.

H. The Contractor shall wipe clean each joint at time of connection and prepare gasket with manufacturer's lubricant.

I. The Contractor shall include in price for furnishing and laying pipe all costs to provide access to site, cost for unloading without dropping, storing and transporting, and costs for protecting pipe until ready to be used.

## 3.02 INSTALLATION

A. Bedding

1. Unless otherwise ordered, all water mains and hydrant leads shall be bedded as called for in plan details.

B. Cover

1. Lay pipe with a minimum of 6.5 feet of cover unless a specific grade is shown on the plans.

C. Joint Deflection

1. Maximum joint deflection shall not exceed that in manufacturer's instructions.

D. Anchorage

1. Water main shall be thrust blocked at all bends, plugs, tees, deadends, hydrants and offsets, as shown in plan details. In addition to concrete thrust blocking, retainer glands, tie rods and clamps shall be used on all bends, tees, wyes, plugs, hydrants and offsets. Payment for installation of retainer glands shall be included in unit price bid for water main installation.

E. Crossings of Sewer and Water Lines

1. Where water main passes under a sewer line, provide a minimum vertical clearance of 18 inches between these lines. Water lines shall be set to a minimum cover of 6.5 feet with a minimum vertical distance of 18 inches between sewer and water pipe. Where water main passes over a sewer, provide a minimum clearance of 6 inches. Crossing over or under sewer mains shall be made so that joints or couplings on water mains shall be a minimum of 5'- 0" each side of sewer crossing.

F. Connection to Existing System

1. Where shown on drawings, the Contractor shall furnish and install all necessary adaptors and fittings to connect to the existing system. The cost of all such connections shall be included in the price bid for water main.

G. Water Service Connections

1. As shown on plan details, connect new services to new water main. New service connections shall not be made until the water main has passed all tests, including pressure, leakage and bacteria. Include corporation cock and pipe as necessary. Maintain service to all existing water customers during construction, with a customer-notified "down-time" not to exceed four (4) hours.

H. Polyethylene Film Envelope

1. Polyethylene wrapping of the water main, valves and fittings will be required.

I. Hydrants

1. Hydrant installation shall be in accordance with plan details, except that, in addition to thrust blocking, the Contractor shall use tie rods to restrain hydrant tee, valve and hydrant.

3.03 TESTING

A. The Contractor shall provide all materials, equipment and labor to test all piping for electrical continuity, pressure, and leakage. Testing shall conform to requirements of AWWA C600 and shall be done in sections as work is completed. Piping can be filled from the existing distribution system wherever there is an existing system.

B. Individual leakage and pressure tests shall be made on all creek crossings to insure that these sections are watertight.

C. Leakage and pressure tests shall be conducted concurrently in accordance with Section 4.1 and 4.2 of AWWA C600-82 as shown in Table 1. Test pressure for each test shall be 1.25 times normal system pressure or 150 psi gage, whichever is greater.

D. For the electrical continuity test, all water main materials, including all pipe, fittings, hydrant leads, etc., shall be provided with "Cable Bond type conductors or approved equal.

1. Before applying voltage to any main to which service laterals are connected, ALL USER ELECTRICAL GROUND SHALL BE DISCONNECTED FROM THE SERVICE LATERAL; ALL WATER SERVICE LATERALS SHALL BE DISCONNECTED FROM THE WATER METER; AND ALL USER ELECTRICAL SERVICES SHALL BE DISCONNECTED FROM THE ELECTRICAL MAIN WITHIN THE LIMITS OF THE SECTIONS OF THE MAIN TO BE TESTED.

2. Electrical tests shall be made after the hydrostatic pressure test, and while the main is at normal operating pressure. Random sections shall be tested as directed by the Engineer. A random section shall consist of a continuous run between two

(2) fire hydrants. A total length of random sections tested shall be approximately equal to ten percent (10%) of the total length of water main installed.

3. Acceptable power sources of D.C. current may be generators, arc welding machines, batteries, etc. Cables from the power source to the section of the system under test shall be of sufficient size to carry the test current without overheating or causing an excessive voltage drop. The Contractor shall verify the resistance of the cables by determining their resistance before the test commences.

4. Connections for the test shall be made at fire hydrants. The fire hydrants shall be in the open position with the caps on during the test. The Contractor shall fill the hydrant with water to protect the rubber seals from heat damage. In areas where there are no fire hydrants available, any convenient connection may be made, subject to the approval of the Engineer.

5. When arc welding machines are used, the current control shall be at the lowest setting before starting. After starting the machine, the current shall be increased until the ammeter is at the desired value.

6. A direct current (D.C.) shall be impressed on the main between fire hydrants and the voltage increased until a current of 250 amperes is reached. This current shall be maintained for a period of five (5) minutes. The voltage and amperage will be recorded for all tests.

7. Current flow through the pipe shall be measured continuously on a suitable ammeter and shall remain steady without interruption or excessive fluctuation for the test periods. Insufficient current, intermittent current or arcing, as indicated by large fluctuations of the ammeter needle, shall be evidence of defective electrical connections in the main. The cause shall be isolated and corrected and the section of main in which the defective test occurred shall be retested.

8. The Contractor shall electrically test the water main ONLY before the connection of water service or after all user water and electrical services have been disconnected as stated above.

## 3.04 STERILIZATION

A. The Contractor shall sterilize all pipe in accordance with AWWA C601-68 and flush thoroughly. The Contractor shall obtain confirmation of bacteriologically safe samples from the State Division of Health.

END OF SECTION 02665

TABLE 1: ALLOWABLE LEAKAGE per 1,000 ft. (305m) of pipeline* - gph**

| Average Test | NOMINAL PIPE DIAMETER (inches) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pressure psi (Bar) | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 | 30 | 36 | 42 | 48 | 54 |
| 450 (31) | 0.48 | 0.64 | 0.95 | 1.27 | 1.59 | 1.91 | 2.23 | 2.55 | 2.87 | 3.18 | 3.82 | 4.78 | 5.73 | 6.69 | 7.64 | 8.60 |
| 400 (28) | 0.45 | 0.60 | 0.90 | 1.20 | 1.50 | 1.80 | 2.10 | 2.40 | 2.70 | 3.00 | 3.60 | 4.50 | 5.41 | 6.31 | 7.21 | 8.11 |
| 350 (24) | 0.42 | 0.56 | 0.84 | 1.12 | 1.40 | 1.69 | 1.97 | 2.25 | 2.53 | 2.81 | 3.37 | 4.21 | 5.06 | 5.90 | 6.74 | 7.58 |
| 300 (21) | 0.39 | 0.52 | 0.78 | 1.04 | 1.30 | 1.56 | 1.82 | 2.08 | 2.34 | 2.60 | 3.12 | 3.90 | 4.68 | 5.46 | 6.24 | 7.02 |
| 275 (19) | 0.37 | 0.50 | 0.75 | 1.00 | 1.24 | 1.49 | 1.74 | 1.99 | 2.24 | 2.49 | 2.99 | 3.73 | 4.48 | 5.23 | 5.98 | 6.72 |
| 250 (17) | 0.36 | 0.37 | 0.71 | 1.95 | 1.19 | 1.42 | 1.66 | 1.90 | 2.14 | 2.37 | 2.85 | 3.56 | 4.27 | 4.99 | 5.70 | 6.41 |
| 225 (16) | 0.34 | 0.45 | 0.68 | 0.90 | 1.13 | 1.35 | 1.58 | 1.80 | 2.03 | 2.25 | 2.70 | 3.38 | 4.05 | 4.73 | 5.41 | 6.03 |
| 200 (14) | 0.32 | 0.43 | 0.64 | 0.85 | 1.06 | 1.28 | 1.48 | 1.70 | 1.91 | 2.12 | 2.55 | 3.19 | 3.82 | 4.46 | 5.09 | 5.73 |
| 175 (12) | 0.30 | 0.40 | 0.59 | 0.80 | 0.99 | 1.19 | 1.39 | 1.59 | 1.79 | 1.98 | 2.38 | 2.98 | 3.58 | 4.17 | 4.77 | 5.36 |
| 150 (10) | 0.28 | 0.37 | 0.55 | 0.74 | 0.92 | 1.10 | 1.29 | 1.47 | 1.66 | 1.84 | 2.21 | 2.76 | 3.31 | 3.86 | 4.41 | 4.97 |
| 125 (9) | 0.25 | 0.34 | 0.50 | 0.67 | 0.84 | 1.01 | 1.18 | 1.34 | 1.51 | 1.68 | 2.01 | 2.52 | 3.02 | 3.53 | 4.03 | 4.53 |
| 100 (7) | 0.23 | 0.30 | 0.45 | 0.60 | 0.75 | 0.90 | 1.05 | 1.20 | 1.35 | 1.50 | 1.80 | 2.25 | 2.70 | 3.15 | 3.60 | 4.05 |
| 50 (3.4) | --- | 0.21 | 0.32 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

*If the pipeline under test contains sections of various diameters, the allowable leakage will be the sum of the computed leakage for each size.

**To obtain leakage in liters/hour, multiply the values in the table by 3.785.

# SECTION 02713
# ASPHALTIC CONCRETE PAVING

## PART ONE - GENERAL

### 1.01 SECTION INCLUDES

A. Asphaltic concrete pavement

### 1.02 SAFETY CODES AND STANDARDS

A. Perform all work in compliance with applicable requirements of governing authorities having jurisdiction.

### 1.03 REFERENCES

A. State Specifications: "State of Wisconsin DOT, Division of Highways, Standard Specifications for Highway and Structure Construction," 2003 Edition, State of Wisconsin Department of Transportation, including any subsequent Amendment of Supplemental Specifications.

B. Where referenced, work shall conform to American Association of State Highway and Transportation Officials "Standard Specifications", referred to as AASHTO.

### 1.04 SUBMITTALS

A. Certified Test Reports: Prior to constructions, submit certified test reports for all Contractor-supplied materials.

B. Field Test Reports: During construction, submit certified test reports in accordance with the testing schedule

### 1.05 QUALITY ASSURANCE

A. Plant Acceptance

1. Asphaltic mixtures for paving shall be produced in a plant approved by a recognized public agency.

2. Prior to placing asphaltic mixtures, submit to engineer for approval, the name of the plant proposed for use and the names of approving agencies.

### 1.06 QUALITY CONTROL

A. Testing Inspection Service

1. The Contractor shall engage testing and inspection service to perform sampling and testing of bituminous paving materials proposed for use in the work and field testing for quality control during bituminous paving operations. Testing shall be in accordance with "State Specification", Section 460.2.8. The requirements listed in this specification are to supplement or clarify the WDOT specifications.

2. When directed by Engineer, test specimens of binder and surface course shall be cut from finished work with a core drill, diameter approximately 6-inches. Holes caused by removal of specimens shall be refilled immediately with asphaltic material meeting these Specifications and compacted and finished to the satisfaction of Engineer. If the tests

indicate conformance with the specifications, owner shall pay for the tests. If the tests indicate non-conformance with the specifications the contractor shall pay for all testing.

B. Testing Laboratory Responsibilities

1. Marshall test on bituminous mix design using a representative aggregate sample from the Contractor's stockpile.

2. Field density-in-place tests for aggregate base course.

3. Bituminous mixture tests.

4. Bituminous paving tests.

5. Submit reports of all tests to the Contractor, Engineer.

C. Contractor Shall:

1. Furnish labor, tools and equipment necessary to obtain and handle samples required for testing.

2. Deliver to the testing laboratory, representative samples of bituminous mixture material proposed for use which require testing.

3. Deliver to the testing laboratory, representative samples taken from completed bituminous pavement.

4. Notify testing laboratory and Engineer sufficiently in advance of operations which require testing. Consequences of delays incurred through lack of notification are the entire responsibility of the Contractor.

D. Density Tests

1. Field density-in-place tests of aggregate base course will be made at locations directed by the Engineer. At least four tests will be made in accordance with ASTM D2167 or other method approved by the Engineer. Testing laboratory report shall indicate location of each test.

E. Bituminous Mixture Tests

1. Furnish a representative sample of each hot bin and of completed mix for testing.

2. The testing laboratory will make gradation analysis of hot aggregates, extract the bitumen in accordance with the test for bitumen content of paving mixtures by centrifuge, AASHTO designation T164.

3. The removal of mineral particles will be considered satisfactory when the ash content (by ignition) of the recovered bitumen is not greater than one percent by weight.

4. The penetration of the recovered bitumen will be determined in accordance with the test for penetration of bituminous materials, AASHTO designation T49, and the ductility will be determined in accordance with the test for ductility of bituminous materials, AASHTO designation T51.

F. Bituminous Paving Tests

1. Take representative sample for the determination of thickness and density of the completed pavements. The diameter of the specimens shall be as determined by the testing laboratory.

2. At least one sample shall be removed for each 10,000 square feet, and no less than four samples shall be removed for the project. The location for the removal of the samples shall be as directed by the Engineer.

3. Testing laboratory report will indicate location of each sample removed. The Contractor shall replace the pavement at no additional cost to the Owner.

**1.07 ENVIRONMENTAL REQUIREMENTS**

A. Do not place asphalt over frozen or wet base course.

B. Do not place asphalt when it is raining or snowing.

C. Do not place asphalt when the air temperature approximately three feet above the ground at the site of the work, in the shade and away from the effects of artificial heat, is less than 35º F. Binder mixtures may be placed at a lower temperature when approved by Engineer in writing.

D. Asphalt shall not be placed during calendar period between October 15 and May 1, except with the written approval or order of the Engineer. In the even of such approval or order, the conditions of the preceding paragraphs apply.

## PART 2 - PRODUCTS

**2.01 MATERIALS**

A. The asphaltic material for Asphaltic Concrete Pavement shall conform to the requirements of section 455 of the “State Specifications.”

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

C. Binder course mixture shall be graded and mixed to comply with Section 460.2.7 of the "State Specifications".

D. Surface course mixture shall be graded and mixed to comply with Section 460.2.7 of the "State Specifications".

E. Tack Coat: Asphaltic material shall be MS-2 and shall conform to the requirements of Section 455.2.4.3 of the "State Specifications".

F. Base Course: Base Aggregate Dense ¾ inch of the “State Specifications”.

## PART 3 - EXECUTION

### 3.01 ASPHALTIC CONCRETE PAVING

A. General

1. Bituminous paving shall be applied in one or more layers as indicated, consisting of a leveling course and a wearing course. Thickness after compaction of each bituminous paving course shall be as indicated.

B. Hot Mix Plant

1. Bituminous mixing plant and preparation, and mixing of bituminous mixtures shall comply with Section 450.3.2.2 of the “State Specifications”.

C. Equipment

1. Placing equipment shall be self-propelled paver capable of spreading the bituminous mixture true to line and grade, and in uniform thickness. The machine shall be in good mechanical condition.

2. Rolling equipment shall consist of three-wheeled type and tandem type steel wheel rollers and pneumatic-tired rollers complying with Section 450.3.1.5 of the “State Specifications.”

D. Preparation of Aggregate Base Course

1. Immediately prior to the application of prime coat, remove loose and foreign material.

E. Transportation of Bituminous Mixture

1. Transport the bituminous in accordance with Section 450.3.1.2 and 450.3.2.3 of the “State Specifications.”

F. Placement

1. Place the bituminous mixture in accordance with Section 450.3.2.5 of the “State Specifications.”

G. Compaction

1. Compaction of the asphaltic concrete pavement shall comply with “Ordinary Compaction Procedures” Section 450.3.2.6 of the “Standard Specifications.”

H. Joints

1. Joints shall conform with the requirements of “Standard Specification”, Subsection 450.3.2.8.

2. Butt joints shall be provided at all construction limits shown on the plans. Contractor shall sawcut the pavement full depth on a straight line to provide for the joint.

I. Bond Coat

1. Unless wearing course is placed within 24 hours of the leveling course, uniformly apply an asphalt emulsion bond coat at a rate of 0.1 gallon per square yard of surface to the binder or leveling course. Surface shall be cleaned as required if placement of wearing course is delayed.

J. Finished Surface

1. The finished bituminous pavement surface shall be smooth and even, free of voids, and true to the lines, grades and cross sections indicated. When tested with a 10 foot straight-edge parallel to the center line of the surfaced area, finished surface shall not show a deviation in excess of ¼ inch. Skin patching will not be permitted under any circumstances. Correct low areas and depressions by removal and replacement of the deficient pavement.

K. Compacted Thickness

1. If, after compaction, the total thickness of the binder or leveling or wearing course is less than the specified thickness, remove the entire area affected and replace with fresh binder course and wearing course mixtures. Such removal and replacement work shall be without cost to the Owner.

L. Protection of Pavement

1. After final rolling, do not permit vehicular traffic on any portion of the finished bituminous pavement until it has cooled sufficiently and at least 24 hours have elapsed.

M. Painting and Striping

1. Paint parking stall lines, roadway striping and all other pavement markings as shown on the plans or requested by Engineer. Paint lines to be 4 inches wide unless otherwise noted on plans. Paint shall be yellow for the parking stall lines, white for the handicapped parking symbol, or as noted on the plans.

2. Apply paint in accordance with manufacturers instruction.

3. Protect markings from traffic until dry to prevent tracking.

**END OF SECTION 02713**

# SECTION 02720
# PORTLAND CEMENT CONCRETE PAVING
# (SIDEWALKS, DRIVEWAYS AND PAVING)

## PART ONE – GENERAL

### 1.01 SECTION INCLUDES

A. This work shall consist of constructing sidewalks, crosswalks, driveways, traffic islands and steps of concrete masonry, with or without reinforcement, placed on the prepared foundation or base in one (1) course of the required dimensions and design; all as shown on the plans and provided by the contract.

B. Where integral curb and sidewalk is specified, such work shall consist of a sidewalk constructed with a concrete curb built integral with the same, all in accordance with the design and details shown on the plans.

C. The following specifications pertain equally to concrete sidewalks, concrete driveways, concrete traffic islands, and concrete steps, whether the particular item of construction is mentioned or not.

### 1.02 REFERENCES

A. Wisconsin Department of Transportation Standard Specifications for Highway and Structure Construction, Latest Edition (WDOT).

### 1.03 RELATED WORK SPECIFIED ELSEWHERE

A. Section 07920: Sealant and Caulking

## PART TWO – PRODUCTS

### 2.01 CONCRETE REQUIREMENTS

All requirements under Section 03305 CONCRETE, for mix design, high early strength concrete, tests, materials, mixing, placing, curing and protection of the concrete shall apply to concrete used in the construction of concrete sidewalks, concrete driveways, concrete traffic islands, and steps of concrete masonry.

### 2.02 EQUIPMENT

Equipment and tools necessary for performing all parts of the work shall be satisfactory as to design, capacity, and mechanical condition for the purposes intended, and any equipment which is not maintained in full working order, or which, as used by the Contractor, is inadequate to obtain the results prescribed shall be repaired, improved, replaced or supplemented to obtain the progress and workmanship contemplated by the contract.

### 2.03 SELECT FILL

A. WDOT Section 301 Base Aggregate Dense ¾ inch.

## PART THREE – EXECUTION

### 3.01 CONSTRUCTION METHODS

A. Preparation of Foundation

1. The foundation shall be formed by excavating or filling to the required elevation of the bottom of the concrete. The foundation so constructed shall be thoroughly mechanically compacted to insure stability. The foundation shall be thoroughly moistened immediately prior to placing of the concrete. The foundation shall be thoroughly moistened immediately prior to placing of the concrete.

2. When a sidewalk is built in excavation, the foundation shall be made sufficiently wide to permit placing of forms and performing the required work of placing the concrete and finishing. All objectionable material below the bottom of the excavation shall be removed and replaced with satisfactory material. All excavated material not necessary for banking the completed sidewalk shall be removed from the work before the work shall have been deemed to have been completed. Slopes of the excavation shall be one foot (1') vertical to one foot (1') horizontal unless otherwise ordered by the Engineer.

3. When a sidewalk is built on fill, the foundation shall be constructed to a width two feet (2') wider than the proposed sidewalk, extending one foot (1') beyond each edge of the sidewalk. The fill shall be constructed of approved materials. Slopes of the fill shall be one foot (1') vertical to two feet (2') horizontal unless otherwise order by the Engineer.

4. Where expressly ordered by the Engineer, select foundation shall be placed under the sidewalk and shall be paid for at the unit price bid for Select Fill. Select fill so installed shall be mechanically impacted.

5. The Contractor shall be responsible for replacement with approved materials, mechanically compacted, of any material necessary to bring the subbase to grade, where he has undercut the subbase without the direction of the Engineer.

6. Where tree roots are found to be in the same location of new sidewalk or sidewalk that is to be removed and replaced, the roots shall be removed to a minimum depth of five inches (5") below the subgrade.

B. Forms

1. Sidewalk forms shall be of steel construction and have a vertical height of at least five inches (5"). Wooden forms may be used only with the Engineer's approval on short radius curves and in special cases where accessibility is limited.

2. All forms shall be free of hardened concrete, mud, dirt, and debris, and shall be free of bends and twists which would make their use on the project unacceptable.

3. All forms shall be oiled, to the satisfaction of the Engineer, before depositing or placing concrete in them.

4. When concrete sidewalk is constructed on a curve, flexible forms shall be used for all curves having a radius of two hundred linear feet (200 l.f.) or less.

C. Placing and Finishing Concrete

1. The foundation and forms, and reinforcement when required, shall be checked and approved by the Engineer before the concrete is placed. The concrete shall be placed on a moist foundation, deposited to the required depth, and consolidated and spaded sufficiently to bring

the mortar to the surface, after which it shall be struck off and floated with a wooden float. Before the mortar has set, the surface shall be steel troweled until a smooth surface is obtained, sloping uniformly between side forms and transverse joints.

2. The concrete at the faces of all joints shall be thoroughly spaded and compacted to fill the voids and the surface shall be finished smooth and true to grade in a manner as hereinbefore provided. The edges of the sidewalk along forms, joints and metal slab division forms shall be finished with a steel edging tool of one-fourth inch (1/4") radius.

3. The Contractor may, with prior approval of the Engineer, elect to use a machine for placing, forming and consolidating concrete sidewalk. If a machine is used, the resulting sidewalk shall be of such quality as to equal or exceed that produced by methods hereinbefore described.

4. Any honeycombed areas occurring along the forms shall be filled with mortar immediately following the removal of the forms.

5. The Contractor shall install a header at the end of each pour. At no time will the Contractor be allowed to spread excess concrete as a base for the next or any succeeding pour. Minimum length blocks of 4'-6" (4-1/2 feet) may be poured only at the end of a day's pour and then only with permission of the Engineer.

D. Joints

1. Unless otherwise directed by the Engineer, the sidewalk shall be cut into blocks five feet (5') in length.

2. Transverse joints shall be constructed at right angles to the centerline of the sidewalk and longitudinal joints shall be constructed parallel to the centerline of the walk, unless otherwise provided. The joints shall be constructed as laid out in the field by the Engineer. Whenever the entire area between the back of the curb and the right-of-way or lot line, such sidewalk shall be constructed in alternate sections extending from the back of the curb to the permanent structure and such sections shall not exceed twelve linear feet (12 l.f.) or sidewalk length. When the alternate sections placed in the first operation have been cured as specified, the intervening sections shall be placed to complete the walk.

3. No joint shall deviate more than five degrees (5 deg) from a position perpendicular to the surface of the finished sidewalk, nor shall the axis of any joint deviate more than one-half inch (1/2") either way from a straight line or from the designated alignment at any point. If the joints are constructed in sections, there shall be no offsets or concrete struts between adjacent units.

4. When the sidewalk is constructed in partial width slabs, transverse joints in adjacent slabs shall be placed in line with like joints in the previously constructed slabs. In the case of sidening existing sidewalks, transverse joints shall be paced in line with like joints in the existing sidewalk.

