

**PROJECT MANUAL FOR  
VETERANS MEMORIAL PARK RIVERWALK  
VILLAGE OF GRAFTON  
OZAUKEE COUNTY, WI**

**November 2015  
Project #09303002**



**Prepared By:**

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201 Corporate Drive  
Beaver Dam, WI 53916**

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 VETERANS MEMORIAL PARK RIVERWALK  
 VILLAGE OF GRAFTON  
 OZAUKEE COUNTY, WI

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ADVERTISEMENT FOR BIDS  
VETERANS MEMORIAL PARK RIVERWALK  
VILLAGE OF GRAFTON  
OZAUKEE COUNTY, WI

The Village of Grafton will receive sealed bids at the office of the Department of Public Works, Municipal Services Facility, 675 North Green Bay Road, Grafton, WI 53024 for the construction of the Veterans Memorial Park Riverwalk Project until 11:00 AM local time, January 14, 2016. All bids will be publicly opened and read aloud at that time.

The work generally consists of installation of a new concrete walkway thru Veterans Memorial Park and related improvements including shoreline restoration and plantings. The work consists of the following approximate quantities and work:

300 TONS	Riprap or Select Crushed Material
297 SY	Sod Turf Restoration
590 EA	Shrubs & Shoreline Plantings (including a 2-year maintenance plan)
104 LF	Concrete Curb & Gutter Replacement
54 SF	Colored Concrete Crosswalk Replacement 8-Inch
116 SF	Colored & Stamped Concrete Border 4-Inch
25 SY	4" HMA Pavement Type E-1 Remove & Replace
13126 SF	Concrete Riverwalk Trail 4-Inch
768 SF	Paver Riverwalk Trail Inlay (with alternate for colored & stamped concrete)
468 TONS	Base Aggregate Dense ¾-Inch
100 LF	Lannon Stone Wall
1 EA	Concrete Stair Structure with Aluminum Railings
1359 LF	Conduit Rigid Nonmetallic & Electrical Circuit Wiring
11 EA	Concrete Light Base Type 5 Modified
11 EA	Assemble & Install Owner Purchased Decorative Light Assemblies
	Plus erosion control, traffic control, surface restoration, cleanup and related miscellaneous construction.

Copies of the BIDDING DOCUMENTS may be obtained from the Village of Grafton website under Public Works/Engineering - Project Bids. No paper documents will be provided. Bidding documents may be downloaded at no charge and will be available on or after November 16, 2015. After this date, copies of the BIDDING DOCUMENTS will also be available for viewing at the following offices:

1. Village of Grafton Municipal Services Facility, 675 N. Green Bay Road, Grafton, WI 53024
2. MSA Professional Services, Inc., 201 Corporate Drive, Beaver Dam, WI 53916

No proposal will be accepted unless accompanied by a certified check or bid bond equal to at least 5% of the amount bid, payable to the Village of Grafton as a guarantee that, if the bid is accepted, the bidder will execute and file the proper contract and bond within 15 days after the award of the contract. The certified check or bid bond will be returned to the bidder as soon as the contract is signed, and if after 15 days the bidder shall fail to do so, the certified check or bid bond shall be forfeited to the Village of Grafton as liquidated damages.

1  
2 No bidder may withdraw their bid within 60 days after the actual date of the opening thereof.  
3 A Contractor's Qualification Statement for the current year shall be on file with the office of the  
4 Village of Grafton Public Works Department three days prior to the affixed time of the Bid Opening.

5  
6 The Village of Grafton reserves the right to reject any or all bids, waive any informality in bidding,  
7 or accept the bid(s) which serves the best interest of the Village.

8  
9 Published by the authority of the Village of Grafton:  
10 David Murphy, P.E.  
11 Director of Public Works/Village Engineer

12  
13 Questions regarding this project should be directed to the CONSULTING ENGINEER:  
14 MSA Professional Services, Inc.  
15 201 Corporate Drive  
16 Beaver Dam, WI 53916  
17 Michael J. Laue, P.E.  
18 920-392-5140  
19 [mlaue@msa-ps.com](mailto:mlaue@msa-ps.com)

20  
21 Published: \_\_\_\_\_, 2015  
22 \_\_\_\_\_, 2015

**INSTRUCTIONS TO BIDDERS**  
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Article  
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Article

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19 Contract Security and Insurance  
20 Signing of Agreement  
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1  
2  
3 **INSTRUCTIONS TO BIDDERS**