5. Insofar as feasible, sidewalks shall be divided into sections not less than five feet (5') nor more than twelve feet (12') in any dimension. The unit areas shall be produced by use of metal slab division forms extending to the full depth of the concrete, or when so approved by the Engineer, by contracting joints as defined hereinafter.

6. A contraction joint in a sidewalk shall consist of a slot or groove, at least one inch (1"0 in depth and one-fourth inch (1/4)" in width, formed by inserting a metal parting strip in the concrete after it has been struck off and consolidated and while the concrete is still plastic. As soon as the concrete will retain its shape, the parting strip shall be removed and the joint edge-finished.

7. When approved by the Engineer, contraction joints at least one inch (1") in depth and approximately one-eighth inch (1/8") in width may be sawed in the concrete sidewalk. The sawing shall be done as soon as practicable after the concrete has set sufficiently to preclude raveling during the sawing and before any shrinkage cracking takes place in the concrete.

8. At intervals of approximately 96 feet (96') on continuous sidewalk construction, and at the ends of all radii, one-half inch (1/2") expansion joint filler shall be placed. Whenever the walk abuts on or is adjacent to the curb, one inch (1") expansion joint filler shall be placed between the curb and the sidewalk. Crosswalks and aprons at intersections shall have one-half inch (1/2") expansion joint filler placed between the crosswalk or apron and the Owner's sidewalk.

9. Expansion joint filler shall extend to the full depth and width of the concrete and the top shall be slightly below the finished surface of the sidewalk. Joints shall not be sealed.

E. Reinforcement

1. Where reinforcement is required, it shall conform to and be placed in accordance with the details shown on the plans, as specified in the contract, or as directed by the Engineer.

2. The Contractor shall install three (3), one-half inch (1/2"), round reinforced rods fifteen feet (15') long in concrete sidewalks which span ditches.

F. Protection

1. The sidewalk must be protected from injury by traffic or other causes and also from the rays of the sun until completely set. Sidewalks may be opened to pedestrian traffic after expiration of the curing period.

G. Replacement of Concrete Sidewalk

1. At such places and for such distances as shall be designated by the Engineer, the Contractor shall replace concrete sidewalks by breaking up and removing all old material, and preparing the existing foundation for the construction of the concrete sidewalk. Upon the foundation so prepared, the Contractor shall construct a concrete sidewalk in accordance with the foregoing specifications. The cost of removal of all old concrete material shall be included in the amount bid per square foot of sidewalk replacement unless otherwise specified in the contract.

H. Contractor's Identification

1. The Contractor shall stamp or otherwise show his name and the year constructed on the sidewalk constructed or reconstructed for the Owner. Such identification shall be stamped at the beginning and end of each section of the project.

I. Backfilling and Restoring the Site of the Work

1. Where the sidewalk does not abut curb, gutter, pavement or other structures, and when the concrete in such sidewalk has been cured and the forms removed, the spaces along the sides shall be backfilled with satisfactory soil and thoroughly compacted. The backfill shall conform to the section shown on the plans. The Contractor shall dispose of surplus excavation offsite and shall restore the site of the work to a neat and workmanlike condition.

J. Concrete Sidewalks

1. Concrete sidewalks and crosswalks shall be five inches (5") in thickness, five feet (5') in width, constructed of non-reinforced concrete, with a transverse slope of one-fourth inch

(1/4") per foot, unless otherwise noted on the plans or in the special provisions of the contract, or unless otherwise directed by the Engineer.

2. Where directed by the Engineer, all existing sidewalk in the terrace between the curb and public sidewalk that is removed during the construction of new curb and gutter shall be replaced in the same location and to the same dimensions as was true of the original terrace walks.

K. Concrete Driveways

1. Concrete driveways shall be seven inches (7") in thickness and constructed of non-reinforced concrete unless otherwise noted on the plans or in the Special Provisions of the contract. Expansion joints and contraction joints shall conform to the requirements of Section 07920, except that the Contractor may cut diagonal joints in order to control the cracking of the concrete in the curved areas of commercial drives.

L. Concrete Traffic Islands

1. Traffic islands shall be constructed at the locations and in accordance with the design, dimensions and details shown on the plans.

M. Steps of Concrete Masonry

1. When construction of steps is included in the contract, they shall be built at the locations and in accordance with the design, dimensions and details shown on the plans. The work shall include reinforcement and necessary excavation, backfilling and disposal of excess material from excavation.

**END OF SECTION 02520**

# SECTION 02721
# PORTLAND CEMENT CONCRETE CURB AND GUTTER

## PART ONE – GENERAL

### 1.01 SECTION INCLUDES

A. This work shall consist of constructing concrete curb and gutter, with or without reinforcement, of the dimensions and design as indicated, and placed in one (1) course on the prepared foundation or base, at the locations and to the required lines and grades, all as shown on the plans and provided by the contract.

### 1.02 REFERENCES

A. Wisconsin Department of Transportation Standard Specifications for Highway and Structure Construction, Latest Edition (WDOT).

### 1.03 RELATED WORK SPECIFIED ELSEWHERE

A. Section 07920: Sealant and Caulking

## PART TWO – PRODUCTS

### 2.01 CONCRETE

A. All requirements under Section 03310, Cast-in-place Concrete, for mix design, high early strength concrete, tests, materials, mixing, placing, curing and protection of the concrete shall apply to concrete used in the construction of concrete curb and gutter.

### 2.02 EQUIPMENT

A. Equipment and tools necessary for performing all parts of the work shall be satisfactory as to design, capacity, and mechanical condition for the purposes intended, and any equipment which is not maintained in full working order, or which, as used by the Contractor, is inadequate to obtain the results prescribed shall be repaired, improved, replaced or supplemented to obtain the progress and workmanship contemplated by the contract.

### 2.03 SELECT FILL

A. WDOT Section 301 Base Aggregate Dense ¾ inch.

## PART THREE – EXECUTION

### 3.01 PREPARATION OF FOUNDATION

A. The foundation shall be prepared by excavating to the lines, grades and cross section shown on the plans and required for placing the concrete masonry. All soft or unsuitable material shall be removed and replaced with suitable material and the foundation or material underlying the proposed curb and gutter shall be mechanically compacted thoroughly and finished to a firm, true surface. The foundation shall be thoroughly moistened immediately prior to placing of the concrete.

B. Where expressly ordered by the Engineer, a select foundation shall be placed under the curb and gutter at a depth specified by the engineer or on the plans and shall be paid for at the unit price bid for Select Fill. Select Fill shall be mechanically compacted.

C. Where the Contractor has undercut the subbase without the direction of the Engineer, he shall replace, with three-quarters inch (3/4") crushed stone, mechanically compacted, any material necessary to bring the subbase to grade.

## 3.02 FORMS

A. Curb and gutter forms shall be of steel construction and conform to the design of the type of curb and gutter being installed. Wooden forms may be used only with the Engineer's approval on short radius curves and in special cases where accessibility is limited. Front forms shall be a minimum of nine inches (9") in height.

B. All forms shall be oiled to the satisfaction of the Engineer before depositing or placing concrete in them.

C. When concrete curb and gutter is constructed on a curve, flexible forms shall be used for all curves having a radius of two hundred linear feet (200 l.f.) or less.

## 3.03 PLACING AND FINISHING CONCRETE

A. The foundation and forms, and reinforcement when required, shall be checked and approved by the Engineer before the concrete is placed. The concrete shall be placed on a moist foundation, deposited to the required depth, and thoroughly consolidated, spaded against the forms, and struck off and finished to the required section.

B. Separators shall be removed as soon as practicable after the concrete has been struck off, consolidated and set sufficiently to preserve the width and shape of the joint. Face forms, if used, may be removed for finishing curb face and fillets as soon as the concrete will retain its shape. Back forms may be removed after the concrete has been in place for six (6) hours.

C. The Contractor may, with prior approval of the Engineer, elect to use a machine for placing, forming and consolidating concrete curb and gutter. If a machine is used, the resulting curb and gutter shall be of such quality as to equal or exceed that produced by methods hereinbefore described.

D. Face surfaces of the curb and gutter shall be thoroughly troweled and finished with a brush at right angles to the line of the curb and gutter. The surface and edges of the curb and gutter must be left true and exact and free from tool marks.

E. Unless otherwise provided, the back edge of the curbs, the edge of the gutter adjacent to the pavement and edges adjacent to expansion joints or contraction joints formed by separator plates shall be finished with a steel edging tool of one-fourth inch (1/4") radius. Any honeycombed areas occurring along forms on back of curbs or edges of gutters shall be filled with mortar immediately following the removal of the forms.

F. Wherever directed by the Engineer, driveway gutters shall be built instead of regular curb and gutters.

G. The curb and gutter over ditches shall be installed in twenty-foot (20') lengths centered over the ditch. A dummy joint shall be cut at the center of the twenty-foot (20') section.

H. Unless otherwise specified, curb and gutter shall be installed in minimum lengths of six feet (6') and maximum lengths of fifteen feet (15').

I. The Contractor shall install a header at the end of each pour. At no time will the Contractor be allowed to spread excess concrete as a base for the next or any succeeding pour.

## 3.04 JOINTS

A. Full contraction joints shall be a minimum of three inches (3") in depth and shall be uniformly spaced not less than six feet (6') nor more than fifteen feet (15') apart unless otherwise directed by the Engineer.

B. If machine methods are used for forming and finishing curb and gutter, the Contractor may saw contraction joints or he may create planes of weakness by the insertion of approved partial depth separator plates having a minimum depth of three inches (3"). The depth of cut and equipment used in sawing shall meet the approval of the Engineer. The sawing shall be done as soon as practicable after the concrete has set sufficiently to preclude raveling during the sawing and before any shrinkage cracking takes place in the concrete. If this method results in random cracking, the Contractor will be required to use the partial depth separator plates.

C. Transverse expansion joints shall be one-half inch (1/2") in width and shall be placed across the curb and gutter perpendicular to the curb line at all radius points of curves having a radius of two hundred feet (200') or less on both sides of all inlets installed in curb and gutter and on tangent sections place between 6 feet and 300 feet. All expansion joints shall extend through the entire thickness of the curb and gutter and shall be perpendicular to the surface. All expansion joints shall be formed by inserting during construction and leaving in place the required thickness of joint filler which shall extend through the entire thickness of both curb and gutter.

D. Where curb and gutter and concrete sidewalk or concrete driveways join, an expansion joint one inch (1") in width must be constructed between walks and curb.

E. The joint filler in transverse joints shall be flush with the finished surface of the gutter. The concrete adjacent to these joints shall be finished with a wooden float which is divided through the center and will permit finishing on both sides of the filler at the same time. Before the curb and gutter is opened to traffic, excess joint filler shall be cut off level with the finished surface.

## 3.05 REINFORCEMENT

A. Where reinforcement is required, it shall conform to and be placed in accordance with the details shown on the plans, as specified in the contract, or as ordered by the Engineer.

B. Where directed by the Engineer, the Contractor shall install three (3), one-half inch (1/2"), round reinforcing rods, fifteen feet (15') long in concrete curbs and gutters which span ditches.

## 3.06 PROTECTION

A. The curb and gutter must be protected from injury by traffic or other causes, and also from the rays of the sun until completely set.

## 3.07 DAMAGE TO INLETS

A. Any damage to cast iron inlets during construction occasioned by the Contractor shall be repaired to the satisfaction of the Engineer at the expense of the Contractor.

B. Any existing cast iron inlet found to be defective by the Engineer shall become the property of the Owner and shall be transported by the Contractor to a site designated by the Owner. A new inlet shall be furnished an installed by the Contractor and the Owner will pay the Contractor for the inlet structure upon the presentation of a receipted bill.

**END OF SECTION 02521**

# SECTION 02920
# TOPSOIL AND FINISH GRADING

## PART ONE – GENERAL

1.01 SECTION INCLUDES

A. Furnishing and placing topsoil.

B. Finish grading.

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Section 02931: Sodding.

B. Section 02930: Seeding.

1.03 SUBMITTALS

A. Sample

1. Provide three (3) 1-quart samples obtained from the topsoil stockpile source.

2. Each sample to be a composite of five to seven subsamples taken the full depth of the stockpile source. On stockpiles, discard upper six (6) inches of soil before sampling.

B. Test Reports

1. Prior to starting work, submit two certified copies of soil test reports to Engineer for approval. These test results shall include recommended fertilizer application rates.

2. Cost of all testing to be borne by Contractor.

1.04 QUALITY ASSURANCE

A. Comply with Division One requirements.

B. Testing and inspection: Performed by a qualified independent testing laboratory, under the supervision of a registered professional engineer, specializing in soil engineering. See soil test requirements under Section 02931.

1.05 PROJECT CONDITIONS

A. Consult the Owner's site construction plans for known underground and surface utility lines.

B. Protect existing trees, plants, lawns and other features designated to remain as part of the landscaping work.

C. Promptly repair damage to adjacent facilities caused by earthwork operations. Cost of repair at Contractor's expense.

D. Promptly notify the Engineer of unexpected subsurface conditions.

## PART TWO – PRODUCTS

### 2.01 MATERIALS

A. All soil material is subject to testing and inspection.

B. Topsoil: Natural, friable, fertile soil characteristic of productive soil in the vicinity, reasonably free of stones, clay lumps, roots and other foreign matter. Soil removed from agricultural land shall not have had crops grown on it for at least two years.

1. Proposed topsoil material shall be acceptable to the Engineer.

## PART THREE – EXECUTION

### 3.01 FINISH GRADING

A. Finish grading within contract limits, including adjacent transition areas, to new elevations, levels, profiles and contours indicated.

B. Grade surfaces to assure areas drain away from structures and to prevent ponding and pockets of surface drainage.

C. Lawn: 6" minimum depth of topsoil at lawn areas.

D. Perform grading, within branch spread of existing trees to remain, by hand methods to elevations indicated.

E. Fine grade topsoil eliminating rough and low areas to ensure positive drainage.

F. Remove stones, roots, weeds and debris while spreading topsoil materials. Rake surface clean of stone 1" or larger in any dimension and all debris. Provide surfaces suitable for soil preparation provided under lawn and planting work.

G. Maintenance:

1. Protect finish graded areas from traffic and erosion. Keep free of trash and debris. Repair and reestablish grades in settled, eroded and damaged areas.

2. Where completed areas are disturbed by construction operations or adverse weather, scarify, reshape and compact to required density.

3.02 DISPOSAL OF WASTE MATERIALS

A. Remove from site and legally dispose of trash and debris.

3.03 CLEANING

A. Upon completion of earthwork operations, clean areas within contract limits, remove tools and equipment. Provide site clear, clean, free of debris and soot.

**END OF SECTION 02920**

# SECTION 02930
# SEEDING

## PART ONE – GENERAL

### 1.01 SECTION INCLUDES

A. Provide all labor, materials, and equipment to complete seeding work as indicated in the Contract Documents.

### 1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Section 02200 - Earthwork/Site Preparation

B. Section 2920 – Topsoil

### 1.03 QUALITY ASSURANCE

A. Contractor's Qualifications

1. The work of this section shall be performed by a qualified Contractor with a minimum of five (5) years experience specializing in seeding or landscape installations.

B. Testing

1. Use testing laboratory, licensed by State of Wisconsin, Certified to perform specified tests on material samples proposed for use. Forward test results to Architect/Engineer.

2. Contractor shall provide and pay for materials testing. Testing agency shall be acceptable to the Architect/Engineer.

C. Topsoil

1. Test for pH factor; perform mechanical analysis. Tabulate percentage of organic content. Provide written recommendations on type and quantity of additives required to establish satisfactory pH factor and supply of nutrients to bring nutrients to satisfactory level for planting.

### 1.04 REGULATORY REQUIREMENTS

A. Comply with applicable regulations for fertilizer and herbicide composition and application. Include evidence of compliance from applicable agencies having jurisdiction over herbicide/pesticide application and copies of applicator's current license.

B. Provide certificate of compliance from authority having jurisdiction indicating approval of seed mixtures.

### 1.05 SUBMITTALS

A. Submit seed vendor's certification for required grass seed mixture, indicating percentage by weight, and percentages of purity, germination, and weed seed for each grass species.

B. Submit the following materials certification:

1. Seed

2. Fertilizer(s) analysis

3. Tackifier (if used)

C. Warranty

## 1.06 PRODUCT DELIVERY STORAGE AND HANDLING

A. Deliver seed and fertilizer materials in original unopened containers, showing weights, analysis, and name of manufacturer. Store in a manner to prevent wetting and deterioration.

## 1.07 PROJECT CONDITIONS

A. Work Notification: Notify Architect/Engineer at least 5 working days prior to start of seeding operations.

B. Protect existing facilities from damage caused by seeding operations.

C. Perform seeding work after planting and other work affecting ground surface has been completed.

D. Restrict traffic form lawn areas until grass is established. Erect signs and barriers as required.

E. Provide hose and lawn watering equipment as required.

## 1.08 ACCEPTANCE

A. Provisional Acceptance

1. Notify the Engineer in writing upon completion of seeding.

2. Within ten (10) days of notification, the Engineer will inspect the work and issue a Notice of Provisional Acceptance, along with a punchlist of any items requiring completion of correction.

3. Issuance of the Notice of Provisional Acceptance shall constitute the start of Guarantee Maintenance Period.

B. Final Acceptance

1. Payment for seeding will be based on an acceptable stand of grass grown on the site as determined by the Engineer. If an acceptable stand of grass is not produced within 90 days of initial standing, the Owner reserves the right to perform the seeding and cost of this work will be deducted from the Contract. The 90 days applies to the growing period between April 1 and October 15.

2. Seeding shall be completed and approved before final acceptance of the project can be made by the Engineer. This includes two mowings as described under the Maintenance item.

## 1.09 WARRANTY

A. Provide a uniform stand of grass by watering, mowing, and maintaining seeded areas until final acceptance. Re-seed areas, with specified materials, which fail to provide a uniform stand of grass until all affected areas are accepted by the Architect/Engineer.

# PART TWO – PRODUCTS

## 2.01 MATERIALS

A. Lawn Seed: Fresh, clean, 90% pure, new crop seed mixture, mixed by an approved method.

1. Provide the following varieties, mixed by weight and tested to minimum percentages of purity and germination and Poa Annual, bent grass, and noxious weed seed free.

| Mix | Proportion by Weight | Min % Seed |
|---|---|---|
| Kentucky Bluegrass | 20% | 80% |
| Park Kentucky Bluegrass | 20% | 80% |
| Adelphi Kentucky Bluegrass | 20% | 80% |
| Pennlawn Red Fescue | 20% | 80% |
| Turf Type Perennial Ryegrass | 20% | 80% |
| | --- | |
| | 100% | |

B. Fertilizer: Granular, non-burning product, minimum 50% organic slow acting, guaranteed analysis professional fertilizer.

1. Type A: Starter fertilizer containing 20% nitrogen, 26% phosphoric acid, and 6% potash by weight.

2. Type B: Top dressing fertilizer containing 31% nitrogen, 3% phosphoric acid, arid 10% potash by weight.

C. Ground Limestone: Containing not less than 85% of total carbonates and ground to such fineness that 50% will pass through a 100-mesh sieve and 90% will pass through a 20-mesh sieve.

D. Straw Mulch: Clean, weed-free mulch of sedge marsh hay (not from reed canary grass) straw well seasoned before baling.

# PART THREE – EXECUTION

## 3.01 LAWN INSTALLATION

A. Grade Preparation

1. Immediately before seeding, scarify, loosen, float and drag topsoil as necessary to bring it to the proper condition. Remove foreign matter larger than one inch in diameter.

2. If the prepared grade is eroded or compacted by rainfall prior to fertilizing, rework the surface as specified.

3. No seeding shall take place until the Engineer approves the seed bed. Failure to comply may result in rejection of the seeding work.

B. Fertilizing

1. Uniformly distribute fertilizer by mechanical means at the rate specified by topsoil analysis.

2. Work fertilizer into the top 3 inches of soil. Cultivating equipment shall be set so that the fertilizer will not penetrate into the soil more than 3 inches. Do not apply fertilizer when there is a possibility of rain before lawn areas can be seeded or sodded.

## 3.02 SEEDING

A. Sow seed during the months of April, May, August and September, unless otherwise approved by the Engineer. Do not sow seed when weather conditions are unfavorable, such as during drought or high winds.

B. Perform drill seeding using approved equipment such as cultipacker seeders and grass seed drills.

C. Drill the seed uniformly to an average depth of 1/2 inch and at a rate of 3 pounds per 1,000 square feet. All areas shall be seeded in at least two directions. Turfgrass seeds shall not be covered by more than 1/4 inch of soil. The seeding device shall lightly roll the seed bed to provide good moisture contact between the seed and soil.

D. Water thoroughly and immediately with a fine mist until soil is soaked to a depth of 3 inches. Maintain soil in a moist condition until seeds have sprouted and reached a height of 1 inch. Water thereafter at least once every 14 days unless natural rainfall has provided equivalent watering.

E. Spread mulch evenly at the rate of 1 1/2 tons per acre. Place all mulch on given areas within 8 hours after seeding. A mechanical blower may be used to apply mulch material, provided the machine has been specifically designed and approved for this purpose. Anchor the mulch by either using a light serrated disc or a spray tackifier. If a spraying tackifier is used, it may be applied either simultaneously or in a separate application. Take precautionary measures to prevent tackifier materials from marking or defacing structures, pavements, utilities or plantings.

## 3.03 HYDROSEEDING (WET APPLICATION METHOD)

A. Apply seed and fertilizer by spraying them on the previously prepared seed bed in the form of an aqueous mixture, and by using the methods and equipment specified. The rate of seed application shall be 4 pounds per 1,000 square. Apply the seed, fertilizer and water mixture at a rate not less than 1,000 gallons per acre.

B. Water used shall be obtained from fresh water sources, and shall be free from injurious chemicals and other toxic substances at all times. Identify to the Engineer all sources of water at least two weeks prior to use. The Engineer, at this direction, may take samples of the water at the source or from the tank at any time and have a laboratory test the samples for chemical and saline content. Use no water from a source which is disapproved by the Engineer following such tests.

C. Mixtures shall be constantly agitated from the time they are combined until they are finally applied to the seed bed. Once combined, mixtures shall be used within 8 hours; portions not used within 8 hours shall be wasted and disposed of at locations acceptable to the Engineer.

D. Direct application nozzle sufficiently upward so that the mixture falls to the ground in a uniform shower. Never direct spray toward the ground in a manner that produces erosion or runoff.

E. Apply uniformly and at the prescribed rate, avoiding misses and overlapped areas, gauging quantities of mixture to measured application areas. Checks on the rate and uniformity of application may be made by observing the degree of wetting, or by distributing test sheets and observing the quantity of material deposited thereon.

F. The spray method shall not be used during periods of high winds.

G. Seed and commercial fertilizer applied by the spray method need not be raked into the soil.

H. Mulch all seeded areas at the following rates and stabilize with tackifier at rate recommended by the manufacturer.

1. Straw at 2 tons per acre.

2. Wood cellulose at 1,500 pounds per acre.

## 3.04 CLEANING, REMOVAL AND REPAIR

A. Paved areas over which hauling operations have been conducted shall be kept clean. Promptly remove materials spilled on pavement.

B. Upon completion of lawn installation, remove from the site and legally dispose of the stone and foreign matter.

C. Repair existing lawns damaged by operations under the contract. Repair shall include finish grading, seeding or sodding as required to match existing grade and lawn, and maintenance of repaired areas.

## 3.05 MAINTENANCE

A. Water as needed to prevent grass and soil from drying out. The specified seed mix requires minimum of one-inch of water per week until germination.

B. Control growth of weeds: Apply herbicides in accordance with manufacturer's instructions. Remedy damage resulting from improper use of herbicides. Coordinate application of herbicides with Owner.

C. Mowing: Contractor is responsible for providing first two mowings of the newly established grass. Mow grass at regular intervals to maintain at a maximum height of 2-1/2 inches. Do not cut more than 1/3 of grass blade at any one mowing. The first mowing shall take place when seedlings are 40 percent higher than desired height. Neatly trim edges and hand clip where necessary. Do not let clippings lay in clumps.

D. The Contractor shall do additional seeding, fertilizing and mulching in areas failing to show an

acceptable stand of grass within 30 days of initial seeding.

## 3.06 FINAL ACCEPTANCE

A. Payment for seeding will be based on an acceptable stand of grass grown on the site as determined by the Engineer. If an acceptable stand of grass is not produced within 60 days of initial seeding, the Owner reserves the right to perform the seeding and **cost of this work will be deducted from the Contract**. The 60 days applies to the growing period, nominally April 1 to November 1, but dependent upon actual weather conditions as decided by Owner.

B. Seeding shall be completed and approved before final acceptance of the project can be made by the Engineer. This includes two mowings as described under the Maintenance item.

**END OF SECTION 02930**

# SECTION 02931
# SODDING

## PART ONE – GENERAL

1.01 SECTION INCLUDES

A. Provide sodded and restored lawns as shown and specified. The work includes:

1. Soil preparation.

2. Sodding lawns and other areas as indicated.

3. Lawn Restoration.

4. Maintenance.

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Section 02920: Topsoil and Finish Grading.

1.03 QUALITY ASSURANCE

A. Sod: Comply with American sod Producers Association (ASPA) classes of sod materials.

B. Provide and pay for materials testing. Testing agency shall be acceptable to the Architect. Provide the following data:

1. Test representative materials samples proposed for use.

2. Topsoil:

(a) pH factor.

(b) Mechanical analysis.

(c) Percentage of organic content.

(d) Recommendations on type and quantity of additives required to establish satisfactory pH factor and supply of nutrients for planting.

1.04 SUBMITTALS

A. Submit sod growers certification of grass species. Identify source location.

B. Submit the following materials certification:

1. Upon added lawn acceptance, submit written maintenance instructions recommending procedures for maintenance of sodded lawns.

C. Fertilizer(s) analysis

1.05 DELIVERY, STORAGE, AND HANDLING

A. Cut, deliver, and install sod within a 24-hour period.

1. Do not harvest or transport sod when moisture content may adversely affect sod survival.

2. Protect sod from sun, wind, and dehydration prior to installation.

3. Do not tear, stretch, or drop sod during handling and installation.

1.06 PROJECT CONDITIONS

A. Work notification: Notify Engineer at least seven (7) working days prior to start of sodding operations.

B. Protect existing utilities, paving, and other facilities from damage caused by sodding operations.

C. Perform sodding and lawn restoration work only after planting and other work affecting ground surface has been completed.

D. Restrict traffic from lawn areas until grass is established. Erect signs and barriers as required.

E. Provide hose and lawn watering equipment as required.

1.07 WARRANTY

A. Provide a uniform stand of grass of watering, mowing, and maintaining lawn areas until final acceptance. Re-sod and recondition areas which fail to provide a uniform stand of grass with specified materials until all affected areas are accepted by the Engineer.

**PART TWO - PRODUCTS**

2.01 SOD

A. An approved nursery grown sod composed of the following grass species: Provide sod free of grassy or broadleaf weeds.

1. At least 60% Bluegrasses selected from the following varieties: Aristi, Adlephi, Barron, Majestic, Parade or Touchdown.

B. Provide well-rooted, healthy sod, free of diseases, nematodes and soil borne insects. Provide sod uniform in color, leaf texture, density and free of weeds, undesirable grasses, stones, roots, thatch, and extraneous material; viable and capable of growth and development when planted.

2. Furnish sod, machine stripped and of Supplier's standard width, length, and thickness: Uniformly 1" to 1-1/2" thick with clean cut edges. Mow sod before stripping.

2.02 FERTILIZER

A. Granular, non-burning product composed of not less than 50% organic slow acting, guaranteed analysis fertilizer.

1. Type A: Starter fertilizer containing 20% nitrogen, 26% phosphoric acid, and 6% potash by weight or similar approved composition.

2. Type B: Top dressing fertilizer containing 31% nitrogen, 3% phosphoric acid, and 10% potash by weight or similar approved composition.

2.03 GROUND LIMESTONE

A. Containing not less than 85% of total carbonates and ground to such fineness that 50% will pass through a 100-mesh sieve and 90% will pass through a 20-mesh sieve.

2.04 STAKES

A. Softwood, 1/2" dia. x 8" long, or

B. Steel, tee shaped pins, 4" head x 8" leg.

2.05 WATER

A. Free of substance harmful to sod growth.

B. Hoses or other methods of transportation furnished by Contractor.

2.06 SEED FOR LAWN RECONDITIONING

A. Kentucky Blue Grasses (60%) selected from three varieties and mixed equally; Jamestown Fescue (30%) and Penfine Perennial Rye Grass (10%). Furnish certificate of seed used to Landscape Architect for approval.

**PART THREE – EXECUTION**

3.01 INSPECTION

A. Examine finished surfaces, grades, topsoil quality, and depth. Do not start sodding work until unsatisfactory conditions are corrected.

## 3.02 PREPARATION

A. Limit preparation to areas which will be immediately sodded.

B. Loosen topsoil of lawn areas to be sodded to minimum depth of 4". Remove stones over 1" in any dimension and sticks, roots, rubbish, and extraneous matter.

C. Grade lawn areas to smooth, free draining and even surface with a loose, uniformly fine texture. Roll and rake; remove ridges and fill depressions to insure proper drainage.

D. Apply limestone at the rate determined by the soil test, to adjust pH of topsoil to not less than 6.0 nor more than 6.8. Distribute evenly by machine and incorporate thoroughly into topsoil.

E. Apply Type A fertilizer at the rate equal to 1.0 lb. of actual nitrogen per 1,000 sq. ft. (220 lbs./acre). Apply fertilizer by mechanical rotary or drop type distributor. Thoroughly and evenly incorporate into the soil to a depth of 3" by disking or other approved methods. Fertilize areas inaccessible to power equipment with hand tools and incorporate into the soil.

F. Dampen dry soil prior to sodding.

G. Restore prepared areas to specified condition if eroded, settled, or otherwise disturbed after fine grading and prior to sodding.

## 3.03 INSTALLATION

A. Sodding

1. Lay sod to form a solid mass with tightly-fitted joints. Butt ends and sides of sod strips. Do not overlay edges. Stagger strips to offset joints in adjacent courses. Remove excess sod to avoid smothering of adjacent grass. Install sod top flush with adjacent curbs, sidewalks, drains, and seeded areas.

2. Do not lay dormant sod. Do not install sod on saturated or frozen soil.

3. Install initial row of sod in a straight line, beginning at bottom of slopes, perpendicular to direction of the slope. Place subsequent rows parallel to and tightly against previously installed row.

4. Peg sod on slopes greater than 3H to 1V to prevent slippage at a rate of 2 stakes per yd. of sod.

5. Water sod thoroughly with a fine spray immediately after laying.

6. Roll with light lawn roller to ensure contact with sub-grade.

B. Sod indicated areas within contract limits.

3.04 LAWN RECONDITIONING

A. Top dress lawn areas to be reconditioned with topsoil to achieve an even appearance and fill depressions.

B. Grade existing lawn areas as needed to remove high spots. Loosen soil in preparation for seeding. Fertilize as required for sod. Include entire lawn area when fertilizing.

C. Over-seed both top-dressed and graded lawn areas with prescribed seed mix at a rate of 5# per 1,000 SF. Lightly rake seeded areas to cover seed and roll. Mulch with chopped straw.

3.05 MAINTENANCE

A. Maintain sodded lawns and restored lawns for a period of at least 30 days after completion and acceptance of sodded and seeding operations.

B. Maintain sodded lawn areas by watering, spot weeding, mowing, application of herbicides, fungicides, insecticides and resodding until a full, uniform stand of grass free of weed, undesirable grass species, disease, and insects is achieved and accepted by the Engineer.

1. Water lawn thoroughly every 2 to 3 days, as required to establish proper rooting.

2. Repair, rework, re-sod or re-seed all areas that have washed out or are eroded. Replace undesirable or dead areas with new sod.

3. Mow lawn areas as soon as lawn top growth reaches a 3" height. Cut back to 2" height. Repeat mowing as required to maintain specified height. Not more than 40% of grass leaf shall be removed at any single mowing.

4. Apply Type B fertilizer to lawns approximately 30 days after sodding and seeding at a rate equal to 1.0 lb. of actual nitrogen per 1,000 sq. ft. (140 lbs./acre). Apply with a mechanical rotary or drop type distributor. Thoroughly water into soil.

5. Apply herbicides as required to control weed growth or undesirable grass species.

6. Apply fungicides and insecticides as required to control diseases and insects.

7. Remove sod pegs after sod is rooted into subsoil.

## 3.06 ACCEPTANCE

A. Inspection to determine acceptance of sodded lawns and reconditioned will be made by the Engineer, upon Contractor's request. Provide notification at least ten (10) working days before requested inspection date.

   1. Lawns will be acceptable provided all requirements, including maintenance, have been complied with, and a health, even colored viable lawn is established, free of weeds, undesirable grass species, disease, and insects.

B. Upon acceptance, the Owner will assume lawn maintenance.

## 3.07 CLEANING

A. Perform cleaning during installation of the work and upon completion of the work. Remove from site all excess materials, debris, and equipment. Repair damage resulting from sodding operation.

**END OF SECTION 02931**

# SECTION 02950
# TREES, SHRUBS AND GROUND COVERS

## PART ONE – GENERAL

### 1.01 SECTION INCLUDES

A. Provide trees, plants, and ground covers as shown and specified. The work includes:

1. Soil preparation.
2. Trees, plants, and ground covers.
3. Planting soil mixes.
4. Mulch and planting accessories.
5. Maintenance.

### 1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Section 02920: Topsoil and Finish Grading.

### 1.03 QUALITY ASSURANCE

A. Comply with Division One requirements.

B. Plant names indicated, comply with "Standardized Plant Names" as adopted by the latest edition of the American Joint Committee of Horticultural Nomenclature. Names of varieties not listed conform generally with names accepted by the nursery trade. Provide stock true to botanical name and legibly tagged.

C. Comply with sizing and grading standards of the latest edition of "American Standard for Nursery Stock". A -plant shall be dimensioned as it stands in its natural position.

D. All plants shall be nursery grown under climatic conditions similar to those in the locality of the project for a minimum of 2 years.

E. Stock furnished shall be at least the minimum size indicated. Larger stock is acceptable, at no additional cost, and providing that the larger plants will not be cut back to size indicated. Provide plants indicated by two measurements so that only a maximum of 25% are of the minimum size indicated and 75% are of the maximum size indicated.

F. Provide "specimen" plants with special height, shape, or character of growth. Tag specimen trees or shrubs at the source of supply. The Landscape Architect will inspect specimen selections at the source of supply for suitability and adaptability to selected location. When specimen plants cannot be purchased locally, provide sufficient photographs of the proposed specimen plants for approval.

G. Plants may be inspected and approved at the place of growth, for compliance with specification requirements for quality, size, and variety.

1. Such approval shall not impair the right of inspection and rejection upon delivery at the site or during the progress of the work.

H. Substitutions

1. If specified material cannot be located, Landscape Architect will identify substitutions. Adjustments will be made at no additional cost to the Owner, except if downsized, credits will be based on comparable industry costs.

2. Container plants may be substituted for those designated “BB” only if approved by the Landscape Architect.

## 1.04 SUBMITTALS

A. Submit the following materials samples:

1. Mulch -- bark and stone (both types).

B. Submit the following materials certification:

1. Topsoil source and pH value.

2. Peat moss.

3. Plant fertilizer.

C. Upon plant materials acceptance, submit written maintenance instructions recommending procedures for maintenance of plant materials.

D. Provide plant material record drawings:

1. Legibly mark drawings to record actual construction.

2. Indicate horizontal and vertical locations, referenced to permanent surface improvements.

3. Identify field changes of dimension and detail and changes made by Change Order.

## 1.05 DELIVERY, STORAGE, AND HANDLING

A. Delivery fertilizer materials in original, unopened, and undamaged containers showing weight, analysis, and name of manufacturer. Store in manner to prevent wetting and deterioration.

B. Take all precautions customary in good trade practice in preparing plants for moving. Workmanship that fails to meet the highest standards will be rejected. Spray deciduous plants in foliage with an approved "Anti-Desiccant" immediately after digging to prevent dehydration. Dig, pack, transport, and handle plants with care to ensure protection against injury. Inspection certificates required by law shall accompany each shipment invoice or order to stock and on arrival, the certificate shall be filed with the Landscape Architect. Protect all plants from drying out. If plants cannot be planted immediately upon delivery, properly protect them with soil, wet peat moss, or in a manner acceptable to the Landscape Architect. Water heeled-in planting daily. No plant shall be bound with rope or wire in a manner that could damage or break the branches.

C. Cover plants transported on open vehicles with a protective covering to prevent wind burn.

D. Provide dry, loose topsoil for planting bed mixes. Frozen or muddy topsoil is not acceptable.

## 1.06 PROJECT CONDITIONS

A. Work notification: Notify Landscape Architect at least 7 working days prior to installation of plant material.

B. Protect existing utilities, paving, and other facilities from damage caused by landscaping operations.

C. A complete list of plants, including a schedule of sizes, quantities, and other requirements is shown on the drawings. In the event that quantity discrepancies or material omissions occur in the plant materials list, the planting plans shall govern.

**1.07 WARRANTY**

A. Warrant plant material to remain alive and be in healthy, vigorous condition for a period of 1 year after completion and acceptance of entire project. Inspection of plants will be made by the Landscape Architect at completion of planting.

B. Replace, in accordance with the drawings and specifications, all plants that are dead or, as determined by the Landscape Architect, that are in an unhealthy or unsightly condition, and have lost their natural shape due to dead branches, or other causes due to the Contractor's negligence. The cost of such replacement(s) is a Contractor's expense. Warrant all replacement plants for one (1) year after installation.

C. Warranty shall not include damage or loss of trees, plants, or ground covers caused by fires, floods, freezing rains, lightning storms, or winds over 75 miles per hour, winter kill caused by extreme cold and severe winter conditions not typical of planting areas; acts of vandalism or negligence on the part of the Owner.

D. Remove and immediately replace all plants, as determined by the Landscape Engineer, to by unsatisfactory during the initial planting installation.

## PART TWO – PRODUCTS

**2.01 PLANTS**

A. Provide plants typical of their species or variety; with normal, densely-developed branches and vigorous, fibrous root systems. Provide only sound, healthy, vigorous plants free from defects, disfiguring knots, sunscale injuries, frost cracks, abrasions of the bark, plant diseases, insect eggs, borers, and all forms of infestation. All plants shall have a fully developed form without voids and open spaces. Plants held in storage will be rejected if they show signs of growth during storage.

1. Dig balled and burlapped plants with firm, natural balls of earth of sufficient diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant. Provide ball sizes complying with the latest edition of the "American Standard for Nursery Stock". Cracked or mushroomed balls are not acceptable.

2. Bare-root plants: Dug with adequate fibrous roots, covered with a uniformly thick coating of mud by being puddled immediately after they are dug, or packed in moist straw or peat moss.

3. Container-grown stock: Grown in a container for sufficient length of time for the root system to have developed to hold its oil together, firm and whole.

   a. No plants shall be loose in the container.

   b. Container stock shall not be pot bound.

4. Provide tree species that mature at heights over 25'-0" with a single main trunk. Trees that have the main trunk forming a "Y" shape will not be accepted.

5. Plants panted in rows shall be matched in form.

6. Plants larger than those specified in the plant list may be used when acceptable to the Landscape Architect.

    a. If the use of larger plants is acceptable, increase the spread of roots or root ball in proportion to the size of the plant.

7. The height of the trees, measured from the crown of the roots to the top of the top branch, shall not be less than the minimum size designated in the plant list.

8. No pruning wounds shall be present with a diameter of more than 1" and such wounds must show vigorous bark on all edges.

9. Coniferous trees shall be branched to the ground.

10. Shrubs and small plants shall meet the requirements for spread and height indicated in the plant list.

    a. The measurements for height shall be taken from the ground level to the average height of the top of the plant and not the longest branch.

    b. Single stemmed or thin plants will not be accepted.

    c. Side branches shall be generous, well twigged, and the plant as a whole well-bushed to the ground.

    d. Plants shall be in a moist, vigorous condition, free from dead wood, bruises, or other root or branch injuries.

11. Annual and Perennial Flowers: top premium quality, free of all insects and diseases. Plants are to be in a healthy, vigorous condition, with well developed root systems. Furnish plants in the sizes indicated in the Plant List.

**2.02 STRAW MULCH (if required)**

A. Clean, chopped, weed-free mulch of sedge marsh hay (<u>not</u> from reed canary grass) straw, well seasoned before baling, free from mature seed-bearing stalks or roots of prohibited or noxious weeds.

**2.03 TOPSOIL AND PLANTING BEDS**

A. Fertile, friable, natural topsoil of loamy character, without admixture of subsoil material, obtained from a well-drained arable site, reasonably free from clay, lumps, coarse sands, stones, plants roots, sticks, and other foreign materials, with acidity range of between pH 6.0 and 6.8.

    1. Identify source location of topsoil proposed for use on the project.

    2. Provide topsoil free of substances harmful to the plants which will be grown in the soil.

**2.04 PEAT MOSS**

A. Brown to black in color, weed and seed free granulated raw peat or baled peat, containing not more than 9% mineral on a dry basis.

## 2.05 COMPOST

A. Standard commercial grade compost of sheep or cow manure.

## 2.06 FERTILIZER

A. Plant Fertilizer Type "A": Commercial type approved by the Engineer, containing 12% nitrogen, 12% phosphoric aced, and 12% potash by weight. 1/4 of nitrogen in the form of nitrates, 1/4 in form of ammonia salt, and 1/2 in form of organic nitrogen.

B. Plant fertilizer use in planting pits shall be water soluble fertilizer contained in a microporous slow release polyethylene packet. The amount of fertilizer in each packet shall be a minimum 1 ounce with the following minimal analysis: nitrogen 16%, phosphoric acid 8% and soluble potash 16%.

## 2.07 ANTI-DESICCANT

A. Protective film emulsion providing a protective film over plant surfaces; permeable to permit transpiration. Mixed and applied in accordance with manufacturer's instruction.

## 2.08 BARK MULCH

A. Aged shredded Oak or Pine bark. Stone mulch: Coarse bank-run stone 1"-6" diameter with 50% or more of the stone greater than 3" and minimal sand.

## 2.09 WATER

A. Free of substances harmful to plant growth. Hoses or other methods of transportation furnished by Contractor.

## 2.10 STAKES FOR STAKING

A. Hardwood, 2" x 2" x 8"-0" long.

## 2.11 STAKES FOR GUYING

A. Hardwood, 23" x 2" x 36" long.

## 2.12 GUYING/STAKING WIRE

A. No. 10 or 12 gage galvanized wire.

B. Turnbuckles: Galvanized steel of size and gage required to provide tensile strength equal to that of the wire. Turnbuckle openings shall be at least 3".

## 2.13 STAKING AND GUYING HOSE

A. Two-ply, reinforced garden hose not less than 1/2" inside diameter.

## 2.14 TREE WRAP

A. Standard waterproofed tree wrapping paper, 2-1/2" wide made of 2 layers of crepe kraft paper weighing not less than 30 lbs. per ream, cemented together with asphalt.

## 2.15 TWINE

A. Two-ply jute material.

## 2.16 WEED CONTROL BARRIER

A. Rot resistant polypropylene with polyester blend, water and air permeable. Color black. Fabric weight minimum 4.8 ounces per square yard. Weed barrier shall be DeWitt Pro 5 or approved equal.

## 2.17 SELECTIVE PRE-EMERGENCE HERBICIDE (if required on the plans)

A. The selective per-emergence herbicide shall be a type which controls plants emerging from seed, but has not harmful effect on established plants when applied at recommended rates. The material shall resist leaching and thereby remain relatively effective throughout one growing season. The selective pre-emergence herbicide shall be in the liquid or wettable powder form and shall be Surflan as produced by Elanco Product Company, a division of Eli Lilly Company, Indianapolis, Indiana 42606; Weedicide produced by Weyerhauser Company, Tacoma, Washington 98401; or an equivalent that is acceptable to the Landscape Architect.

## 2.18 SELECTIVE POST-EMERGENCE HERBICIDE (if required on the plans)

A. Vegetation shall be controlled with a post-emergence herbicide which, when applied to leaves and stems of vegetation, is absorbed and translocated to all parts of the plant including roots and underground stems, and is thereby capable of killing the entire plant. It shall be water soluble, deactivating upon contact with soil leaving no harmful residue. The chemical shall be "Roundup" by Monsanto Company, 800 North Lindberg Boulevard, St. Louis, MO 63166 or an equivalent that is acceptable to the Landscape Architect.

## 2.19 SPECIAL SOIL MIX

A. When required shall be a mixture of topsoil, compost and peat moss in a ratio of 4:1:1. Install to the depth indicated on the plans.

# PART THREE – EXECUTION

## 3.01 INSPECTION

A. Examine proposed planting areas and conditions of installation. Do not start planting work until unsatisfactory conditions are correct.

## 3.02 PREPARATION

A. Time of planting:

1. Evergreen material: Plant evergreen materials between September 1 and November 1 or in spring before new growth begins. Plant shall be sprayed with anti-desiccant prior to planting operations, if project requires planting at other times.

2. Deciduous materials: Plant deciduous materials in a dormant condition. If deciduous trees are planted in-leaf, they shall be sprayed with an anti-desiccant prior to planting operations.

3. Planting times other than those indicated shall be acceptable to the Landscape Architect.

B. Planting shall be performed only by experienced workers familiar with planting procedures under the guidance of a qualified supervisor.

C. Locate plants as indicated or as approved in the field after staking by the Contractor. If obstructions are encountered that are not shown on the drawings, do not proceed with planting operations until alternate plant locations have been selected.

D. Excavate circular plant pits with vertical sides, except for plants specifically indicated to be panted in beds. Provide shrub pits at least 12" grater than the diameter of the root system and 24" greater for trees. Depth of pit shall accommodate the root system. Scarify the bottom of the pit to a depth of 4". Remove excavated materials from the site or waste on site with Landscape Architect's permission.

E. Provide pre-mixed planting mixture for use around the balls and roots of the plants consisting of 4 parts planting topsoil to 1 part peat and 1 part compost.

F. Provide pre-mixed ground cover and floral bed planting mixture consisting of 3 parts planting topsoil to 1 part peat moss, 1 part compost and 2 lb. plant fertilizer Type "A" per cu. yd. Provide beds a minimum of 8" deep. If slopes are greater than 4 to 1, increase depth to 12".

## 3.03 INSTALLATION

A. Set plant material in the planting pit to proper grade and alignment. Set plants upright, plumb, and faced to give the best appearance or relationship to each other or adjacent structure. Set plant materials 2"-3" above the finish grade. No filling will be permitted around trunks or stems. Backfill the pit with planting mixture. Install the slow fertilizer packets around all trees and shrubs per the manufacturer's directions and in the quantity recommended for the plant size.

B. For steep slope planting areas, first install jute netting. Cut the netting as needed at the plant location to dig plant pits and install the plants. Once installed, restore netting around each plant and secure with staples. Mulch netted beds with 2" of bark mulch. Do not use frozen or muddy mixtures for backfilling. Form a ring of soil around the edge of each planting pit to retain water.

C. After balled and burlapped plants are set, puddle planting soil mixture around bases of balls and fill all voids.

1. Remove all burlap, ropes, and wires from tops of balls.

D. Space ground cover and floral plants in accordance with indicated dimensions. Adjust spacing as necessary to evenly fill planting bed with indicated quantity of plants. Plant to within 12" of the trunks of trees and shrubs within planting bed and to within 6" of edge of bed.