4 **ARTICLE 1 - DEFINED TERMS**

---

5 1.01 Terms used in these Instructions to Bidders will have the meanings indicated in the General  
6 Conditions and Supplementary Conditions. Additional terms used in these Instructions to  
7 Bidders have the meanings indicated below:

- 8 A. *BIDDER* - The individual or entity who submits a Bid directly to OWNER.  
9  
10 B. *Issuing Office* - The office from which the Bidding Documents are to be issued and  
11 where the bidding procedures are to be administered.  
12  
13 C. *Successful BIDDER* - The lowest responsible BIDDER submitting a responsive Bid  
14 to whom OWNER (on the basis of OWNER's evaluation as hereinafter provided)  
15 makes an award.  
16

17 **ARTICLE 2 - COPIES OF BIDDING DOCUMENTS**

---

18 2.01 Complete sets of the Bidding Documents in the number and for the fee, if any, stated in the  
19 Advertisement or Invitation to Bid may be obtained from the Issuing Office.  
20

21 2.02 Complete sets of Bidding Documents must be used in preparing Bids; neither OWNER nor  
22 ENGINEER assume any responsibility for errors or misinterpretations resulting from the use  
23 of incomplete sets of Bidding Documents, or Bidding Documents obtained from sources  
24 other than the Issuing Office.  
25

26 2.03 OWNER and ENGINEER, in making copies of Bidding Documents available on the above  
27 terms, do so only for the purpose of obtaining Bids for the Work and do not confer a license  
28 or grant for any other use.  
29

30 **ARTICLE 3 - QUALIFICATIONS OF BIDDERS**

---

31 3.01 To demonstrate BIDDER's qualifications to perform the Work, within five days of  
32 OWNER's request, BIDDER shall submit written evidence such as financial data, previous  
33 experience, present commitments, and other such data as may be called for below.  
34

- 35 A. Each Bid must contain evidence of Bidder's qualification to do business in the state  
36 where the project is located or covenant to obtain such qualification prior to award of  
37 the contract.  
38

39 3.02 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's  
40 representations and certifications.  
41

1 **ARTICLE 4 - EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA**  
2 **AND SITE**

---

3 4.01 On request, OWNER will provide BIDDER access to the Site to conduct such examinations,  
4 investigations, explorations, tests and studies as BIDDER deems necessary for submission of  
5 a Bid. BIDDER shall fill all holes and clean up and restore the Site to its former condition  
6 upon completion of such explorations, investigations, tests and studies. Bidder shall comply  
7 with all applicable Laws and Regulations relative to excavation and utility locates.  
8

9 4.02 Reference is made to Article 7 of the Supplementary Conditions for the identification of the  
10 general nature of other work that is to be performed at the Site by Owner or others (such as  
11 utilities and other prime contractors) that relates to the Work contemplated by these Bidding  
12 Documents. On request, Owner will provide to each Bidder for examination access to or  
13 copies of contract documents (other than portions thereof related to price) for such other  
14 work.  
15

16 A. Paragraph 6.13.C of the General Conditions indicates that if an Owner safety  
17 program exists, it will be noted in the Supplementary Conditions.  
18

19 4.03 It is the responsibility of each Bidder before submitting a Bid to:  
20

21 A. examine and carefully study the Bidding Documents, and the other related data  
22 identified in the Bidding Documents;  
23

24 B. visit the Site and become familiar with and satisfy Bidder as to the general, local, and  
25 Site conditions that may affect cost, progress, and performance of the Work;  
26

27 C. become familiar with and satisfy Bidder as to all federal, state, and local Laws and  
28 Regulations that may affect cost, progress, and performance of the Work;  
29

30 D. consider the information known to Bidder; information commonly known to  
31 contractors doing business in the locality of the Site; information and observations  
32 obtained from visits to the Site; the Bidding Documents; and the Site-related reports  
33 and drawings identified in the Bidding Documents, with respect to the effect of such  
34 information, observations, and documents on (1) the cost, progress, and performance  
35 of the Work; (2) the means, methods, techniques, sequences, and procedures of  
36 construction to be employed by Bidder, including applying any specific means,  
37 methods, techniques, sequences, and procedures of construction expressly required  
38 by the Bidding Documents; and (3) Bidder's safety precautions and programs;  
39

40 E. agree at the time of submitting its Bid that no further examinations, investigations,  
41 explorations, tests, studies, or data are necessary for the determination of its Bid for  
42 performance of the Work at the price(s) bid and within the times required, and in  
43 accordance with the other terms and conditions of the Bidding Documents;  
44