E. Place perennial and annual as detailed. Provide deep enough hole to prevent bending roots. Add 3 tablespoons slow release fertilizer per hole. Follow nursery directions for planting depths. Firm planting mixture around roots but avoid compacting. Water thoroughly.

F. Mulching:

1. Mulch tree and shrub planting pits and shrub beds with required mulching immediately after planting. Thoroughly water mulched areas. After watering, rake mulch to provide a uniform finished surface.

a. Install weed control fabric over grade which is to receive stone mulch prior to mulching shrub beds. Secure on slopes with "T" pin anchors.

b. All shrub beds with bark mulch shall receive pre-emergence herbicide treatment in accordance with manufacturer's instructions for surface application just after installation of the mulch.

2. Mulch floral beds with bark mulch 1" to 1-1/2" deep immediately after planting.

G. Wrapping, Guying, Staking:

1. Inspect trees for injury to trunks, evidence of insect infestation, and improper pruning before wrapping.

2. Wrap trunks of all trees spirally from bottom to top with specified tree wrap and secure in place.

   a. Overlap 1/2 width of the tree wrap strip and cover the trunk from the ground to the height of the second branch.

   b. Secure tree wrap in place with twine would spirally downward in opposite direction, tied around the tree in at least 3 places in addition to the top and bottom.

3. Staking/Guying:

   a. Stake/guy all trees immediately after lawn seeding or sodding operations and prior to acceptance. When high winds or other conditions which may affect tree survival or appearance occur, the Engineer may require immediate staking/guying.

   b. Stake deciduous trees under 3" caliper. Stake evergreen trees under 8'-0" tall.

   c. Guy deciduous trees over 3" caliper. Guy evergreen trees over 8'-0" tall.

4. All work shall be acceptable to the Landscape Architect.

H. Pruning

1. Prune branches of deciduous stock, after planting, to balance the loss of roots and preserve the natural character appropriate to the particular plant requirements. In general, remove 1/4 to 1/3 of the leaf-bearing buds, proportion shall in all cases be acceptable to the Engineer. Remove or cut back broken, damaged, and asymmetrical growth of new wood.

2. Multiple leader plants: Preserve the leader which will best promote the symmetry of the plant. Cut branches flush with the trunk or main branch, at a point beyond a lateral shoot or bud a distance of not less than 1/2 the diameter of the supporting branch. Make cut on an angle.

3. Prune evergreens only to remove broken or damaged branches.

I. Care of existing trees: (if called for on the plans)

1. Selectively prune existing trees in designated areas, under Landscape Architect's direction. Remove sucker shoots, dead, rubbing, and damaged branching.

2. Fertilize designated existing trees with 2 to 3 lbs. of Type "A" plant fertilizer per inch of trunk diameter, for trees less than 6" diameter and 3 to 5 lbs. for trees greater than 6" diameter.

   a. Fertilize in early spring before growth begins or in late October.

   b. Fertilize at 2' to 3' on center in a triangular pattern to a depth of 18" within the dripline.

3. Water existing trees every 2 weeks until acceptance. Water thoroughly with a fine mist sprinkler head, soaker hose, or hose at a low flow rate over the entire drip line area as required to allow water to penetrate to a depth of 12" to 18".

J. Tree relocation: (if called for on the plans)

1. Transplant trees designated for relocations shown on the drawings. Prune, dig, ball and burlap, move and plant in accordance with specified tree planting requirements.

   a. Maintain plants in storage areas by bracing plants in vertical position and setting balls in an enclosed berm of topsoil or bark. Water as required to maintain adequate root moisture.

   b. Re-burlap plant balls if required before final transplanting operations.

   c. Move to final locations shown on the drawings and plant in accordance with specified tree planting requirements.

## 3.04 MAINTENANCE

A. Maintain plantings for a period of at least 60 days after completion of planting operations until all plants are sufficiently recovered from transplanting and in a healthy growing condition acceptable to the Landscape Architect. Maintain plantings installed in the fall after September 15 until May 30 of the following year.

B. Maintenance shall include pruning, cultivating, weeding, watering and application of appropriate insecticides and fungicides necessary to maintain plants free of insects and disease.

1. Re-set settled plants to proper grade and position. Restore planting saucer and adjustment material and remove dead material.

2. Tighten and repair guy wires and stakes as required.

3. Correct defective work as soon as possible after deficiencies become apparent and weather and season permit.

4. Water trees, plants, ground cover and perennial grouping beds within the first 24 hours of initial planting and not less than twice per week until final acceptance.

5. Floral Beds: Twice during the maintenance period and at two-week intervals, spray plants with Ra-Pid-Gro per manufacturer's directions. Replace all poor-growing plants immediately.

## 3.05 ACCEPTANCE

A. Inspection to determine acceptance of planted areas will be made by the Landscape Architect, upon contractor's request. Provide notification at least ten (10) working days before requested inspection date.

1. Planted areas will be accepted provided all requirements, including maintenance, have been complied with and plant materials are alive and in a healthy vigorous conditions.

B. Upon acceptance, the Owner will assume plant maintenance.

## 3.06 CLEANING

A. Perform cleaning during installation of the work and upon completion of the work. Remove from site all excess materials, soil, debris, and equipment. Repair damage resulting from planting operations.

**END OF SECTION 02950**

**SECTION 03310**
**CAST-IN-PLACE CONCRETE**

## PART ONE – GENERAL

### 1.01 SECTION INCLUDES

A. The work under this section includes furnishing all labor, materials, and equipment necessary to properly complete cast-in place concrete operations as indicated on the drawings.

### 1.02 SHOP DRAWINGS

A. The Contractor shall submit to the Engineer shop drawings of the reinforcement for his approval. The Engineer's approval of shop drawings and bar schedules does not relieve the Contractor of fulfilling his responsibilities as outlined in the plans and specifications of the contract.

B. Splicing of bars, except where shown on the plans, will not be permitted without approval of the Engineer. Welded splices shall conform to the current specifications for "Welded Highway and Railway Bridges" of the American Welding Society.

### 1.03 RELATED WORK SPECIFIED ELSEWHERE

A. Section 03320 – Miscellaneous Concrete Structures

B. Section 07920 – Sealant and Caulking

### 1.04 QUALITY ASSURANCE

A. Reference Standards.

1. ACO - American Concrete Institute
2. ASTM A-615 Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
3. ASTM A-616 Specification for Rail-Steel Deformed and Plain Bars for Concrete Reinforcement
4. ASTM A-82 Specification for Steel Wire, Plain, for Concrete Reinforcement
5. ASTM A-185 Specification for Steel Welded Wire Fabric, Plain, for Concrete Reinforcement
6. ASTM C-150 Specification for Portland Cement
7. ASTM C-260 Specification for Air-Entraining Admixtures for Concrete
8. ASTM C-494 Specification for Chemical Admixtures for Concrete
9. ASTM C-33 Specification for Concrete Aggregates
10. ASTM C-31-55 Practice for Making and Curing Concrete Test Specimens in the Field
11. ASTM C-94 Specification for Ready-Mixed Concrete
12. State of Wisconsin Department of Transportation Standard Specifications for Highway and Structure Construction, latest edition, (Standard Specifications).

13. ASTM C-309 Specification for Liquid Membrane-Forming Compounds for Curing Concrete

**1.05 SUBMITTALS**

A. Refer to Section 01300 for Submittal Requirements.

B. Design mixes, material certificates, gradation reports.

C. Reinforcement steel shop drawings/bar lists/placing drawings.

D. Results of all slump tests, air content tests, cylinder strength tests.

**1.06 PRODUCT DELIVERY, STORAGE AND HANDLING**

A. Tag all pieces of reinforcement with same tags and nomenclature as on approved shop drawings.

B. Delivery, storage and handling shall be accomplished in such a manner as required to prevent damage to components. Damaged reinforcement that cannot be restored to original condition will be rejected.

C. Cement and aggregates shall be stored in such manner as to prevent deterioration or intrusion of foreign matter.

D. Any material which has deteriorated or which has been damaged shall not be used for concrete.

E. Aggregate shall be stored in quantity enough to make a complete pour and storage site shall have proper drainage to insure a constant and uniform moisture content of aggregate at mixer bins or hoppers.

F. Coarse aggregate shall be stored in two sizes, being stockpiled to prevent separation or mixing.

## PART TWO – PRODUCTS

**2.01 MATERIALS**

A. All concrete shall comply with the following subsections of Section 501, "Concrete " of the latest edition of the Standard Specifications for Highway and Structure Construction of the State of Wisconsin, Department of Transportation, Division of Highways (Wis. DOT Hwy. Stds.), 2003 Edition, except as modified herein or in the Special Provisions of the contract:

| | |
|---|---|
| 501.2 | Materials |
| 501.3.1 | Classes and Grades of Concrete |
| 501.3.2 | Composition of Concrete |
| 501.3.3 | Handling Materials |
| 501.3.4 | Proportioning |
| 501.3.5 | Ready-Mixed Concrete |
| 501.3.6 | Site-Mixed Concrete |
| 501.3.7 | Concrete Consistency |
| 501.3.9 | Mixing and Protecting During Cold Weather |

B. All concrete used shall also comply with the following requirements, except as modified in the Special Provisions of the contract. Where the following requirements conflict with the above Wis. DOT Hwy. Stds., then the following requirements apply:

1. The minimum compressive strength at twenty-eight (28) days shall be three thousand (3,000) pounds per square inch. The minimum modulus of elasticity at twenty-eight (28) days shall be 3,120,000 pounds per square inch.

2. The minimum cement content shall be six (6) bags per cubic yard. Each bag of cement shall contain ninety-four (94) pounds net.

3. All concrete shall be Air-Entrained and shall contain six percent (6%) air by volume, plus or minus one and one-half percent ("1.5%).

4. All concrete for curb and gutter, sidewalks, floors, roof slabs and other horizontal pours shall have a slump of not less than two inches (2") and not more than four inches (4"). All concrete for walls, columns, and other vertical pours shall have a slump of not less than three inches (3") and not more than six inches (6").

5. No water shall be added when placing concrete unless approved by the Engineer. If water is added without consent of the Engineer, this shall be considered sufficient grounds for rejecting the concrete.

6. When specified in the Special Provisions of the contract, High Early Strength Concrete shall be used by the Contractor. Also, if permitted by the Engineer, to expedite the work, the Contractor may, at his expense, use High Early Strength Concrete. High Early Strength Concrete shall be prepared by one of the methods outlined below:

   a. By using Portland cement conforming to the requirements of "Portland Cement, Type III" (AASHTO M85).

   b. By using nine (9) bags of Portland cement conforming to the requirements of these specifications per cubic yard of concrete.

7. The maximum limit of light chert (specific gravity of 2.40 or less) allowed in coarse aggregate shall be three percent (3%) by weight.

8. Admixtures other than required for air entrainment shall not be used unless approved by the Engineer for a specific project.

## 2.02 REINFORCING STEEL

A. All reinforcing bars shall be deformed and the type used in the work under these specifications shall be subject to the approval of the Engineer. Reinforcing bars shall conform to one of the following specifications:

   1. "Specification for Deformed Billet-Steel Bars for Concrete Reinforcement (ASTM C615). If No. 14 or No. 18 bars meeting these specifications are to be bent, they shall also be capable of being bent 90 degrees at a minimum temperature of 60EF, around a 10-bar diameter pin without cracking transverse to the axis of the bar.

   2. "Specification for Rail-Steel Deformed Bars for Concrete Reinforcement" (ASTM A616). If bars meeting these specifications are to be bent, they shall also meet the bending requirements of ASTM A615 for Grade 60.

   3. "Specification for Axle-Steel Deformed Bars for Concrete Reinforcement" (ASTM A617).

B. Welded wire fabric for concrete reinforcement shall be of the gate, spacing, dimensions and form specified in the contract and shall comply with "Specifications for Welded Steel Wire Fabric for Concrete Reinforcement" (ASTM A185) or "Specification for Welded Deformed Steel Wire Fabric for Concrete Reinforcement" (ASTM A497).

C. All reinforcing steel before being positioned shall be thoroughly cleaned of mill and rust scale and of coatings that will destroy or reduce the bond. Where there is delay in depositing concrete, reinforcement shall be re-inspected and, when necessary, cleaned.

## 2.03 EXPANSION FILLER

A. The filler shall be non-extruding and have the same shape and dimensions as the section in which it is installed. Filler shall be of the cork type or of the bituminous fiber type. Materials for the filler shall meet the requirements of AASHTO Specification M153, Type III, and also "Specifications for Pre-Formed Expansion Joint Fillers for Concrete Paving and Structural Construction (Non-Extruding and Resilient Bituminous Types" (ASTM D1751).

## 2.04 FORMWORK

A. Forms shall be mortar tight and sufficiently rigid to prevent displacement or sagging between supports.

B. Internal ties shall be adjustable to permit tightening of forms and so arranged that, after forms are removed, all metal shall be not less than 1 inch away from any surface.

C. Ties shall be of a type which will provide watertight concrete. Cutting ties back form face of wall or use of wire ties will not be permitted.

# PART THREE – EXECUTION

## 3.01 FORMS

A. Forms shall conform to the shape, lines, and dimensions of the structure as called for on the plans. For exposed concrete surfaces, forms shall be three-fourth inch (:") structural plywood or acceptable prefabricated commercial wood of steel form panels. Forms used for exposed surfaces are subject to the approval of the Engineer.

B. Joints in forms shall be horizontal or vertical. For unexposed surface and rough work, undressed lumber may be used. Lumber once used in forms shall have nails drawn and surfaces to be in contact with concrete shall be thoroughly cleaned before being used again. All form work shall be checked for plumbness, alignment and position by the Engineer before concrete placement begins.

C. Forms shall be substantially tight to prevent leakage of mortar; they shall be properly braced or tied together so as to maintain position and shape. If adequate foundation for shores cannot be secured, trussed supports shall be provided.

D. Unless otherwise specified or directed, suitable molding or bevels shall be placed in the angles of forms to round or bevel the edges of the concrete.

E. The inside of forms shall be coated with non-staining mineral oil or other approved material before each use and thoroughly wetted (except in freezing weather). Oil shall be applied before reinforcement is placed and shall be kept from contact with concrete already placed to which fresh concrete is to be bonded.

F. Temporary openings shall be provided where necessary to facilitate cleaning and inspection immediately before placing concrete.

G. Forms shall not be disturbed until the concrete has hardened. Shoring shall not be removed until the member has acquired sufficient strength to safely support its weight and the load upon it. Members subject to additional loads during construction shall be shored adequately to support both the members and the construction loads in such a manner as will protect the member from damage by the loads. This shoring shall not be removed until the member has acquired sufficient strength to safety support its weight and the load upon it and then only with the approval of the Engineer.

H. After removal of forms, all metal devices used to tie forms together and hold them to correct alignment and location shall be removed in such a manner that no metal shall remain within less than one inch (1") of the surface of the concrete. The method of removal of such ties shall be such as not to cause injury to the surface of the concrete. The Contractor shall not burn off bolts, rods or other metal devices. After the removal of such ties, the opening shall be roughened and all concrete containing any oil removed. The cavities produced shall be filled as specified in Article 4.

## 3.02 PLACING REINFORCING

A. Reinforcement shall be carefully formed to the dimensions indicated on the plans by the cold bending method. Cold bends shall be made around a pin having a diameter of six (6) or more times the dimensions of the reinforcing bars.

B. Reinforcement shall not be bent or straightened in a manner that will injure the material. Bars with kinks or bends not shown on the plans shall not be used. Heating of reinforcement will be permitted only when the entire operation is approved by the Engineer.

C. The reinforcement shall be accurately positioned and secured against displacement by using annealed iron wire of not less than No. 18 gauge, or suitable clips at intersections, and shall be supported by metal chairs or spacers or metal hangers. In floor slabs on the ground, metal chairs shall be provided with a bearing plate of sufficient area and thickness to prevent the settlement of the chair and plate into the subbase. The minimum clear distance between parallel bars shall be not less than the nominal diameter of the bars except that in no case shall the spacing between the bars be less than one and one-third (1-1/3) times the maximum size of the coarse aggregate or one inch (1"), whichever is greater. Bars parallel to the face of any trench shall be embedded a clear distance of not less than two inches (2") from the face.

D. The reinforcement in concrete walls shall be accurately positioned and secured at the specified clear cover distance from wall forms in a manner satisfactory to the Engineer. Wall reinforcement shall be held in place during concrete placement by use of templates, wood bracing, welding or other methods that meet with the Engineer's approval.

## 3.03 PLACING AND FINISHING

A. Retempering of mortar or concrete which has partially hardened, i.e., mixing with additional materials or water, will not be permitted.

B. Placing of concrete in the forms shall be completed within one (1) hour after the introduction of the mixing water to the cement and aggregates. This time may be reduced by the Engineer or inspector in hot weather or under conditions contributing to quick stiffening of the mix, or during cold weather when loss of heat occurs to such extent that the concrete will not be the proper temperature when placed in the forms. High Early Strength concrete shall be placed in forms within forty-five (45) minutes after introduction of the mixing water to the cement aggregates.

C. No concrete shall be deposited in water or mud. During the pouring of bottom slabs and walls, the Contractor shall furnish sufficient pumping equipment to keep the water below the bottom of the floor of the structure. After concrete has been poured, the Contractor shall keep the pumping equipment in continuous operation for thirty-six (36) hours.

D. Concrete shall not be deposited on frozen subbase material, on or against ice or frost, or on reinforcing steel having a temperature at pouring time of less than 36ºF.

E. Concrete when deposited shall have a temperature of not less than 55ºF nor more than 100ºF.

F. Concrete shall be handled from mixer to placement as rapidly as practicable and in a manner that will prevent segregation of ingredients until the unit of operation, approved by the Engineer, is completed. It shall be deposited in the forms as nearly as practicable in its final position to avoid rehandling. Concrete, as it is deposited, shall be puddled with suitable tools or equipment until

forms are completely filled and reinforcement and embedded fixtures thoroughly incorporated in the mass.

G. Concrete adjacent to the forms, joints or structures shall be deposited and spaded or vibrated in a manner to prevent the formation of voids or rock pockets. All cavities produced by the removal of form ties, and any voids or rock pockets of more than casual occurrence found after the forms are removed shall be filled immediately with a well-mixed grout composed of one (1) part of Portland cement and three (3) parts of fine aggregate (masonry sand) and finished to the true surface of the face of the structure by the following method: Defective areas shall be chipped away to a depth of not less than one inch (1") measured at right angles to the surface. The area shall be thoroughly wetted, brushed with grout and patched with grout. The patch shall be cured as specified for concrete structures. Defects appearing on the patch shall be repaired at the Contractor's expense.

H. An accumulation of water on the surface of freshly deposited concrete shall immediately be removed in a manner satisfactory to the Engineer.

I. Concrete shall be so deposited as to maintain, until the completion of the unit, a plastic surface approximately horizontal. Forms for walls or other thin sections with a height in excess of eight feet (8') shall be provided with openings or other devices that will permit the concrete to be placed in a manner that will avoid accumulation of hardened concrete on the forms or metal reinforcement. Under no circumstances shall concrete that has partially hardened be deposited in the work.

J. When concrete is conveyed by chuting, the mixer shall be of such size and design as to insure a practically continuous flow in the chute. The angle of the chute with the horizontal shall be such as to allow the concrete to flow without separation of the ingredients. An angle of twenty-seven degrees (27ºF) or one vertical to two horizontal (1V:2H) is the minimum slope which is considered permissible. Chuting through a vertical pipe is satisfactory when the lower end of the pipe is maintained four feet (4') or less above the surface of the deposit. The delivery end of the chute shall be within four feet (4') of the point of deposit. When the operation is intermittent, the spout shall discharge into a hopper. The chute shall be thoroughly flushed with water before and after each run. Water used for this purpose shall be discharged outside the forms, but not into paved streets, walks, gutters or inlets.

K. All reinforced concrete shall be vibrated in place, to the satisfaction of the Engineer, with mechanical vibrators. Vibrators shall also be required for non-reinforced concrete structures when other methods of compaction or "puddling" do not give the desired results, in the opinion of the Engineer.

L. Before depositing new concrete on or against concrete which has been set, the forms shall be retightened and the surface of the set concrete shall be roughened as required by the Engineer, thoroughly cleaned of foreign material and saturated with water.

M. Joints not indicated on the plans shall be so designed and located as to least impair the strength and appearance of the structure. All joints shall provide sufficient resistance to shear to which they may be subjected. Horizontal joints required to be watertight shall be constructed by forming continuous keyways in the lower portion of the concrete before the concrete has hardened. Before placing the superimposed concrete, the joint shall be thoroughly cleaned of foreign material and saturated with water. Vertical joints required to be watertight and expansion joints shall be provided with suitable keyways subject to the approval of the Engineer.

N. Top surfaces of roof slabs, unless otherwise specified, shall be smoothed with a wood float. Care shall be taken to avoid an excess of water in the concrete and to drain or otherwise promptly remove any water that comes to the surface. Dry cement or a dry mixture of cement and sand shall not be sprinkled directly on the surface.

O. Unless otherwise specified, all edges of concrete along joints and forms shall be finished with a steel edging tool of one-fourth inch (3") radius.

P. Where concrete is to be placed in two lifts, as for cunettes, pavements and other structures with wire mesh reinforcement, the concrete for the lower lift shall be placed, the required reinforcement positioned and secured, and the upper lift of concrete placed. Any portion of the lower lift of concrete not covered with the upper lift of concrete within thirty (30) minutes after being placed shall be removed. Unless an adequate and approved artificial lighting system is provided and operated, concreting operations shall be discontinued due to insufficient natural light.

## 3.04 TOLERANCES

A. Floors with drains shall slope downward consistently to drains unless otherwise noted, with a tolerance of 1/8-inch in 10 feet from plane of slope, and shall be self-draining into drains.

B. Planar uniformity of all slabs shall meet or exceed ACI 301 Class A tolerances (a true plane with 1/8" in 10' as determined by a 10' straight edge placed anywhere on a slab in any direction). Tolerance across joints shall be 1/12 inch vertical.

C. Concrete stair risers and treads shall be constructed to the dimensions shown within size and variability tolerances permitted by the building code in force.

## 3.05 CURING

A. Exposed surfaces shall be protected from drying for a period of at least seven (7) days by one of the methods listed below:

1. Impervious Coating Method

a. As soon after the final finishing operations as the free water has disappeared, all exposed surfaces of the concrete shall be sealed by spraying thereon as a fine mist a uniform application of curing material meeting the requirements of the specifications, in such a manner as to provide a continuous water-impermeable film without marring the surface of the concrete.

b. The curing compound shall be applied by means of power spraying equipment operating on the forms, except that, where the use of such equipment is impracticable, other types of spraying equipment may be used. The application shall be made at a uniform rate and in such a manner as to provide a covering over the entire concrete surface that is impervious to the passage of water vapor. The total rate of application shall be not less than one-half (2) gallon per one hundred (100) square feet of surface area.

c. The curing compound may be applied in either one (1) or two (2) applications in accordance with the directions of the manufacturer. However, if applied in two (2) coatings, the second shall be applied not later than thirty (30) minutes after the first.

d. In the event the coating is damaged within seventy-two (72) hours after being applied, the affected areas shall be recoated without delay and at the same rate as prescribed above for the original application.

e. Should spraying equipment fail, further concrete operations may be continued only to the extent that previously placed concrete can be cured by other methods provided for in the specifications, unless duplicate spraying equipment is immediately available.

f. The sides of pavement slabs and sidewalks, the front and back surfaces of curbs and gutters, and other formed surfaces shall be covered with the curing compound at the rate specified above immediately after the removal of the forms and the completion of the required patching. Hand sprayers may be used for this purpose.

g. Liquid curing compound shall conform to the requirements of the "Specifications for Liquid Membrane-Forming Compounds for Curing Concrete" (AASHTO Designation M148 Type 2, white pigmented).

2. Water Curing Method

a. The Contractor may, with the approval of the Engineer, apply water to the surface of the concrete so that, for at least seven (7) days after placement, it is moist at all times. Moisture shall be controlled by using burlap, commercial fabrics, plastic materials or wet sand.

## 3.06 PROTECTION OF THE CONCRETE

A. All concrete used for bridges, culverts, retaining walls, manholes, catch basins, inlets or any other structure consisting wholly or in part of concrete, when placed during cold weather, shall be mixed, placed and protected in accordance with the requirements prescribed in subsection 501.3.9, "Mixing and Protection During Cold Weather" of Wis. DOT Hwy. Stds.

B. All other concrete construction shall be in accordance with the following requirements for mixing, placing and protection of the concrete. Where the term "pavement" appears, this shall be taken to refer to the particular type of construction involved.

C. Except by specific written permission, concreting operations shall not be continued when a descending air temperature in the shade and away from artificial heat falls below 40ºF, nor resumed until an ascending air temperature in the shade and away from artificial heat reaches 35ºF. When operations are so permitted, and for all concrete pavement placed on and after October 1 and on or prior to May 15, the temperature of the mixed concrete as placed shall be not less than 50ºF nor more than 80ºF.

D. If necessary, the water or aggregates or both may be heated. When the aggregates are frozen or contain frost, they shall be heated. Aggregates may be heated by steam or by other means in a manner which will heat the mass uniformly and preclude the possible occurrence of over- heated areas. Mixing water shall be heated in such a manner that its temperature is accurately controlled.

E. The temperature of neither the mixing water or the aggregates shall be in excess of 100ºF when placed together with the cement in the mixer, and the temperature of the water and the aggregates shall be such that the temperature of the batch of mixed concrete will not be less than 50ºF nor more than 80ºF. If either the aggregate or the mixing water is heated to a temperature in excess of 100ºF, the water and the aggregates shall first be mixed together in such a way that the resulting temperature of the combined water and aggregates is not in excess of 100ºF before being mixed with the cement.

F. The Contractor shall take all precautions necessary to prevent freezing of the concrete and to produce quality concrete.

G. Beginning not later than October 1 or prior to May 16, as the case may be, the Contractor shall provide along the work a sufficient supply of curing paper to protect all of the concrete pavement placed within the preceding seventy-two (72) hours. In lieu of the curing paper, clear, black or white polyethylene sheeting; clear, black or white polyethylene coated burlap; or other curing paper which, as determined by the Engineer, has water resistance, strength and insulating properties suitable for the purpose, may be used. When the official Weather Bureau forecast for the construction area predicts freezing or below- freezing temperatures within the next twenty-four (24) hours, all of the concrete pavement placed within the preceding seventy-two (72) hours shall be covered with the curing paper. The paper shall remain in place until at least seven (7) but not more than fourteen (14) days shall have expired from the date of placement of the concrete.

H. Beginning on October 15, the Contractor shall cover with curing paper all concrete pavement placed regardless of temperature. The paper shall be placed, except on concrete placed prior to

October 15, when freezing temperatures were not forecast, as soon as the concrete has been finished and has set sufficiently to prevent excessive marring of the surface. The paper shall be placed with not less than twelve inch (12") end and side laps on adjacent sheets and necessary means shall be employed to hold the paper in place to form a closed joint.

## 3.07 CONCRETE TESTS

A. Tests shall be made as directed by the Engineer to assure compliance with these specifications.

1. Slump Tests and Air Content Tests

   a. Slump tests shall be made following the "Method of Test for Slump of Portland Cement Concrete" (ASTM C143). Slump tests shall always be made from the same batch of concrete from which strength tests are made and may be made when strength tests are not made.

   b. Air content tests shall be made in accordance with the "Method of Test for Air Content of Freshly Mixed Concrete by the Pressure Method" (ASTM C231). Air content may also be checked by the use of approved Air Content Indicators.

   c. If the measured slump or air content falls outside the specified limits, a check test shall be made immediately on another portion of the same sample. In the event of a second failure, concrete shall be considered to have failed to meet the specifications and shall not be used in the work. Any concrete from the same batch from which the tests were made which has been placed shall be removed and disposed of by the Contractor at his expense.

2. Strength Tests

   a. Shall be made for each of the following conditions: each day's pour; each class of concrete; each change or source of supply; or when ordered by the Engineer. A strength test shall consist of a minimum of two (2) standard six inch (6") concrete cylinders for each one hundred fifty (150) cubic yards of concrete or fraction thereof placed on any day.

   b. The Contractor shall make all cylinders, following the "Method of Making and Curing Concrete Compression and Flexure Test Specimens in the Field" (ASTM C31). The cylinders will be tested at the Owner's expense at seven (7) days or at twenty-eight (28) days, unless otherwise specified, in accordance with the "Method of Test for Compressive Strength of Molded Concrete Cylinders" (ASTM C39). The Contractor shall furnish all materials, labor and equipment necessary for fabricating, preparing, protecting and transporting all required samples, including concrete, cylinder molds and wooden boxes suitable for protection and transportation of the samples.

   c. In the event test cylinders show the compressive strength of the concrete to be below 3,000 pounds per square inch, the following procedure shall be followed:

      (1) Three (3) cores shall be taken for each cylinder test below 3,000 pounds per square inch. Cores shall be taken in accordance with the "Standard Methods of Securing, Preparing and Testing Specimens from Hardened Concrete for Compressive and Flexural Strengths" (ASTM C42), from the area of the pour represented by the defective cylinders. These cores shall be tested as prescribed in Section 4 of the "Method of Test for Compressive Strength of Molded Concrete Cylinders" (ASTM C39) in order to verify the cylinder tests.

      (2) Where cores show the compressive strength of the concrete to equal or exceed 3,000 pounds per square inch, the pour in question shall be accepted and the costs of obtaining and testing cores will be borne by the Contractor.

(3) Where the average of the cores tested show the compressive strength of the concrete to be below 3,000 pounds per square inch and equal to or greater than 2,550 pounds per square inch, and if no single core is less than 2,250 pounds per square inch, the Owner will deduct from any moneys due or to become due the Contractor an amount equal to ten percent (10%) of the contract price of the structure or portion thereof in which the defective concrete is incorporated. The Contractor shall also bear the costs of obtaining and testing the cores.

(4) Where the average of the cores tested show the compressive strength of the concrete to be below 2,550 pounds per square inch, or if a single core is less than 2,550 pounds per square inch, the structure or portion thereof in which the defective concrete is incorporated shall be removed and disposed of by the Contractor at his expense. The Contractor shall also bear the costs of obtaining and testing the cores.

3. Tests of the concrete proposed for use on the project shall be made at the direction of the Engineer in accordance with the "Methods of Test for Compressive Strength of Molded Concrete Cylinders" (ASTM C39) and the "Method of Making and Curing Concrete Compression and Flexure Test Specimens in the Laboratory" (ASTM C192). Six (6) standard six inch (6") cylinders, three (3) to be tested at seven (7) days and three (3) to be tested at twenty-eight (28) days, shall be made with the proportioning and materials proposed to be used in the major part of the project.

4. The slump should not be less than the greatest slump expected to be used in the structure. The tests made on the aggregate required herein may be made a part of these tests if suitably referenced on the reports which shall be issued at seven (7) days and at twenty-eight (28) days. These tests shall be repeated as necessary due to changes in materials or unsatisfactory results.

**3.08 ADJUST AND CLEAN**

A. Clean-up premises of all litter and debris created by work of this Section.

B. Leave all concrete surfaces broom clean.

**END OF SECTION 03310**

**SECTION 05 52 13**
**PIPE AND TUBE RAILINGS**

## PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Stainless-steel hand railings.

B. Related Sections:

   1. Division 03 Section - Cast-In-Place Concrete.

   2. Division 32 Section – Decorative Metal Fences and Gates.

1.3 PERFORMANCE REQUIREMENTS

A. Delegated Design: Design railings, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

B. General: In engineering railings to withstand structural loads indicated, determine allowable design working stresses of railing materials based on the following:
   1. Stainless Steel: 60 percent of minimum yield strength.

C. Structural Performance: Railings shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

   1. Handrails and Top Rails of Guards:

      a. Uniform load of 50 lbf/ ft. applied in any direction.
      b. Concentrated load of 200 lb applied in any direction.
      c. Uniform and concentrated loads need not be assumed to act concurrently.

D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes acting on exterior metal fabrications by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects.

   1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

E. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.

1.4 SUBMITTALS

A. Product Data: For the following:
   1. Grout.

B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.

C. Samples for Verification: For each type of exposed finish required.

   1. Sections of each distinctly different linear railing member, including handrails, top rails and posts.
   2. Fittings and brackets.

D. Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

E. Mill Certificates: Signed by manufacturers of stainless-steel products certifying that products furnished comply with requirements.

F. Welding certificates.

1.5 QUALITY ASSURANCE

A. Source Limitations: Obtain each type of railing from single source from single manufacturer.

B. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

C. Welding Qualifications: Qualify procedures and personnel according to the following:
   1. AWS D1.6, "Structural Welding Code - Stainless Steel."

1.6 PROJECT CONDITIONS

A. Field Measurements: Verify actual locations of walls, stairs, ramps and other construction contiguous with metal fabrications by field measurements before fabrication.

1.7 COORDINATION AND SCHEDULING

A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.

B. Coordinate installation of anchorages for railings. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

C. Do not support railings temporarily by any means that do not satisfy structural performance requirements.

## PART 2 - PRODUCTS

### 2.1 METALS, GENERAL

A. Metal Surfaces, General: Provide materials with smooth surfaces, without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes.

B. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails unless otherwise indicated.

### 2.2 STAINLESS STEEL

A. Tubing: ASTM A 554, Grade MT 316L.

B. Pipe: ASTM A 312/A 312M, Grade TP 316L.

C. Plate and Sheet: ASTM A 240/A 240M or ASTM A 666, Type 316L.

### 2.3 FASTENERS

A. General: Provide the following:
   1. Stainless-Steel Railings: Type 316 stainless-steel fasteners.

B. Fasteners for Anchoring Railings to Other Construction: Select fasteners of type, grade, and class required to produce connections suitable for anchoring railings to other types of construction indicated and capable of withstanding design loads.

### 2.4 MISCELLANEOUS MATERIALS

A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.

   1. For stainless-steel railings, provide type and alloy as recommended by producer of metal to be welded and as required for color match, strength, and compatibility in fabricated items.

B. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107. Provide grout specifically recommended by manufacturer for exterior applications.

### 2.5 FABRICATION

A. General: Fabricate railings to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, and anchorage, but not less than that required to support structural loads.

B. Assemble railings in the shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.

C. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.

D. Form work true to line and level with accurate angles and surfaces.

E. Fabricate connections that will be exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.

F. Cut, reinforce, drill, and tap as indicated to receive finish hardware, screws, and similar items.

G. Connections: Fabricate railings with welded connections unless otherwise indicated.

H. Welded Connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove flux immediately.
4. At exposed connections, finish exposed surfaces smooth and blended so no roughness shows after finishing and welded surface matches contours of adjoining surfaces.

I. Nonwelded Connections: Connect members with concealed mechanical fasteners and fittings. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.

1. Fabricate splice joints for field connection using an epoxy structural adhesive if this is manufacturer's standard splicing method.

J. Form changes in direction as follows:

1. As detailed.

K. Bend members in jigs to produce uniform curvature for each configuration required; maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.

L. Close exposed ends of railing members with prefabricated end fittings.

M. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work unless otherwise indicated.

N. Provide inserts and other anchorage devices for connecting railings to concrete or masonry work. Fabricate anchorage devices capable of withstanding loads imposed by railings. Coordinate anchorage devices with supporting structure.

## 2.6 FINISHES, GENERAL

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

D. Provide exposed fasteners with finish matching appearance, including color and texture, of railings.

2.7 STAINLESS-STEEL FINISHES

A. Remove tool and die marks and stretch lines, or blend into finish.

B. Grind and polish surfaces to produce uniform, directionally textured, polished finish indicated, free of cross scratches. Run grain with long dimension of each piece.

C. Directional Satin Finish: No. 4.

D. When polishing is completed, passivate and rinse surfaces. Remove embedded foreign matter and leave surfaces chemically clean.

**PART 3 - EXECUTION**

3.1 INSTALLATION, GENERAL

A. Fit exposed connections together to form tight, hairline joints.

B. Perform cutting, drilling, and fitting required for installing railings. Set railings accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.

1. Do not weld, cut, or abrade surfaces of railing components that have been coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
2. Set posts plumb within a tolerance of 1/16 inch in 3 feet.
3. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet.

C. Adjust railings before anchoring to ensure matching alignment at abutting joints.

3.2 RAILING CONNECTIONS

A. Nonwelded Connections: Use mechanical or adhesive joints for permanently connecting railing components. Seal recessed holes of exposed locking screws using plastic cement filler colored to match finish of railings.

3.3 ANCHORING POSTS

A. Form or core-drill holes not less than 5 inches deep and 3/4 inch larger than OD of post for installing posts in concrete. Clean holes of loose material, insert posts, and fill annular space between post and concrete with nonshrink, nonmetallic grout mixed and placed to comply with anchoring material manufacturer's written instructions.

B. Cover anchorage joint with flange of same metal as post, attached to post as detailed.

3.4 ADJUSTING AND CLEANING

A. Clean stainless steel by washing thoroughly with clean water and soap and rinsing with clean water.

3.5 PROTECTION

A. Protect finishes of railings from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at time of Substantial Completion.

**END OF SECTION 05 52 13**

SECTION 20000
SPLIT BLOCK RETAINING WALL

## PART ONE – GENERAL

### 1. DESCRIPTION

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

B. The Contractor shall submit to the Engineer, stamped shop drawings of the wall construction including materials, means & methods. The Engineer's approval of shop drawings and bar schedules does not relieve the Contractor of fulfilling his responsibilities as outlined in the plans and specifications of the contract.

## PART TWO – PRODUCTS

### 2. MATERIALS

A. Proprietary Modular Block Gravity Wall Systems

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

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

B. Design Requirements

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

The design/shop plans shall be prepared on reproducible sheets 11 inch x 17 inch, including borders. Each sheet shall have a title block in the lower right corner. The title block shall include the project identification number and structure number. Design calculations and notes shall be on 8 1/2 inch x 11 inch sheets, and shall contain the project identification number, name or designation of the wall, date of preparation, initials of designer and checker, and page number at the top of the page. All plans and

calculations shall be signed, sealed and dated by a professional engineer licensed in the State of Wisconsin. Four copies of the shop drawings and two copies of the design calculations and supporting materials shall be submitted.

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

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

C. Wall System Components

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

(a) Backfill

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

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

(b) Wall Facing

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

The top course of facing units shall be a solid precast concrete unit designed to be compatible with the remainder of the wall. The finishing course shall be bonded to the underlying facing units with a durable, high strength, flexible adhesive compound compatible with the block material. A formed cast-in-place concrete cap may also be used to finish the wall. A cap of this type shall be designed to have texture, color, and shall have an appearance that complements the remainder of the wall. The vertical dimension of the cap shall not be less than 3 1/2 inches. Expansion joints shall be

placed in the cap to correspond with each 24-inch change in vertical wall height or at a maximum spacing of 10 feet. Concrete for all cast-in-place caps shall be Grade A and shall conform to the requirements of 501.3 of the standard specifications.

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

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

| Test | Method | Requirement |
|---|---|---|
| Compressive Strength (psi) | ASTM C140 | 5000 min. |
| Water Absorption (%) | ASTM C140 | 6 max. |
| Freeze-Thaw Loss (%)<br>40 cycles, 5 of 5 samples<br>50 cycles, 4 of 5 samples | ASTM C1262 (1) | <br>1.0 max. (2)<br>1.5 max. (2) |

(1) Test shall be run using a 3% saline solution.

(2) Test results that meet either of the listed requirements for Freeze-Thaw Loss are acceptable.

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

A department-approved independent testing laboratory shall control and conduct all modular block sampling and testing for certification. Prior to sampling, the manufacturer’s representative shall identify all pallets of modular blocks contained in each lot. All pallets of blocks within the lot shall be numbered and marked to facilitate random sample selection. The representative of the independent testing laboratory shall identify five pallets of blocks by random numbers and shall then select one block from each of these pallets. Solid blocks used as a finishing or top

course shall not be selected. The selected blocks shall remain under the control of the person who conducted the sampling until shipped or delivered to the testing laboratory. All pallets of blocks within a lot shall be strapped or wrapped to secure the contents and tagged or marked for identification. The engineer will reject any pallet of blocks delivered to the project without intact security measures. The contractor shall remove all rejected blocks from the project at no expense to the department.

The engineer may conduct testing of certified or non-certified modular blocks lots delivered to the project. The department will not do freeze-thaw testing on blocks less than 45 days old. If a random sample of 5 blocks of any lot tested by the department fails to meet any of the requirements of this specification (nonconforming), the contractor shall remove from the project site all blocks from the failed lot not installed in the finished work at no cost to the Owner, unless the engineer allows otherwise. Nonconforming blocks installed in the finished work will be considered approved by the department as stated in subsection 106.5(2) of the State Specifications and any adjustment to the contract price will not exceed the price of the blocks charged by the supplier.

(c) Leveling Pad

For all walls over 5 feet tall measured from the top of the leveling pad to the top of the wall, the wall leveling pad shall consist of a poured concrete masonry pad made from Grade A concrete as specified in section 501 of the State Specifications. The depth of the leveling pad shall be as shown on the plans or 6-inches minimum. The leveling pad shall be as wide as the blocks plus 6-inches. Six inches of leveling pad shall extend beyond the front face of the blocks. The bottom of the blocks shall be horizontal and 100% of the block surface shall bear on the leveling pad. A concrete leveling pad shall be used for the entire length of the wall. All walls with a Structure Number assigned (such as R-XX-XXX) shall be built using the concrete leveling pad given above. The leveling pad shall step to follow the general slope of the ground line. The leveling pads steps shall keep the bottom of the wall within one block's thickness of the minimum embedment, i.e. minimum embedment plus up to the thickness of one block. Additional embedment may be detailed but will not be measured for payment.

On walls less than or equal to 5 feet in height without a wall number assigned, a compacted leveling pad made from base aggregate dense 1 1/4 inch as given in section 305 of the State Specifications may be used. The depth of the aggregate leveling pad shall be as shown on the plan. The aggregate leveling pad shall be as wide as the blocks plus 12 inches with 12 inches of pad extending beyond the front face of the wall.

## PART THREE – EXECUTION

### 3. CONSTRUCTION

A. Construct the modular block gravity wall in accordance with the manufacturer's instructions at the locations and to the dimensions shown on the plan and as directed by the engineer. At the end of each working day, provide good temporary drainage such that

the backfill shall not become contaminated with run-off soil or water if it should rain. Do not stockpile or store materials or large equipment within 10 feet of the front face of the wall.

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

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

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

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

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

## 4. GEOTECHNICAL INFORMATION

Geotechnical data to be used in the design of the wall is given on the wall plan. The allowable soil bearing capacity is given on the plan. After completion of excavation, the engineer will inspect the site and will determine if the foundation is adequate for the intended loads. Allow the engineer two working days to perform the inspection.

## 5. MEASUREMENT

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

## 6. PAYMENT

The department will pay for measured quantities at the contract unit price per square foot.

Payment is full compensation for supplying a design and shop drawings; preparing the site, including all necessary excavation and disposal of surplus materials; supplying all necessary wall components to produce a functional system including cap and copings; constructing the retaining system; providing backfill, backfilling, and compacting the backfill; furnishing and installing geotextile fabric; furnishing and installing pipe underdrain,and for furnishing all tools, labor, equipment, and incidentals necessary to complete the contract work.

Any required topsoil, fertilizer, seeding or sodding and mulch will be paid for at the contract unit price of topsoil, fertilizer, seeding or sodding and mulch, respectively.

**END OF SECTION 20000**

# TURFSTONE

# Section 321443
## CONCRETE GRID PAVEMENTS

## PART 1 – GENERAL SPECIFICATIONS

*Note: The specifier should edit this guide specification to project conditions. Use U.S. or Canadian references as appropriate.*

### 1.01 Section Includes

A. Concrete grid units
B. Bedding sand
C. Topsoil and grass
- OR -
C. Open-graded aggregate

### 1.02 Related Sections

A. Section: Curbs and drains
B. Section: Dense-graded aggregate base
C. Section: Open-graded aggregate base
D. Section: Geotextiles/Soil separation fabrics

### 1.03 References

A. American Society of Testing Materials (ASTM)
1. C 1319, Standard Specification for Concrete Grid Paving Units.
2. C 140, Standard Test Methods of Sampling and Testing Concrete Masonry Units.
3. C 136, Method for Sieve Analysis for Fine and Coarse Aggregate.
4. C 33, Specification for Concrete Aggregates.
5. D 2940, Standard Specification for Graded Aggregate Material for Bases or Subbases for Highways or Airports.
6. D 5268, Specification for Topsoil Used for Landscaping Purposes.

B. Canadian Standards Association (CSA)
1. CSA A23.1-M94, Concrete Materials and Methods of Concrete Construction.

### 1.04 Quality Assurance

A. Engage an installer who has successfully completed installations similar in type and size to this project. Installer shall provide certification of experience.

B. As applicable by state/provincial and local laws, contractor shall hold a current contractor's and business license in the state/ province and locality where work is performed.

### 1.05 Submittals

A. Submit shop or product drawings and product data.
B. Submit samples of concrete grid paving units to indicate shape selections.
C. Submit sieve analysis for grading of bedding sand.
D. Submit test results for compliance of paving units to ASTM C 1319.
E. Verify source and content of topsoil.
F. Verify grass seed mix and sources.
G. Verify source and gradation of aggregate base.

## 1.06 Mock Ups

A. Install a 6 ft x 6 ft (2 m x 2 m) paver area as described in Article 3.02. This area will be used to determine surcharge of the sand layer, joint sizes, lines, laying pattern(s), and texture of the job. This area shall be the standard from which the work will be judged.

## 1.07 Delivery, Storage And Handling

A.. Deliver concrete grid pavers to the site in steel banded, plastic banded, or plastic wrapped cubes capable of transfer by fork lift or clamp lift. Unload pavers at job site in such a manner that no damage occurs to the product.

B. Cover sand and topsoil shall with waterproof covering to prevent exposure to rainfall or removal by wind. Secure the covering in place.