45 F. become aware of the general nature of the work to be performed by Owner and  
46 others at the Site that relates to the Work as indicated in the Bidding Documents;

1 G. promptly give Engineer written notice of all conflicts, errors, ambiguities, or  
2 discrepancies that Bidder discovers in the Bidding Documents and confirm that the  
3 written resolution thereof by Engineer is acceptable to Bidder; and  
4

5 H. determine that the Bidding Documents are generally sufficient to indicate and convey  
6 understanding of all terms and conditions for the performance of the Work.  
7

8 4.04 The submission of a Bid will constitute an incontrovertible representation by Bidder that  
9 Bidder has complied with every requirement of this Article 4, that without exception the Bid  
10 is premised upon performing and furnishing the Work required by the Bidding Documents  
11 and applying any specific means, methods, techniques, sequences, and procedures of  
12 construction that may be shown or indicated or expressly required by the Bidding  
13 Documents, that Bidder has given Engineer written notice of all conflicts, errors,  
14 ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the  
15 written resolutions thereof by Engineer are acceptable to Bidder, and that the Bidding  
16 Documents are generally sufficient to indicate and convey understanding of all terms and  
17 conditions for performing and furnishing the Work.  
18

## 19 **ARTICLE 5 - SITE AND OTHER AREAS**

---

20 5.01 The Site is identified in the Bidding Documents. Easements for permanent structures or  
21 permanent changes in existing facilities are to be obtained and paid for by OWNER unless  
22 otherwise provided in the Bidding Documents. All additional lands and access thereto  
23 required for temporary construction facilities, construction equipment or storage of materials  
24 and equipment to be incorporated in the Work are to be obtained and paid for by  
25 CONTRACTOR.  
26

## 27 **ARTICLE 6 - INTERPRETATIONS AND ADDENDA**

---

28 6.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to  
29 ENGINEER in writing. Interpretations or clarifications considered necessary by  
30 ENGINEER in response to such questions will be issued by Addenda mailed or delivered to  
31 all parties recorded by ENGINEER as having received the Bidding Documents. Questions  
32 received less than ten days prior to the date for opening of Bids may not be answered. Only  
33 questions answered by Addenda will be binding. Oral and other interpretations or  
34 clarifications will be without legal effect.  
35

36 6.02 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed  
37 advisable by OWNER or ENGINEER.  
38

## 39 **ARTICLE 7 - BID SECURITY**

---

40 7.01 A Bid must be accompanied by Bid security made payable to OWNER in an amount of 5%  
41 of BIDDER's maximum Bid price and in the form of a certified check, bank money order or  
42 a Bid Bond (on the form attached) issued by a surety meeting the requirements of Paragraph  
43 5.01 and 5.02 of the General Conditions.  
44

1  
2 7.02 The Bid security of Successful BIDDER will be retained until such BIDDER has executed  
3 the Contract Documents, furnished the required contract security and met the other  
4 conditions of the Notice of Award, whereupon the Bid security will be returned. If the  
5 Successful BIDDER fails to execute and deliver the Contract Documents and furnish the  
6 required contract security within 15 days after the Notice of Award, OWNER may consider  
7 BIDDER to be in default, annul the Notice of Award, and the Bid security of that BIDDER  
8 will be forfeited. The Bid security of other Bidders whom OWNER believes to have a  
9 reasonable chance of receiving the award may be retained by OWNER until the earlier of  
10 seven days after the Effective Date of the Agreement or 61 days after the Bid opening,  
11 whereupon Bid security furnished by such Bidders will be returned.  
12

13 7.03 Bid security of other Bidders whom OWNER believes do not have a reasonable chance of  
14 receiving the award will be returned within seven days after the Bid opening.  
15

## 16 **ARTICLE 8 - CONTRACT TIMES**

---

17 8.01 The number of days within which, or the dates by which the Work is to be substantially  
18 completed and ready for final payment are set forth in the Agreement.  
19

## 20 **ARTICLE 9 - LIQUIDATED DAMAGES**

---

21 9.01 Provisions for liquidated damages, if any, are set forth in the Agreement.  
22

## 23 **ARTICLE 10 - SUBSTITUTE AND "OR-EQUAL" ITEMS**

---

24 10.01 The Contract, if awarded, will be on the basis of materials and equipment specified or  
25 described in the Bidding Documents without consideration of possible substitute or "or-  
26 equal" items. Whenever it is specified or described in the Bidding Documents that a  
27 substitute or "or-equal" item of material or equipment may be furnished or used by  
28 Contractor if acceptable to Engineer, application for such acceptance will not be considered  
29 by Engineer until after the Effective Date of the Agreement.  
30