## 1.08 Environmental Conditions

A. Do not install sand or pavers during heavy rain or snowfall.

B. Do not install frozen sand or topsoil.

# PART 2 – PRODUCTS

## 2.01 Concrete Grid Units

A. Supplied by a Belgard manufacturer:

**West:**

**Amcor Masonry Products**
333 South Redwood Road
North Salt Lake, UT 84054
800-800-4004
801-936-5470 Fax

**Sierra Building Products**
10714 Poplar Avenue
Fontana, CA 92337
866-749-3038
909-355-6444 Fax

**Superlite**
4223 W. Highland Avenue
Phoenix, AZ 85019
833-366-7877
602-352-0101 Fax

**Central Premix-Sakrete**
16310 East Marietta Lane
Spokane, WA 99216
800-950-6290
509-926-8367 Fax

**Texas Masonry Supply**
400 Jewell Drive

Waco, TX 76712
800-792-3216
254-772-6999 Fax

**Midwest:**

**Miller / Rhino Materials**
4201 Powell Drive
Bonner Springs, KS 66012
866-761-4552
913-667-1796 Fax

**Northfield / Bend**
One Hunt Court
Mundelein, IL 60060
847-557-5008
877-222-1557 Fax

**4D / Schuster's**
426 East River
Midland, MI 48640
989-631-0400
800-227-6512 Fax

**Northeast:**

**Anchor Concrete Products**
1913 Atlantic Avenue
Manasquan, NJ 08736
800-682-5625
732-292-2650 Fax

800 Uhler Road
Easton, PA 18040
610-923-5000
610-923-5005 Fax

**Betco Supreme**
7920 Notes Drive
Manassas, VA 20109
800-580-5838
410-793-0657 Fax

P.O. Box 3388
2630 Conway Road
Crofton, MD 21114
800-580-5838
410-793-0657

**Foster Southeastern**
46 Spring Street
Holbrook, MA 02343
800-462-2225
781-767-2991 Fax

**Domine**
735 Wangum Road

Fishers, NY 14453
800-444-2103

**South:**

**Adams Products Company**
P.O. Box 14489
Greensboro, NC 27415
800-446-7421
336-375-8259 Fax

**Georgia Masonry Supply**
1443 Battle Creek Road
Jonesboro, GA 30236
800-621-5222
770-471-2128 Fax

**Oldcastle Coastal**
7167 Interpace Road
West Palm Beach, FL 33407
888-321-2354
813-783-2728 Fax

B. Turfstone: 24” x 16” x 3 1/8”, Apertures 3 9/16” x 3 9/16”

C. Meet the requirements of ASTM C 1319 and test results certified by the manufacturer

## 2.02 Bedding Sand

**Note:** The type of sand used for bedding is often called concrete sand. Sands vary regionally. Contact contractors local to the project and confirm sand(s) successfully used in previous similar applications. Bedding sand is not used in ditch liner applications, slope protection, riparian stabilization, or with boat ramps constructed with concrete grid pavers.

A. Bedding sand shall be clean, non-plastic, free from deleterious or foreign matter. The bedding sand shall be natural or manufactured from crushed rock. Do not use limestone screenings or stone dust. Grading of samples shall be done according to ASTM C 136. The particles shall be sharp and conform to the grading requirements shown in Table 1 below:

**Table 1**
**Grading Requirements for Bedding Sand**
**ASTM C33 CSA A23.1-M94**

| Sieve Size | Percent Passing | Sieve Size | Percent Passing |
|---|---|---|---|
| 3/8 in. (9.5 mm) | 100 | 10 mm | 100 |
| No. 4 (4.75 mm) | 95 to 100 | 5 mm | 95 to 100 |
| No. 8 (2.36 mm) | 85 to 100 | 2.5 mm | 80 to 100 |
| No. 16 (1.18 mm) | 50 to 85 | 1.25 mm | 50 to 90 |
| No. 30 (0.600 mm) | 25 to 60 | 0.63 mm | 25 to 65 |
| No. 50 (0.150 mm) | 0 to 30 | 0.315 mm | 10 to 35 |
| No. 100 (0.150 mm) | 2 to 10 | 0.16 mm | 2 to 10 |

## 2.03 Topsoil [Open-Graded Aggregate]

**Note:** Consult with local turfgrass specialists for recommendations on grass seed mixture or sod materials.

A. Conform to ASTM D 5268, Specification for Topsoil Used for Landscaping Purposes.

- OR -

A. Open-graded aggregated used to fill the openings of the grids and/or for a bedding course shall be washed and conform to ASTM C 33 No. 8 crushed stone, per the gradation requirements below in Table 2. Do not use gravel.

**Table 2**
**ASTM No. 8 Gradation for Fill or Bedding Course**

| Sieve Size | Percent Passing |
|---|---|
| 1/2 in. (12.5 mm) | 100 |
| 3/8 in. (9.5 mm) | 85 to 100 |
| No. 4 (4.75 mm) | 10 to 30 |
| No. 8 (2.36 mm) | 0 to 10 |
| No. 16 (1.18 mm) | 0 to 5 |

**Note:** Local, state or provincial standards for aggregate base materials should be used for the gradation and quality of dense-graded aggregate base materials under concrete grid pavements. If no standards exist, follow ASTM D 2940, Standard Specification for Graded Aggregate Material for Bases or Subbases for Highways or Airports. The gradation for base material from this standard is given in Table 3 below. This material should be compacted to a minimum of 95% standard Proctor density.

**Table 3**
**ASTM D 2940 Gradation for Dense-Graded Base**

| Sieve Size ~ | Percent Passing |
|---|---|
| 2 in. (50 mm) | 100 |
| 1/2 in. (37.5 mm) | 95 to 100 |
| 3/4 in. (19.0 mm) | 70 to 92 |
| ½ in. (9.5 mm) | 50 to 70 |
| No. 4 (4.75 mm) | 35 to 55 |
| No. 30 (0.600 mm) | 12 to 25 |
| No. 200 (0.075 mm) | 0 to 8 |

**Note:** For open-graded bases, gradation conforming to ASTM No. 57 crushed stone aggregate is recommended. The material is typically placed in 4 to 6 in. (100 to 150 mm) thick lifts and compacted with at least four passes of a 10 T static roller. The base material should show no visible movement when compaction is complete. It should be kept free from sediment throughout the entire job. The gradation for No. 57 material is given in Table 4 below:

**Table 4**
**ASTM No. 57 Gradation for Open-Graded Base**

| Sieve Size | Percent Passing |
|---|---|
| 11/2 in. (37.5 mm) | 100 |
| 1 in. ( 25 mm) | 95 to 100 |
| ½ in. (12.5 mm) | 25 to 60 |
| No. 4 (4.75 mm) | 0 to 10 |
| No. 8 (2.36 mm) | 0 to 5 |

## PART 3 – EXECUTION

**Note:** The specifier should be aware that the top surface of the payers after compaction may be 1/8 to 1/4 in. (3 to 7 mm) above the final elevations after compaction. This difference in initial and final elevations is to compensate for possible minor settling.

### 3.01 Examination

**Note:** For vehicular areas, specify compaction of the soil subgrade to a minimum of 95% standard Proctor density for dense-graded aggregate bases. Density should be monitored in the field with a nuclear density gauge. Compaction of open-graded bases should be with at least five passes of roller compactor without vibration. Stabilization of the soil and/or base material may be necessary with weak or saturated soils.

A. Verify that base is dry, uniform, even, free of any sediment (if open-graded), and ready to support sand, pavers and imposed loads.

B. Verify gradients and elevations of base are correct.

C. Verify location, type, installation and elevations of edge restraints around the perimeter area to be paved.

D. Beginning of installation means acceptance of base and edge restraints.

### 3.02 Installation

A. Spread the sand evenly over the compacted, dense-graded base course and screed uniformly to 1 – 1 ½ ° in. (25 - 40 mm) thickness. The screeded sand should not be disturbed. Place sufficient sand to stay ahead of the laid grid pavers.

-OR-

A. Spread the No. 8 material evenly over the compacted, open-graded base course and screed uniformly to 3-in. (75-mm) thickness. Compact with at least four passes of 10 T static roller until there is no visible movement. Place sufficient material to stay ahead of the laid grid pavers. Keep free from sediment during entire job.

B. Ensure that grid pavers are free from foreign materials before installation.

C. Lay the pavers in the pattern(s) as shown on the drawings. Maintain straight pattern lines.

D. Joints between the pavers shall be between 1/16 in. and 1/8 in. (2 to 4 mm) wide.

E. Fill gaps at the edges of the paved area with cut grid pavers or edge units.

F. Cut grid pavers to be placed along the edge with a double-bladed splitter or masonry saw.

G. Compact and seat the grids into the screeded [bedding sand] [aggregate] using a low amplitude, 75-90 Hz plate compactor capable of at least 5,000 lbs. (22 kN) centrifugal compaction force.

**Note:** A rubber or neoprene pad between the compactor and grids may be necessary to prevent cracking or chipping.

H. Vibrate and compact the pavers again, sweeping [topsoil] [the small fraction of the No. 8 aggregate] into the joints and openings until it is within ½ in. (13 mm) from the top surface. This will require at least two or three passes with the compactor. Do not compact within 3-ft (1 m) of the unrestrained edges of the paving units.

**Note:** Choose paragraph H below when designing pavement for storm water runoff control without grass and topsoil. Delete paragraph H above and paragraphs J through L below.

I. Spread ASTM No. 8 aggregate and fill openings in the pavement.

J. All work to within 3-ft (1 m) of the laying face must be left fully compacted at the completion of each day.

K. Broadcast grass seed at the rate recommended by seed source.

L. Remove excess [topsoil] [aggregate] on surface when the job is complete.

**Note:** Use L below for installation with grass and topsoil.

M. Distribute straw covering to protect germinating grass seed. Do not traffic pavement for [30] days.

N. The final surface elevations shall not deviate more than ± 3/8 in. (±10 mm) under a 10 ft (3 m) long straightedge.

O. The surface elevation of pavers shall be 1/8 to 1/4 in. (3 to 7 mm) above adjacent drainage inlets, concrete collars or channels.

## 3.03 Field Quality Control

A. After removal of excess ton soil/aggregate, check final elevations for conformance to the drawings.

**END OF SECTION 321443**

# SECTION 32 93 00
# PLANTS

## PART ONE – GENERAL

### 1.01 SUMMARY

A. Section Includes:
Plants.
1. Planting soils.
2. Organic Mulch
3. Stone Mulch
4. Aluminum Edging

B. Related Sections:
1. Division 31 Section "Earth Moving" for excavation, filling, and rough grading and for subsurface aggregate drainage and drainage backfill materials.
2. Division 32 Section "Turf and Grasses" for turf (lawn) and meadow planting,

### 1.02 DEFINITIONS

A. Backfill: The earth used to replace or the act of replacing earth in an excavation.
B. Balled and Burlapped Stock: Plants dug with firm, natural balls of earth in which they were grown, with ball size not less than diameter and depth recommended by ANSI Z60.1 for type and size of plant required; wrapped with burlap, tied, rigidly supported, and drum laced with twine with the root flare visible at the surface of the ball as recommended by ANSI Z60.1.
C. Container-Grown Stock: Healthy, vigorous, well-rooted plants grown in a container, with a well-established root system reaching sides of container and maintaining a firm ball when removed from container. Container shall be rigid enough to hold ball shape and protect root mass during shipping and be sized according to ANSI Z60.1 for type and size of plant required.
D. Duff Layer: The surface layer of native topsoil that is composed of mostly decayed leaves, twigs, and detritus.
E. Fabric Bag-Grown Stock: Healthy, vigorous, well-rooted plants established and grown in-ground in a porous fabric bag with well-established root system reaching sides of fabric bag. Fabric bag size is not less than diameter, depth, and volume required by ANSI Z60.1 for type and size of plant.
F. Finish Grade: Elevation of finished surface of planting soil.
G. Manufactured Topsoil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.
H. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. This includes insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. It also includes substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.
I. Pests: Living organisms that occur where they are not desired, or that cause damage to plants, animals, or people. These include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.
J. Planting Area: Areas to be planted.
K. Planting Soil: Standardized topsoil; existing, native surface topsoil; existing, in-place surface soil; imported topsoil; or manufactured topsoil that is modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
L. Plant; Plants; Plant Material: These terms refer to vegetation in general, including trees, shrubs, vines, ground covers, ornamental grasses, bulbs, corms, tubers, or herbaceous vegetation.

M. Root Flare: Also called "trunk flare." The area at the base of the plant's stem or trunk where the stem or trunk broadens to form roots; the area of transition between the root system and the stem or trunk.
N. Stem Girdling Roots: Roots that encircle the stems (trunks) of trees below the soil surface.
O. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.
P. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.
Q. Surface Soil: Soil that is present at the top layer of the existing soil profile at the Project site. In undisturbed areas, the surface soil is typically topsoil; but in disturbed areas such as urban environments, the surface soil can be subsoil.

## 1.03 SUBMITTALS

A. Product Data: For each type of product indicated, including soils.
   1. Pesticides and Herbicides: Include product label and manufacturer's application
B. Material Test Reports: For existing native surface topsoil and imported or manufactured topsoil.
C. Warranty: Sample of special warranty.

Sustainable Design Documentation: Submit documentation from the manufacturer highlighting requirements for materials and products of this Section. Comply with requirements of Section 01 81 13, Sustainable Design Requirements.

## 1.04 QUALITY ASSURANCE

A. Installer Qualifications: A qualified landscape Installer whose work has resulted in successful establishment of plants.
   1. Experience: Five years' experience in landscape installation.
   2. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.

   Pesticide Applicator: State licensed, commercial.
B. Soil-Testing Laboratory Qualifications: An independent or university laboratory, recognized by the State Department of Agriculture, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.
C. Soil Analysis: For each unamended soil type, furnish soil analysis and a written report by a qualified soil-testing laboratory stating percentages of organic matter; gradation of sand, silt, and clay content; cation exchange capacity; deleterious material; pH; and mineral and plant-nutrient content of the soil.

   Testing methods and written recommendations shall comply with USDA's Handbook No. 60.
   1. The soil-testing laboratory shall oversee soil sampling; with depth, location, and number of samples to be taken per instructions from Architect. A minimum of three representative samples shall be taken from varied locations for each soil to be used or amended for planting purposes.
   2. Report suitability of tested soil for plant growth.

      Based upon the test results, state recommendations for soil treatments and soil amendments to be incorporated. State recommendations in weight per 1000 sq. ft. or volume per cu. yd. for nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory planting soil suitable for healthy, viable plants.
      a. Report presence of problem salts, minerals, or heavy metals, including aluminum, arsenic, barium, cadmium, chromium, cobalt, lead, lithium, and vanadium. If such problem materials are present, provide additional recommendations for corrective action.
D. Provide quality, size, genus, species, and variety of plants indicated, complying with applicable requirements in ANSI Z60.1.

E. Measurements: Measure according to ANSI Z60.1. Do not prune to obtain required sizes.

F. Plant Material Observation: Architect may observe plant material either at place of growth or at site before planting for compliance with requirements for genus, species, variety, cultivar, size, and quality. Architect retains right to observe trees and shrubs further for size and condition of balls and root systems, pests, disease symptoms, injuries, and latent defects and to reject unsatisfactory or defective material at any time during progress of work. Remove rejected trees or shrubs immediately from Project site.

## 1.05 DELIVERY, STORAGE, AND HANDLING

A. Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of conformance with state and federal laws if applicable.

B. Bulk Materials:

Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.

1. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
2. Accompany each delivery of bulk fertilizers and soil amendments with appropriate certificates.

C. Do not prune trees and shrubs before delivery. Protect bark, branches, and root systems from sun scald, drying, wind burn, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of plants during shipping and delivery. Do not drop plants during delivery and handling.

D. Handle planting stock by root ball.

E. Deliver plants after preparations for planting have been completed, and install immediately. If planting is delayed more than six hours after delivery, set plants and trees in their appropriate aspect (sun, filtered sun, or shade), protect from weather and mechanical damage, and keep roots moist.

1. Set balled stock on ground and cover ball with soil, peat moss, sawdust, or other acceptable material.
2. Do not remove container-grown stock from containers before time of planting.
3. Water root systems of plants stored on-site deeply and thoroughly with a fine-mist spray. Water as often as necessary to maintain root systems in a moist, but not overly-wet condition.

## 1.06 ENVIRONMENTAL REQUIREMENTS

A. Regional Materials: Provide materials or products that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles of the project site.

1. Plants: 100%.
2. Topsoil: 100%.
3. Compost: 100%.
4. Mulch: 100%.

## 1.07 PROJECT CONDITIONS

A. Field Measurements: Verify actual grade elevations, service and utility locations, irrigation system components, and dimensions of plantings and construction contiguous with new plantings by field measurements before proceeding with planting work.

B. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with maintenance periods to provide required maintenance from date of Substantial Completion.

Spring Planting: May 1st.

1. Fall Planting: October 15th.

C. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions and warranty requirements.

D. Coordination with Turf Areas (Lawns): Plant trees, shrubs, and other plants after finish grades are established and before planting turf areas unless otherwise indicated.

When planting trees, shrubs, and other plants after planting turf areas, protect turf areas, and promptly repair damage caused by planting operations.

## 1.08 WARRANTY

A. Special Warranty: Installer agrees to repair or replace plantings and accessories that fail in materials, workmanship, or growth within specified warranty period.

Failures include, but are not limited to, the following:

Death and unsatisfactory growth, except for defects resulting from abuse, lack of adequate maintenance, or neglect by Owner, or incidents that are beyond Contractor's control.

a. Structural failures including plantings falling or blowing over.

b. Faulty performance of tree grates.

c. Deterioration of metals, metal finishes, and other materials beyond normal weathering.

Warranty Periods from Date of Substantial Completion:

Trees, Shrubs, Vines, and Ornamental Grasses: 12 months.

d. Ground Covers, Biennials, Perennials, and Other Plants: 12 months.

Include the following remedial actions as a minimum:

Immediately remove dead plants and replace unless required to plant in the succeeding planting season.

e. Replace plants that are more than 25 percent dead or in an unhealthy condition at end of warranty period.

f. A limit of one replacement of each plant will be required except for losses or replacements due to failure to comply with requirements.

## 1.09 MAINTENANCE SERVICE

A. Initial Maintenance Service for Trees and Shrubs: Provide maintenance by skilled employees of landscape Installer. Maintain as required in Part 3. Begin maintenance immediately after plants are installed and continue until plantings are acceptably healthy and well established but for not less than maintenance period below.

Maintenance Period: 12 months from date of Substantial Completion.

B. Initial Maintenance Service for Ground Cover and Other Plants: Provide maintenance by skilled employees of landscape Installer. Maintain as required in Part 3. Begin maintenance immediately after plants are installed and continue until plantings are acceptably healthy and well established but for not less than maintenance period below.

Maintenance Period: 12 months from date of Substantial Completion

# PART TWO – PRODUCTS

## 2.02 PLANT MATERIAL

A. General: Furnish nursery-grown plants true to genus, species, variety, cultivar, stem form, shearing, and other features indicated in Plant Schedule or Plant Legend shown on Drawings and complying with ANSI Z60.1; and with healthy root systems developed by transplanting or root

pruning. Provide well-shaped, fully branched, healthy, vigorous stock, densely foliated when in leaf and free of disease, pests, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.

Trees with damaged, crooked, or multiple leaders; tight vertical branches where bark is squeezed between two branches or between branch and trunk ("included bark"); crossing trunks; cut-off limbs more than 3/4 inch in diameter; or with stem girdling roots will be rejected.

1. Collected Stock: Do not use plants harvested from the wild, from native stands, from an established landscape planting, or not grown in a nursery unless otherwise indicated.

B. Native perennials, where indicated, shall be native to Wisconsin and from wild, local genotypes. Plants shall be from a nursery specializing in the propagation of native species. Cultivars are not permitted. Substitutions must be confirmed with Landscape Architect prior to securing plant material. Provide plant material from one of the following nurseries:

a. Agrecol Corporation, Madison, WI (800) 291-1221
b. Applied Ecological Services(AES)/Taylor Creek Restoration Nursery, Brodhead, WI (608) 897-8641
c. Bluestem Farm, Baraboo, WI (608) 356-0179
d. Dragonfly Gardens, Amery, WI (715) 268-7660
e. J.F. New/Prairie Ridge Nursery/CRM Ecosystems, Mt. Horeb, WI, (574) 586-2412
f. Prairie Nursery, Inc. Westfield, WI, (800) 476-9453
g. Northwind Perennial Farm, Burlington, WI (262) 248-8229

Country Road Greenhouses, Rochelle, IL (815) 384-3311

C. Provide plants of sizes, grades, and ball or container sizes complying with ANSI Z60.1 for types and form of plants required. Plants of a larger size may be used if acceptable to Architect, with a proportionate increase in size of roots or balls.

D. Root-Ball Depth: Furnish trees and shrubs with root balls measured from top of root ball, which shall begin at root flare according to ANSI Z60.1. Root flare shall be visible before planting.

E. Labeling: Label at least one plant of each variety, size, and caliper with a securely attached, waterproof tag bearing legible designation of common name and full scientific name, including genus and species. Include nomenclature for hybrid, variety, or cultivar, if applicable for the plant as shown on Drawings.

## 2.03 INORGANIC SOIL AMENDMENTS

A. Lime: ASTM C 602, agricultural liming material containing a minimum of 80 percent calcium carbonate equivalent and as follows:

1. Class: O, with a minimum of 95 percent passing through No. 8 sieve and a minimum of 55 percent passing through No. 60 sieve.

B. Aluminum Sulfate: Commercial grade, unadulterated.

C. Perlite: Horticultural perlite, soil amendment grade.

D. Agricultural Gypsum: Minimum 90 percent calcium sulfate, finely ground with 90 percent passing through No. 50 sieve.

E. Sand: Clean, washed, natural or manufactured, and free of toxic materials.

## 2.04 ORGANIC SOIL AMENDMENTS

A. Compost: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 3/4-inch sieve; soluble salt content of 5 to 10 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:

B. Manure: Well-rotted, unleached, stable or cattle manure containing not more than 25 percent by volume of straw, sawdust, or other bedding materials; free of toxic substances, stones, sticks, soil, weed seed, debris, and material harmful to plant growth.

## 2.05 FERTILIZERS

A. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:
   1. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing laboratory.

B. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:
   1. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing laboratory.

C. Planting Tablets: Tightly compressed chip type, long-lasting, slow-release, commercial-grade planting fertilizer in tablet form. Tablets shall break down with soil bacteria, converting nutrients into a form that can be absorbed by plant roots.
   1. Nutrient Composition: 20 percent nitrogen, 10 percent phosphorous, and 5 percent potassium, by weight plus micronutrients.

## 2.06 PLANTING SOILS

A. Planting Soil Mix : Existing, native surface topsoil formed under natural conditions with the duff layer retained during excavation process. Verify suitability of native surface topsoil to produce viable planting soil. Clean soil of roots, plants, sod, stones, clay lumps, and other extraneous materials harmful to plant growth.
   Supplement with import topsoil soil when quantities are insufficient.
   1. Mix existing, native surface topsoil with the following soil amendments and fertilizers in the following quantities to produce planting soil:
      Ratio of Loose Compost to Topsoil by Volume: 1:3.
      a. Lime per soil analyst recommendations.
      b. Aluminum Sulfate per soil analyst recommendations.
      c. Weight of Agricultural Gypsum per soil analyst recommendations.
      d. Volume of Sand per soil analyst recommendations >.
      e. Weight of Commercial Fertilizer per soil analyst recommendations.
      f. Weight of Slow-Release Fertilizer per soil analyst recommendations.

## 2.07 MULCHES

A. Organic Mulch: Free from deleterious materials and suitable as a top dressing of trees and shrubs, consisting of the following:
   Type: Shredded hardwood
   1. Size Range: 3 inches maximum, 1/2 inch minimum.
   2. Color: Natural.

B. Stone Mulch: Free from deleterious materials and suitable as a top dressing of trees and shrubs consisting of the following:
   1. Type: Basis of Design Product: Carmel Quartz Stone Mulch, as available from Midwest Decorative Stone, Madison, WI (608) 273-9787
   2. Size Range: ¾”-2” max.

## 2.08 PESTICIDES

A. General: Pesticide registered and approved by EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.

B. Pre-Emergent Herbicide (Selective and Non-Selective): Effective for controlling the germination or growth of weeds within planted areas at the soil level directly below the mulch layer.
C. Post-Emergent Herbicide (Selective and Non-Selective): Effective for controlling weed growth that has already germinated.

### 2.09 MISCELLANEOUS PRODUCTS

A. Burlap: Non-synthetic, biodegradable.

## PART THREE – EXECUTION

### 3.01 EXAMINATION

A. Examine areas to receive plants for compliance with requirements and conditions affecting installation and performance.
   Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
   1. Do not mix or place soils and soil amendments in frozen, wet, or muddy conditions.
   2. Suspend soil spreading, grading, and tilling operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
   3. Uniformly moisten excessively dry soil that is not workable and which is too dusty.
B. Proceed with installation only after unsatisfactory conditions have been corrected.
C. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Architect and replace with new planting soil.

### 3.02 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities and turf areas and existing plants from damage caused by planting operations.
B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.
C. Wrap trees and shrubs with burlap fabric over trunks, branches, stems, twigs, and foliage to protect from wind and other damage during digging, handling, and transportation.

### 3.03 PLANTING AREA ESTABLISHMENT

A. Loosen subgrade of planting areas to a minimum depth of 6 inches. Remove stones larger than 1 inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
   1. Thoroughly blend planting soil off-site before spreading or spread topsoil, apply soil amendments and fertilizer on surface, and thoroughly blend planting soil.
      Delay mixing fertilizer with planting soil if planting will not proceed within a few days.
      a. Mix lime with dry soil before mixing fertilizer.
   Spread planting soil to a depth of 8 inches but not less than required to meet finish grades after natural settlement. Do not spread if planting soil or subgrade is frozen, muddy, or excessively wet.
      Spread approximately one-half the thickness of planting soil over loosened subgrade. Mix thoroughly into top 2 inches of subgrade. Spread remainder of planting soil.
B. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

C. Before planting, obtain Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

## 3.04 MULCH AREAS UNDER "TREES TO REMAIN"

A. Carefully remove existing lawn material to a depth of 2". Remove stones larger than 1 inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.

Do not compact area to receive mulch material.

B. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Rake, remove ridges, to meet finish grades.

## 3.05 EXCAVATION FOR TREES AND SHRUBS

A. Planting Pits and Trenches: Excavate circular planting pits with sides sloping inward at a 45-degree angle. Excavations with vertical sides are not acceptable. Trim perimeter of bottom leaving center area of bottom raised slightly to support root ball and assist in drainage away from center. Do not further disturb base. Ensure that root ball will sit on undisturbed base soil to prevent settling. Scarify sides of planting pit smeared or smoothed during excavation.

Excavate approximately three times as wide as ball diameter for balled and burlapped and container-grown stock.

1. Do not excavate deeper than depth of the root ball, measured from the root flare to the bottom of the root ball.
2. If area under the plant was initially dug too deep, add soil to raise it to the correct level and thoroughly tamp the added soil to prevent settling.
3. Maintain required angles of repose of adjacent materials as shown on the Drawings. Do not excavate subgrades of adjacent paving, structures, hardscapes, or other new or existing improvements.
4. Maintain supervision of excavations during working hours.
5. Keep excavations covered or otherwise protected when unattended by Installer's personnel.

B. Subsoil and topsoil removed from excavations may be used as planting soil.

C. Obstructions: Notify Architect if unexpected rock or obstructions detrimental to trees or shrubs are encountered in excavations.

D. Drainage: Notify Architect if subsoil conditions evidence unexpected water seepage or retention in tree or shrub planting pits.

## 3.06 TREE, SHRUB, AND VINE PLANTING

A. Before planting, verify that root flare is visible at top of root ball according to ANSI Z60.1. If root flare is not visible, remove soil in a level manner from the root ball to where the top-most root emerges from the trunk. After soil removal to expose the root flare, verify that root ball still meets size requirements.

B. Remove stem girdling roots and kinked roots. Remove injured roots by cutting cleanly; do not break.

C. Set balled and burlapped stock plumb and in center of planting pit or trench with root flare 1 inch above adjacent finish grades.

1. After placing some backfill around root ball to stabilize plant, carefully cut and remove burlap, rope, and wire baskets from tops of root balls and from sides, but do not remove from under root balls. Remove pallets, if any, before setting. Do not use planting stock if root ball is cracked or broken before or during planting operation.

2. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed.
3. Place planting tablets in each planting pit when pit is approximately one-half filled; in amounts recommended in soil reports from soil-testing laboratory. Place tablets beside the root ball about 1 inch from root tips; do not place tablets in bottom of the hole.
4. Continue backfilling process. Water again after placing and tamping final layer of soil.

D. Set container-grown stock plumb and in center of planting pit or trench with root flare 1 inch above adjacent finish grades.
1. Carefully remove root ball from container without damaging root ball or plant.
2. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed.
3. Place planting tablets in each planting pit when pit is approximately one-half filled; in amounts recommended in soil reports from soil-testing laboratory. Place tablets beside the root ball about 1 inch from root tips; do not place tablets in bottom of the hole.
4. Continue backfilling process. Water again after placing and tamping final layer of soil.

E. When planting on slopes, set the plant so the root flare on the uphill side is flush with the surrounding soil on the slope; the edge of the root ball on the downhill side will be above the surrounding soil. Apply enough soil to cover the downhill side of the root ball.

## 3.07 TREE, SHRUB, AND VINE PRUNING

A. Prune, thin, and shape trees, shrubs, and vines according to standard professional horticultural and arboricultural practices. Unless otherwise indicated by Architect, do not cut tree leaders; remove only injured, dying, or dead branches from trees and shrubs; and prune to retain natural character.

B. Do not apply pruning paint to wounds.

## 3.08 GROUND COVER AND PERENNIAL PLANT PLANTING

A. Set out and space ground cover and plants other than trees, shrubs, and vines as indicated in even rows with triangular spacing.

B. Dig holes large enough to allow spreading of roots.

C. NOTE: Remove top ½" of container soil from perennial or groundcover plant. This material shall be placed in a container (not integrated into soil) and legally disposed of off-site. This ½" of material typically contains a majority of the foreign weed seeds and is not desirable

D. For rooted cutting plants supplied in flats, plant each in a manner that will minimally disturb the root system but to a depth not less than two nodes.

E. Work soil around roots to eliminate air pockets and leave a slight saucer indentation around plants to hold water.

F. Water thoroughly after planting, taking care not to cover plant crowns with wet soil.

G. Protect plants from hot sun and wind; remove protection if plants show evidence of recovery from transplanting shock.

## 3.09 PLANTING AREA MULCHING

A. Mulch backfilled surfaces of planting areas and other areas indicated.

Trees and Tree-like Shrubs in Turf Areas: Apply organic mulch ring of 3-inch average thickness, with 36-inch radius around trunks or stems. Do not place mulch within 3 inches of trunks or stems.

1. Organic Mulch in Planting Areas: Apply 3-inch average thickness of organic mulch over whole surface of planting area, and finish level with adjacent finish grades. Do not place mulch within 3 inches of trunks or stems.

2. Stone Mulch in Planting Areas: Plant perennials as indicated prior. Apply 3-inch average thickness of stone mulch over area. Do not place stone mulch within 3" of trucks or stems.

## 3.010 EDGING INSTALLATION

A. Shovel-Cut Edging: Separate mulched areas from turf areas with a 45-degree, 4- to 6-inch- deep, shovel-cut edge as shown on Drawings.

B. Fabric: Shall be installed in such a manner so that the fabric will line and adhere to all faces of the excavated trench. Fabric shall be attached to the sides of the trench so that it does not sag or fall into the trench when backfilled.

C. Aluminum Edging: Shall be set into trench with top at 1/2 inch above compacted finish grade on turf side with side having loops for stakes placed on opposite side of turf. Drive stakes through edging loops until locked in place. Requires 5 stakes evenly spaced for each 16 foot section, or 3 stakes evenly spaced for each 8 foot section with a total of 8 stake loops available in each 16 foot section if necessary. Provide additional stakes at approximately 24 inches apart, longer stakes, heavier gage stakes, or any combination of previously mentioned as necessary to firmly secure edging for permanent intended use. Where edging sections turn at corners and at angled runs, cut edging partially up through its heght from bottom and turn back to desired angle to form rounded exposed radius. Backfill both sides of edging, confirm and adjust if necessary that sections are securely held together, and compact backfill material along edging to provide to of edging at ½ inch above turf finished grade.

D. Stone Mulch: Place stone in such a manner to not disturb or cause fabric to come unattached from the sides of the trench. Place stone in such a manner to not cause damage to the aluminum edging. Fill trench to depth shown on the plans.

## 3.011 PLANT MAINTENANCE

A. Maintain plantings by pruning, cultivating, watering, weeding, fertilizing, mulching, restoring planting saucers, adjusting and repairing tree-stabilization devices, resetting to proper grades or vertical position, and performing other operations as required to establish healthy, viable plantings. Spray or treat as required to keep trees and shrubs free of insects and disease.

B. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace mulch materials damaged or lost in areas of subsidence.

C. Apply treatments as required to keep plant materials, planted areas, and soils free of pests and pathogens or disease. Use integrated past management practices whenever possible to minimize the use of pesticides and reduce hazards. Treatments include physical controls such as hosing off foliage, mechanical controls such as traps, and biological control agents.

## 3.012 PESTICIDE APPLICATION

A. Apply pesticides and other chemical products and biological control agents in accordance with authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.

B. Pre-Emergent Herbicides (Selective and Non-Selective): Apply to tree, shrub, and ground-cover areas in accordance with manufacturer's written recommendations. Do not apply to seeded areas.

C. Post-Emergent Herbicides (Selective and Non-Selective): Apply only as necessary to treat already-germinated weeds and in accordance with manufacturer's written recommendations.

## 3.013 CLEANUP AND PROTECTION

A. During planting, keep adjacent paving and construction clean and work area in an orderly condition.

B. Protect plants from damage due to landscape operations and operations of other contractors and trades. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged plantings.

C. After installation and before Substantial Completion, remove nursery tags, nursery stakes, tie tape, labels, wire, burlap, and other debris from plant material, planting areas, and Project site.

**3.014 DISPOSAL**

A. Remove surplus soil and waste material including excess subsoil, unsuitable soil, trash, and debris and legally dispose of them off Owner's property.

**END OF SECTION 329310**

# SPECIAL PROVISIONS
# SOUTH MONROE STREET FLOODPLAIN IMPROVEMENTS
# WATERLOO, WISCONSIN

## LOCATION

The project is located on South Monroe Street from the intersection with West Madison Street to a point approximately 500 feet south and terminating at the Maunesha River. Connections with Mead Street and W. Taylor Ave are also in the proposed area. A location map is provided on the Title Sheet of the plan.

## SCOPE OF WORK

The work to be completed under this contract involves street reconstruction and limited utility work on S. Monroe Street and the connections with Mead St. and W. Taylor Ave. Work shall include but is not limited to some clearing, removal of existing street surfaces, removal of concrete curb and gutter, excavation common, excavation below subgrade, breaker run stone, base aggregate dense, asphalt paving, concrete curb and gutter, concrete driveways, bike path, rain garden, landscape & retaining walls, water main and lateral installation, storm sewer main and lateral installation, traffic control, erosion control, and site restoration.

## SPECIFICATIONS

Prospective bidders should note that the Wisconsin Department of Transportation's Standard Specifications for Highway and Structure Construction (hereinafter referred to as "State Specifications") shall govern in cases not defined in these Special Provisions and General Specification of this contract. If such State specifications should differ from the Special Provisions and General Specifications or not be applicable, in that event the Special Provisions and General Specifications shall govern.

Any reference to the Wisconsin Department of Transportation's Standard Specifications for Highway and Structure Construction in the Special Provisions or General Specifications shall be construed to refer to the latest edition. Any reference to the Standard Specifications for Sewer and Water Construction in Wisconsin (hereinafter referred to as "State Sewer and Water Specifications" in the Special Provisions or General Specifications shall be construed to refer to the latest edition. Whenever in the specifications, or in any documents or plans related to the construction operations, the reference is made to the specifications or designations of A.S.T.M., A.A.S.H.T.O., A.S.A. or A.W.W.A., the intent and meaning shall be interpreted to be the use of the latest revision.

## PROSECUTION AND PROGRESS

The Contractor shall conduct construction activities in a timely and orderly manner to meet time of completion requirements outlined in the Instruction to Bidders section of these documents. The asphalt paving and concrete driveway work shall be completed and accepted by the Engineer prior to opening the roadway to vehicular traffic. Restoration work may be completed under traffic with no additional cost to the OWNER for necessary traffic control.

The work on the PROJECT shall be completed within 90 days after the date when the Contract Time commences to run, as provided in paragraph 2.03 of the General Conditions, and ready for final payment in accordance with paragraph 14.07 of the General Conditions within 110 calendar days after the date then the Contract Time commences to run.

Work on the PROJECT can not start until Monday, June 4th. Work shall be completed and all roadways opened to traffic on or before Friday, August 31, 2012. The CONTRACTOR shall realize that more than one underground pipe crew or construction crew may be needed to meet this schedule. All streets may be worked on at the same time.

The Contractor shall provide the Engineer with a proposed schedule of work.

TRAFFIC CONTROL

The Contractor shall submit a traffic control plan to the Engineer prior to construction for approval. An approved traffic control plan is required prior to construction. The traffic control plan shall be in accordance with the Manual on Uniform Traffic Control Devices (MUTCD), latest edition.

Traffic on South Monroe Street shall be maintained as much as practical. The Contractor shall notify residents, in writing, a minimum of 48 hours in advance of when vehicular access will not be allowed to their property. This notice shall also provide the duration of time they will not have vehicular access to their property.

Traffic control devices shall be in place and approved by the Engineer prior to beginning work.

Temporary traffic control devices necessary for day to day construction activities shall be installed at the beginning of each work day and removed at the end of each work day. The cost for these items shall be included in the item, Traffic Control Items, Lump Sum.

The Contractor shall provide local law enforcement agencies with a contact name of a person that can be contacted in the event that traffic control devices are in need of replacement or repair during non-working hours.

UTILITIES

There are known utilities within the limits of the project. Utilities have been notified of construction activities. The Contractor shall coordinate utility adjustments with utility companies. Utility contacts are provided in the plan. This list is not guaranteed to be complete and should be verified by the Contractor.

PUBLIC CONVENIENCE AND SAFETY

Notify the following organizations and departments at least 48 hours before road closures or detours are

put into effect:

Jefferson County Sheriff Department
City of Waterloo Police Department
City of Waterloo Fire Department
City of Waterloo Public Works Department
City of Waterloo City Hall
City of Waterloo School District

EXPLANATION OF BID ITEMS

The following section contains an explanation of bid items contained in this bid proposal and supersedes the standard specifications if conflicts arise. Measurement and payment of items shall be as specified in the State Specifications where applicable.

| Item | Item Description |
|---|---|

1. MOBILIZATION – This item shall include the cost of moving in personnel, equipment and supplies to the site, establishing necessary stockpiles and trailer (if required), and moving the same off site. This work shall be in accordance with Section 619 of the State Specifications and shall be paid for at the contract lump sum price.
2. TRAFFIC CONTROL – This item is for furnishing, erecting, maintaining, moving and removing appropriate traffic control items in accordance with the latest revision of Part 6, Temporary Traffic Control, of the MUTCD and the latest revision of Part 6, Temporary Traffic Control, of the Wisconsin Manual on Uniform Traffic Control Devices. The CONTRACTOR shall develop and submit a traffic control plan for approval by the ENGINEER. This item also includes necessary flagging and guidance of traffic during construction hours necessitated by construction vehicles entering and leaving the site. This work shall be in accordance with Section 643 of the State Specifications and shall be paid for at the contract lump sum price.

3. REMOVING CONCRETE CURB AND GUTTER – This item shall include removing concrete curb and gutter from the site. Backfilling of the area of removal is not required. This work shall be in accordance with Section 02120 of the specifications and shall be paid for on a per foot basis of completed and accepted work.

4. REMOVING CONCRETE SIDEWALK – This item shall include removing concrete sidewalk and connected concrete from the site. Backfilling of the area of removal is not required. This work shall be in accordance with Section 02120 of the specifications and shall be paid for by the square yard of completed and accepted work.

5. REMOVING EXISTING HYDRANTS – This item shall include removing existing hydrants as shown on the plan. Backfilling of the area of removal will be required. This work shall be in accordance with Section 02120 of the specifications and shall be paid for on an each basis.

6. ABANDON EXISTING STEAM MANHOLE – This item shall include abandoning an existing steam manhole as shown on the plan. This work shall be in accordance with the Standard

Specifications for Sewer & Water Construction in Wisconsin, Latest edition (SSSWC) and Section 02120 of the specifications and shall be paid for on an each basis.

7. ABANDON EXISTING STEAM TUNNEL – This item shall include abandoning an existing steam tunnel where it is crossed by the proposed storm sewer as approximately shown on the plan. Upon encountering the existing 24" DIA steam tunnel, the contractor shall contact the City and verify if removal of any section of the steam tunnel is necessary. If so, an environmental specialist will be contacted by the City to ascertain if there are indeed any hazardous substances present in that area. The contractor shall then remove as little of the pipe as possible to complete the work and shall abandon the open ends of the pipe per the SSSWC, Latest Edition. The contractor shall make every effort to not disturb the existing steam tunnel. Any hazardous material disposal costs will be incidental to this item. This work shall be in accordance with Section 02120 of the specifications and shall be paid for on an each basis.

8. ABANDON EXISTING STORM SEWER – This item shall include abandoning existing storm sewer that is not removed incidentally by installation of new storm sewer. This work shall be in accordance with SSSWC, Latest Edition and Section 02120 of the specifications and shall be paid for on a linear foot basis of completed and accepted work.

9. EXCAVATION COMMON – This item shall consist of all work in Section 02220 of the specifications except that clearing and grubbing will be paid for in a separate bid item. Excavation Below Subgrade (EBS) as shown on the cross sections is included in this item. EBS required, as determined by the ENGINEER, outside the area shown on the plan will be measured and paid for at the contract unit price for Excavation Common. EBS material shall not be used as fill material. There is sufficient existing base material that shall be used for fill material. EBS material, asphaltic material, and excess base material not used as fill shall be removed from the site. The price for removing excess material shall be included in the unit price for Excavation Common. This item shall be paid on a cubic yard quantity based on plan quantity.

10. BASE AGGREGATE DENSE 1-1/4 INCH - This item is for the supply, placement, and appropriate compaction of Base Aggregate Dense 1-1/4 Inch to be placed beneath the asphalt roadway (12 inches), concrete sidewalk (6 inches), bike path (8 inches) and concrete driveways (6 inches). This work shall be in accordance with Section 02230 of the Waterloo specifications and Sections 304 and 305 of the State Specifications. The Contractor may recycle the existing asphalt pavement by crushing it and mixing it with virgin material to meet the proper gradation as specified in 305.2.2.1 and 305.2.2.2. Cost for crushing asphalt and mixing with virgin material would be considered incidental. This item shall be paid for on a per ton basis.

11. BREAKER RUN STONE - This item is for the supply, placement, and appropriate compaction of breaker run stone to be placed beneath the asphalt roadway (12 inches). The Contractor may substitute base aggregate dense 3 inch material for breaker run stone as defined in the State Specifications. This work shall be in accordance with Sections 311 of the State Specifications and shall be paid for on a per ton basis.

12. CONCRETE DRIVEWAY 6-INCH – This item is for the installation of concrete driveway aprons and

concrete driveway to match existing driveways. This item includes necessary subgrade and base preparation, all labor, materials, formwork and finishing. A 6-inch thick base aggregate dense layer shall be placed and compacted under all new concrete driveway, the cost of which shall be paid for under Base Aggregate Dense 1-1/4 Inch. This work shall be in accordance with Section 02720 of the Waterloo specifications and Section 416 of the State Specifications and shall be paid for on a per square yard basis of concrete driveway installed.

13. HMA PAVEMENT TYPE E-3 BINDER – This item is for the supply and placement of a 2.25-inch thick layer of asphaltic concrete pavement binder course in one layer. This item shall include all asphaltic material PG58-28, tack coat, and all other materials and testing necessary to complete the work. This item shall be used to pave the main road ways. This work shall be in accordance with Section 02713 of the Waterloo specifications and Section 455 and 460 of the State Specifications and shall be paid for on a per ton basis.

14. HMA PAVEMENT TYPE E-3 SURFACE – This item is for the supply and placement of a 1.75-inch thick layer of asphaltic concrete pavement surface course in one layer. This item shall include all asphaltic material PG58-28, tack coat, and all other materials and testing necessary to complete the work. This item shall be used to pave the main road ways. This work shall be in accordance with Section 02713 of the Waterloo specifications and Section 455 and 460 of the State Specifications and shall be paid for on a per ton basis.

15. HMA PAVEMENT TYPE E-0.3 BINDER – This item is for the supply and placement of a 2-inch thick layer of asphaltic concrete pavement binder course in one layer. This item shall include all asphaltic material PG58-28, tack coat, and all other materials and testing necessary to complete the work. This item shall be used to pave driveways and parking lot areas as specified on the plan. This work shall be in accordance with Section 02713 of the Waterloo specifications and Section 455 and 460 of the State Specifications and shall be paid for on a per ton basis.

16. HMA PAVEMENT TYPE E-0.3 SURFACE – This item is for the supply and placement of a 1.5-inch thick layer of asphaltic concrete pavement surface course in one layer. This item shall include all asphaltic material PG58-28, tack coat, and all other materials and testing necessary to complete the work. This item shall be used to pave driveways and parking lot areas as specified on the plan. This work shall be in accordance with Section 02713 of the Waterloo specifications and Section 455 and 460 of the State Specifications and shall be paid for on a per ton basis.

17. HMA PAVEMENT TYPE E-0.3 Bike Path – This item is for the supply and placement of a 3-inch thick layer of asphaltic concrete pavement surface course in one layer. This item shall include all asphaltic material PG58-28, tack coat, and all other materials and testing necessary to complete the work. This item shall be used to pave the bike path as specified in the plan. This work shall be in accordance with Section 02713 of the Waterloo specifications and Section 455 and 460 of the State Specifications and shall be paid for on a per ton basis.

18. HMA PAVEMENT TYPE E-0.3 OVERFLOW PARKING AREA – This item is for the supply and placement of a 3.5-inch thick layer of asphaltic concrete pavement. A 1.5-inch surface course layer shall be placed on a 2-inch binder course layer. This item shall include all asphaltic material PG58-28, tack coat, and all other materials and testing necessary to complete the work.

This item shall be used to pave the overflow parking area directly adjacent to the substation as specified on the plan. Two other alternates will be looked at for this area to consider placing grass pave or porous pavement in lieu of asphalt. This work shall be in accordance with Section 02713 of the Waterloo specifications and Section 455 and 460 of the State Specifications and shall be paid for by the square foot.

19. CONCRETE CURB & GUTTER 30-INCH VERTICAL FACE – This item is for the supply and installation of vertical face concrete curb and gutter. This item includes all labor materials, formwork, and finishing. All work shall be in accordance with Section 02721 of the Waterloo specifications and Sections 601 of the State Specifications and shall be paid for on a per lineal foot basis.

20. CONCRETE CURB & GUTTER 30-INCH MOUNTABLE – This item is for the supply and installation of mountable concrete curb and gutter. This item includes all labor materials, formwork, and finishing. All work shall be in accordance with Section 02721 of the Waterloo specifications and Sections 601 of the State Specifications and shall be paid for on a per lineal foot basis.

21. CONCRETE CURB & GUTTER 18-INCH– This item is for the supply and installation of 18-inch concrete curb and gutter. This item includes all labor materials, formwork, and finishing. All work shall be in accordance with Section 02721 of the Waterloo specifications and Sections 601 of the State Specifications and shall be paid for on a per lineal foot basis.

22. CONCRETE SIDEWALK 5-INCH – This item is for the installation of concrete sidewalk of varying widths and curb ramps. This item includes necessary subgrade and base preparation, all labor, materials, formwork and finishing. A 6-inch thick base aggregate dense layer shall be placed and compacted under all new Concrete Sidewalk 4-Inch, the cost of which shall be paid for under Base Aggregate Dense 1-1/4 Inch. This work shall be in accordance with Section 02720 of the Waterloo specifications and Section 602 of the State Specifications and shall be paid for on a per square foot basis of concrete sidewalk installed.

23. DETECTABLE WARNING FIELD – This item is for the supply and installation of curb ramp detectable warning fields in the plan in accordance with Section 02720 of the Waterloo specifications and Section 602 of the State Specifications. This item shall be paid on a per each basis.

24. PAVEMENT MARKING, EPOXY 6-INCH – This item is for the installation of 6” wide, reflective, epoxy pavement markings to delineate cross walk diagonal as well as parking stalls in the street, cul de sac and parking lot. This item includes all necessary pavement preparation, labor and materials necessary. This work shall be in accordance with manufacturer specifications, Section 02713 of the Waterloo specifications and Section 646 of the State specifications. This item shall be paid for on a linear foot basis as measured in the field.

25. PAVEMENT MARKING, EPOXY 12-INCH – This item is for the installation of epoxy pavement markings to delineate cross walks. This item includes all necessary pavement preparation, labor and materials necessary. This work shall be in accordance with manufacturer specifications, Section 02713 of the Waterloo specifications and Section 646 of the State specifications. This

item shall be paid for on a linear foot basis as measured in the field.

26. PAVEMENT MARKING, EPOXY 18-INCH – This item is for the installation of epoxy pavement markings to delineate stop bars at stop signs. This item includes all necessary pavement preparation, labor and materials necessary. This work shall be in accordance with manufacturer specifications, Section 02713 of the Waterloo specifications and Section 646 of the State specifications. This item shall be paid for on a linear foot basis as measured in the field.

27. REMOVE & REPLACE SANITARY MANHOLE – This item is for the supply and installation of a new precast sanitary sewer manhole. The contractor shall salvage the existing casting for use with the new manhole. This item shall include the removal and disposal of the existing manhole, installation and backfilling of the new manhole with adjusting rings, connection to the existing sanitary sewer and granular backfill. This item shall be performed in accordance with Section 02530 of the Waterloo specifications and the SSSWC, Latest Edition. Granular backfill shall be in accordance with Section 206 of the State Specifications. This item shall be paid on a per each basis.

28. ADJUST STORM MANHOLE RIM – This item is for the supply and installation of storm sewer manhole castings and adjustment rings as detailed in the plan in accordance with Section 02520 of the Waterloo specifications. This item shall include the removal and disposal of existing manhole adjusting rings, installation and backfilling of the new manhole adjusting rings (6 inch max.), granular backfill, and a casting. Granular backfill shall be in accordance with Section 206 of the State Specifications. This item shall be paid on a per each basis.

29. ADJUST STREET LIGHT PEDESTALS – This item is for the adjustment of existing light pole bases as detailed in the plan in accordance with Section 02120 of the specifications. The city will remove the existing light poles to be placed by them upon completion of construction. The contractor shall salvage the existing light pole bases to be re-used once the new sidewalk is placed. If the existing light bases are not suitable, the City shall supply a new light base to be installed by the contractor. This item shall include the removal of existing light pole base supports then adjusting the base to conform to the new sidewalk elevations. Granular backfill shall be in accordance with Section 657 of the State Specifications. This item shall be paid on a per each basis.

30. REMOVE & REPLACE STREET SIGNAGE – This item is for the removal and replacement of existing street signs. The contractor shall preserve the existing signs and shall dispose of the existing poles and supports. If the existing signage is to be installed in an area where there shall be new concrete, the contractor shall either place a new support prior to placement of the concrete or shall make provisions for installing the support through the new concrete. The contractor shall provide a new post, support and hardware as detailed in the plan for the existing signs as a part of this item. This item shall be paid on a per each basis.

31. SIGNAGE – “No Parking” W/POST – This item shall include all of the necessary materials and labor for supply and placement of “No Parking” signs as detailed on the plan. This work shall be in accordance with the City Waterloo specifications and Sections 634 and 637 of the State specifications. This item shall be paid on a per each basis.

32. WATER – This item is for the supply and application of water for dust abatement on new base course before asphalt pavement is installed. This work shall be in accordance with Section 624 of the State Specifications and shall be paid for at the contract lump sum price.

33. STONE DITCH CHECKS - This item shall consist of the furnishing, installing, maintaining and removing stone ditch checks as shown on the erosion control plan and or as directed in the field by the Engineer. This work shall be in accordance with Section 605 of the State Specifications and shall be paid for on an each basis of stone ditch checks installed. The plan quantity may be adjusted in the field.

34. SILT FENCE - This item is for the furnishing, erecting, maintaining and removing silt fence as shown on the Contractor's erosion control plan or as directed in the field by the Engineer. This work shall be in accordance with Section 02215 of the Waterloo specifications and Section 628 of the State Specifications and shall be paid for on a per lineal foot basis of silt fence installed.

35. INLET PROTECTION – This item is for the supply, installation and maintenance of storm sewer inlet protection as detailed in the plans and in accordance with Section 02215 of the specifications. This item shall be paid on a per each basis as measured in the field.

36. TOPSOIL IMPORT & PLACE - This item shall consist of furnishing, placing and grading topsoil on disturbed areas requiring restoration. The contractor shall assume that there is little to no topsoil available on site. The depth of topsoil shall be 4 inches. This item shall be in accordance with Section 02920 of the Waterloo specifications and section 625 of the State Specifications. This item shall be paid for on a per square yard basis as measured in the field.

37. EROSION MAT – URBAN CLASS I TYPE A - This item shall consist of the furnishing, installing, and maintaining erosion mat as detailed on the erosion control plan and or as directed in the field by the Engineer. The erosion mat shall be a Class I, Type A matting and shall be installed per the manufacturer's recommendation. This work shall be in accordance with

    Sections 02215 and 02930 of the Waterloo specifications and Section 628 and 630 of the State Specifications and shall be paid for on a square yard basis of erosion mat installed.

38. SOD – This item shall consist of furnishing, installing and maintaining sod on all areas between the sidewalk, street and buildings. This item shall be in accordance with Section 02931 of the Waterloo specifications and Section 631 of the State Specifications. This item shall be paid for on a per square yard basis as measured in the field.

39. SEED - This item shall consist of furnishing, installing and maintaining HWY #20 seed mix on all disturbed, topsoiled areas on the site that are not to be sodded as detailed in the erosion control plan. This item shall be in accordance with Section 02930 of the Waterloo specifications and Section 630 of the State Specifications. This item shall be paid for on a per pound basis as based on the amount of disturbed area to be matted and mulched.

40. FERTILIZER - This item shall consist of furnishing, installing fertilizer on all disturbed, topsoiled

areas on the site as detailed in the erosion control plan. This item shall be in accordance with Section 329300 of the Waterloo specifications and Section 629 of the State Specifications. This item shall be paid for on a per pound basis as based on the amount of disturbed area to be sodded, matted and mulched.

41. EROSION CONTROL MAINTENANCE – This item shall consist of inspecting erosion control measures weekly or after rainfalls of 0.5 inches or greater to ensure they are functioning adequately. Also included is the removal of debris and cleaning of installed erosion control measures. This item shall be in accordance with Section 02215 of the Waterloo specifications and Section 628 of the State Specifications. This item shall be paid for on a lump sum basis.

42. SAW CUT EXISTING PAVEMENT – This item shall consist of saw cutting the existing asphalt pavement and concrete sidewalk to obtain a clean edge to match into. This work shall be in accordance with Section 02575 of the Waterloo Specifications and Section 690 of the State Specifications and shall be paid for on a per lineal foot basis of completed and accepted work.

43. STORM SEWER 18-INCH DIA RCP – This item is for the supply and placement of reinforced concrete pipe. The location for such installation shall be noted on the plan set. This item shall include the pipe, excavation, installation, compacted backfill, and any bedding material needed. All work shall be in accordance with Section 02520 of the Waterloo specifications and Section 608 of the State Specifications and shall be paid for per lineal foot as measured in the field.

44. STORM SEWER 15-INCH DIA RCP – This item is for the supply and placement of reinforced concrete pipe. The location for such installation shall be noted on the plan set. This item shall include the pipe, excavation, installation, compacted backfill, and any bedding material needed. All work shall be in accordance with Section 02520 of the Waterloo specifications and Section 608 of the State Specifications and shall be paid for per lineal foot as measured in the field.

45. STORM SEWER 12-INCH DIA RCP – This item is for the supply and placement of reinforced concrete pipe. The location for such installation shall be noted on the plan set. This item shall include the pipe, excavation, installation, compacted backfill, and any bedding material needed. All work shall be in accordance with Section 02520 of the Waterloo specifications and Section 608 of the State Specifications and shall be paid for per lineal foot as measured in the field.

46. PVC STORM SEWER 6-INCH DIA - This item is for the supply and placement of PVC storm sewer to function as a downspout drain as detailed on the plan. This item shall include the pipe, all bends and fittings, excavation, installation, compacted backfill, and any bedding material needed. Also included in this work is the installation of a stainless steel or cast iron collar around the pipe that is extending from the sidewalk to collect the downspout. All work shall be in accordance with Section 02520 of the Waterloo specifications and Section 612 of the State Specifications and shall be paid for on a per lineal foot basis as measured in the field.

47. DRAIN TILE 4-INCH DIA PLASTIC – This item is for the supply and placement of plastic drain tile. This item shall include the pipe, excavation, installation, compacted backfill, and any bedding material needed. All work shall be in accordance with Section 02520 of the Waterloo

specifications and Section 612 of the State Specifications and shall be paid for on an each basis.

48. APRON END WALL 18-INCH DIA CONCRETE - This item is for the supply and placement of reinforced concrete apron end walls for storm sewer pipe. This item shall include the end wall, pipe grate, excavation, installation, compacted backfill, and any bedding material needed. All work shall be in accordance with Section 02520 of the Waterloo specifications and Section 522 of the State Specifications and shall be paid for on an each basis.

49. APRON END WALL 12-INCH DIA CONCRETE - This item is for the supply and placement of reinforced concrete apron end walls for storm sewer pipe. This item shall include the end wall, pipe grate, excavation, installation, compacted backfill, and any bedding material needed. All work shall be in accordance with Section 02520 of the Waterloo specifications and Section 522 of the State Specifications and shall be paid for on an each basis.

50. STORM MANHOLE 48-INCH DIA PRE-CAST - This item is for the supply and placement of precast storm manholes as detailed in the plan. This item shall include the manhole, casting, excavation, installation, compacted backfill, and any bedding material needed. All work shall be in accordance with Section 02520 of the Waterloo specifications and Section 611 of the State Specifications and shall be paid for on an each basis.

51. STORM INLET PRE-CAST - This item is for the supply and placement of precast storm inlets as detailed in the plan. This item shall include the inlet, casting, excavation, installation, compacted backfill, and any bedding material needed. All work shall be in accordance with Section 02520 of the Waterloo specifications and Section 611 of the State Specifications and shall be paid for on an each basis.

52. RISER PIPE 36-INCH DIA CONCRETE - This item is for the supply and placement of a precast concrete storm sewer riser pipe for the bio-retention area as detailed in the plan. This item shall include the pipe, casting, excavation, installation, compacted backfill, and any bedding material needed. All work shall be in accordance with Section 02520 of the Waterloo specifications and Section 608 and 611 of the State Specifications and shall be paid for on an each basis.

53. CUNETTE 4-FEET WIDE CONCRETE - This item is for the installation of a concrete cunette as detailed in the plan. This item includes necessary subgrade and base preparation, all labor, materials, formwork and finishing. A 6 inch thick base aggregate dense layer shall be placed and compacted under the cunette the cost of which shall be incidental to this bid item. This work shall be in accordance with Section 03310 of the Waterloo specifications and Section 601 of the State Specifications and shall be paid for on a per lineal foot basis of concrete cunette installed.

54. GRANULAR TRENCH BACKFILL – STORM SEWER – This item is for supplying granular trench backfill, as needed, for storm sewer installations. Granular trench backfill shall be in accordance with Section 209 of the State Specifications. This item includes the removal of unsuitable excavated trench material from the site and the supply and installation of new granular trench backfill from 12 inches over the top of the pipe to the roadway subgrade elevation. Excavation of

the native trench material is covered under the appropriate utility pipe bid item. If approved by the ENGINEER, native excavated trench material may be used as trench backfill from 12 inches over the pipe to the subgrade elevation and noted in the inspector's daily reports. This item shall be paid for on a per lineal foot basis of storm sewer installed in the field.

55. CONCRETE STAIRS W/RAILING – This item is for the supply and placement of a concrete staircase as specified in the plan. This item also includes the design, necessary excavation and preparation for the foundation & approaches, backfilling and disposal of surplus material, ADA compliant handrails and restoring the site of the work. The contractor/supplier shall provide shop drawings to the Engineer prior to proceeding with the work. All work shall be in accordance with Section 03310 and 055213 of the Waterloo Specifications and shall be paid for on a lump sum basis.

56. RIP RAP MEDIUM W/GEOTEXTILE FABRIC – This item is for the supply and placement of medium riprap at storm sewer outlets as shown in th plans and as directed by the Engineer. This item also includes the necessary excavation and preparation of the bed, geotextile fabric, Type R underlining, backfilling and disposal of surplus material, and restoring the site. All work shall be in accordance with Section 606 of the State Specifications and shall be paid for on a square foot basis as measured in the field.

57. RETAINING WALL – CONCRETE - This item is for the installation of a concrete retaining wall as detailed on the plan. This item includes necessary design, subgrade and base preparation, all labor, materials, formwork and finishing. The contractor shall provide shop drawings to the Engineer prior to proceeding with the work. This work shall be in accordance with Section 03310 of the Waterloo specifications and Section 504 of the State Specifications and shall be paid for on a square foot basis (face foot) of concrete retaining wall installed.

58. HANDRAIL FOR RETAINING WALLS – This item is for the installation of an ADA compliant handrail along the tops of all installed modular block or concrete retaining walls as detailed in the plan. This item includes supply and installation of all items necessary to construct the hand rail. The contractor shall provide shop drawings to the Engineer prior to proceeding with the work. This work shall be in accordance with manufacturer specifications and with Section 055213 of the Waterloo Specifications. This item shall be paid for on a linear foot basis of hand rail as measured in the field.

59. RETAINING WALL – MODULAR BLOCK – This item is for the installation of a modular block retaining wall as detailed on the plan. This item includes design, necessary subgrade and base preparation, all labor, materials, formwork and finishing. The contractor shall provide shop drawings to the Engineer prior to proceeding with the work. This work shall be in accordance with manufacturer specifications and with Sections 518 & 519 of the State Specifications. This item shall be paid for on a square foot basis (face foot) of modular block retaining wall installed as measured in the field.

60. BIO-RETENTION AREA – This item is for the installation of a bio-retention area as detailed in the plan. This item includes necessary subgrade preparation, engineered fill, plant selection, all

labor, and finishing. This work shall be in accordance with Sections 02950 & 329300 of the Waterloo specifications and Section 632 of the State specifications. This item shall be paid for on a square foot basis as measured in the field.

61. DEMOLISH FORWARD BUILDINGS ON SCHULTZ ST – This item includes the complete demolition and removal of all structures, foundation, pavement and gravel on the Forward parcel as indicated on the plan. All debris and manmade material will be removed from the site and if any trees are damaged in the demolition the contractor shall remove the damaged tree and stump as incidental to this bid item. Also included in this bid item is the excavation and disconnection of the water service per SSSWC, latest edition for this site as it connects to the main in Schultz St. No fill whatsoever shall be brought in to this site other than topsoil that is already accounted for under Topsoil, Import and Place. This item shall be paid for on a lump sum basis.

62. DEMOLISH GAUTHIER BUILDING ON SCHULTZ ST – This item includes the complete demolition and removal of the structure, foundation, pavement and gravel on the Gauthier parcel as indicated on the plan. All debris and manmade material will be removed from the site and if any trees are damaged in the demolition the contractor shall remove the damaged tree and stump as incidental to this bid item. Also included in this bid item is the excavation and disconnection of the water service per SSSWC, latest edition for this site as it connects to the main in Schultz St. No fill whatsoever shall be brought in to this site other than topsoil that is already accounted for under Topsoil, Import and Place. This item shall be paid for on a lump sum basis.

63. DEMOLISH GAUTHIER BUILDINGs ON MONROE ST – This item includes the complete demolition and removal of all structures, foundation, pavement and gravel on the Gauthier parcel as indicated on the plan. All debris and manmade material will be removed from the site and if any trees are damaged in the demolition the contractor shall remove the damaged tree and stump as incidental to this bid item. This item shall be paid for on a lump sum basis.

64. FOUNDATION REPAIR - #122 S. MONROE ST – This item includes the excavation necessary to expose the west basement wall of the building at #122 S. Monroe Street as detailed in the plan. Once excavated, the contractor shall brick and mortar any openings in the foundation wall and waterproof the entire west foundation wall prior to backfilling with granular material. The contractor shall mechanically compact the backfill without damaging the foundation or building. The contractor shall perform the work according to Section 206 of the State Specifications and acceptable standards. Any damage to the foundation caused by the contractor shall be repaired at his expense. This item shall be paid for on a lump sum basis.

65. FOUNDATION REPAIR - #114 S. MONROE ST – This item includes the excavation necessary to expose the west basement wall of the building at #114 S. Monroe Street as detailed in the plan. Once excavated, the contractor shall brick and mortar any openings in the foundation wall and waterproof the entire west foundation wall prior to backfilling with granular material. The contractor shall mechanically compact the backfill without damaging the foundation or building. The contractor shall perform the work according to Section 206 of the State Specifications and acceptable standards. Any damage to the foundation caused by the contractor shall be repaired at his expense. This item shall be paid for on a lump sum basis.

66. WATER MAIN 10 INCH - This item is for the supply and installation of 10-inch diameter water main in accordance with Section 02665 of the specifications and Chapter 4 of the State Sewer and Water Specifications. Pipe material shall be ductile iron. This item includes connections to existing mains, all fittings and connections, pipe bedding and cover to 12 inches over the top of pipe, abandoning existing water main, testing, and all other necessary equipment and materials to complete the work. Pipe bedding shall be as detailed in the plan and in accordance with Section 4.3.3 of the State Sewer and Water Specifications. If approved by the ENGINEER, excavated trench material may be used as trench backfill from 12 inches over the pipe to the subgrade elevation. Excess excavated trench material shall be hauled off site. The cost for hauling excess excavated trench material offsite shall be included in this bid item. If excavated trench material is unsuitable, as determined by the ENGINEER, for trench backfill, Granular Trench Backfill shall be used in accordance with the bid item Granular Trench Backfill described in these Special Provisions. Water main will be measured by the lineal foot from connection point to connection point. Payment for this item shall be per lineal foot as measured in the field.

67. WATER MAIN 6-INCH - This item is for the supply and installation of 6- inch diameter ductile iron water main in accordance with Section 02665 of the specifications and Chapter 4 of the State Sewer and Water Specifications. This item includes all connections, pipe bedding, testing, and all other necessary equipment and materials to complete the work. Pipe bedding shall be in accordance with Section 4.3.3 of the State Sewer and Water Specifications. Shut off valves with valve boxes will be paid for under separate bid items. Payment for this item shall be per lineal foot as measured in the field.

68. WATER SERVICE LATERALS 2-INCH - This item is for the supply and installation of 2-inch diameter ductile iron service laterals in accordance with Section 02665 of the specifications and Chapter 4 of the State Sewer and Water Specifications. This item includes all connections, pipe bedding, testing, and all other necessary equipment and materials to complete the work. Pipe bedding shall be in accordance with Section 4.3.3 of the State Sewer and Water Specifications. Shut off valves with boxes and keys will be paid for as incidental to this bid item. Payment for this item shall be per lineal foot as measured in the field.

69. HYDRANT LEAD AND ASSEMBLY – This item is for the supply and installation of fire hydrants in accordance with Section 02665 of the specifications and Chapter 4 of the State Sewer and Water Specifications. This item includes all connections, valves, valve boxes, pipe bedding, granular trench backfill, testing, and all other necessary equipment and materials to complete the work. Granular backfill shall be in accordance with Section 209 of the State Specifications. Pipe bedding shall be in accordance with Section 4.3.3 of the State Sewer and Water Specifications. Payment for this item shall be on an each basis. Granular trench backfill, if needed, shall be paid for under an alternate bid item.

70. WATER VALVES W/VALVE BOX, 10-INCH – This item is for the supply and installation of 6-inch gate valves for water service laterals in accordance with Section 02665 of the specifications and Chapter 4 of the State Sewer and Water Specifications. This item includes installing the gate valves, valve boxes and all other necessary equipment and materials to complete the work. Valves shall be Mueller A2370-20, Clow Style 2832, epoxy-lined, or equal. Valve boxes to be

Mueller Buffalo type adjustable valve boxes (iron). Payment for this item shall be on a per each basis.

71. WATER VALVES W/VALVE BOX, 6-INCH – This item is for the supply and installation of 6-inch gate valves for water service laterals in accordance with Section 02665 of the specifications and Chapter 4 of the State Sewer and Water Specifications. This item includes all installing the gate valves, valve boxes and all other necessary equipment and materials to complete the work. Valves shall be Mueller A2370-20, Clow Style 2832, epoxy-lined, or equal. Valve boxes to be Mueller Buffalo type adjustable valve boxes (iron). Payment for this item shall be on a per each basis.

72. GRANULAR TRENCH BACKFILL – WATER MAIN – This item is for supplying granular trench backfill, as needed, for water main/service installations. Granular trench backfill shall be in accordance with Section 209 of the State Specifications. This item includes the removal of unsuitable excavated trench material from the site and the supply and installation of new granular trench backfill from 12 inches over the top of the pipe to the roadway subgrade elevation. Excavation of the native trench material is covered under the appropriate utility pipe bid item. If approved by the ENGINEER, native excavated trench material may be used as trench backfill from 12 inches over the pipe to the subgrade elevation and noted in the inspector's daily reports. This item shall be paid for on a per lineal foot basis of water main/service installed in the field.

<u>ADDITIONAL BID ITEMS:</u>

99. GRANULAR TRENCH BACKFILL – This item is for supplying granular trench backfill, as needed, for underground utility installations. Granular trench backfill shall be in accordance with Section 209 of the State Specifications. This item includes the removal of unsuitable excavated trench material from the site and the supply and installation of new granular trench backfill from 12 inches over the top of the pipe to the roadway subgrade elevation. Excavation of the native trench material is covered under the appropriate utility pipe bid item. If approved by the ENGINEER, native excavated trench material may be used as trench backfill from 12 inches over the pipe to the subgrade elevation. This item shall be paid for by the ton (TON)

100. EXCAVATION BELOW SUBGRADE – This item is for the removal of unsuitable sub-base material that is discovered during the proof roll testing of the roadway and approved by the Engineer. This item shall include the excavation, geo-textile fabric and breaker run necessary to construct the road sub-base to pass the proof roll. This item shall be in accordance with acceptable standards and shall be paid for by the square yard as measured in the field.

20A. GRASS PAVE PAVEMENT SYSTEM – This item, if selected, would replace Bid Item #20 and shall include all materials, labor and equipment necessary to install a grass pave pavement system. Also included are any base, sub-base and drainage system necessary for the pavement. Pavement system may consist of concrete pavers, polyethylene grid or other materials approved for use in this type of system. Final approval of system to be installed shall come from the City of Waterloo. System installation shall be considered complete once the grass has been established. System selected shall be in strict accordance with manufacturer's specifications. This item shall be paid for by the

square foot.

20B. PERMEABLE PAVEMENT – This item, if selected, would replace Bid Item #20 and shall include all materials, labor and equipment necessary to install a permeable pavement. Also included are any base, sub-base and drainage system necessary for the pavement. Pavement may consist of either concrete or asphalt and may be cast-in-place or pre-manufactured and installed. Final approval of pavement to be installed shall come from the City of Waterloo. System selected shall be in strict accordance with manufacturer's specifications. Anticipated life of pavement and warranty period shall be included with desired pavement. This item shall be paid for by the square foot.

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