## 31 **ARTICLE 11 - SUBCONTRACTORS, SUPPLIERS AND OTHERS**

---

32 11.01 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers,  
33 individuals, or entities to be submitted to OWNER in advance of a specified date prior to the  
34 Effective Date of the Agreement, the apparent Successful BIDDER, and any other Bidder so  
35 requested, shall within five days after Bid opening, submit to OWNER a list of all such  
36 Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work  
37 for which such identification is required. Such list shall be accompanied by an experience  
38 statement with pertinent information regarding similar projects and other evidence of  
39 qualification for each such Subcontractor, Supplier, individual, or entity if requested by  
40 OWNER. If OWNER or ENGINEER, after due investigation, has reasonable objection to  
41 any proposed Subcontractor, Supplier, individual, or entity, OWNER may, before the Notice  
42 of Award is given, request apparent Successful BIDDER to submit a substitute.  
43

1 11.02 If apparent Successful BIDDER declines to make any such substitution, OWNER may award  
2 the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors,  
3 Suppliers, individuals, or entities. Declining to make requested substitutions will not  
4 constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor,  
5 Supplier, individual, or entity so listed and against which OWNER or ENGINEER makes no  
6 written objection prior to the giving of the Notice of Award will be deemed acceptable to  
7 OWNER and ENGINEER subject to revocation of such acceptance after the Effective Date  
8 of the Agreement as provided in Paragraph 6.06 of the General Conditions.  
9

10 11.03 CONTRACTOR shall not be required to employ any Subcontractor, Supplier, individual, or  
11 entity against whom CONTRACTOR has reasonable objection.  
12

13 **ARTICLE 12 - PREPARATION OF FORM**

---

14 12.01 The Bid Form is included with the Bidding Documents. Additional COPIES may be  
15 obtained from ENGINEER or the Issuing Office.  
16

17 12.02 All blanks on the Bid form shall be completed by printing in ink and the Bid signed in ink.  
18 Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid  
19 price shall be indicated for each Bid item listed therein. In the case of optional alternatives  
20 the words "No Bid", "No Change", or "Not applicable" may be entered.  
21

22 12.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-  
23 president or other corporate officer accompanied by evidence of authority to sign. The  
24 corporate seal shall be affixed and attested by the secretary or an assistant secretary. The  
25 corporate address and state of incorporation shall be provided on the Bid Form.  
26

27 12.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner,  
28 (whose title must appear under the signature), accompanied by evidence of authority to sign.  
29 The official address of the partnership shall be shown.  
30

31 12.05 A Bid by a limited liability company shall be executed in the name of the firm by a member  
32 and accompanied by evidence of authority to sign. The state of formation of the firm and the  
33 official address of the firm shall be shown.  
34

35 12.06 A Bid by an individual shall show the BIDDER's name and official address.  
36

37 12.07 A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on  
38 the Bid form. The official address of the joint venture must be provided on the Bid Form.  
39

40 12.08 All names shall be printed in ink below the signatures.  
41

42 12.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which  
43 shall be filled in on the Bid Form.  
44

45 12.10 Postal and e-mail address and telephone number for communications regarding the Bid shall  
46 be shown.

1  
2 12.11 The Bid shall contain evidence of Bidder’s authority and qualification to do business in the  
3 state or locality where the Project is located, or Bidder shall covenant in writing to obtain  
4 such qualification prior to award of the Contract and attach such covenant to the Bid.  
5 Bidder’s state contractor license number, if any, shall also be shown on the Bid Form.  
6

7 **ARTICLE 13 - BASIS OF BID; COMPARISON OF BIDS**

---

8 13.01 *Unit Price*

- 9  
10 A. BIDDERS shall submit a Bid on a unit price basis for each item of Work listed in the  
11 Bid schedule.  
12  
13 B. The total of all estimated prices will be the sum of the products of the estimated  
14 quantity of each item and the corresponding unit price. The final quantities and  
15 Contract Price will be determined in accordance with Paragraph 11.03 of the General  
16 Conditions.  
17  
18 C. Discrepancies between the multiplication of units of Work and unit prices will be  
19 resolved in favor of the unit prices. Discrepancies between the indicated sum of any  
20 column of figures and the correct sum thereof will be resolved in favor of the correct  
21 sum. Discrepancies between word and figures will be resolved in favor of the words.  
22

23 13.02 *Allowances*

- 24  
25 A. For cash allowances the Bid price shall include such amounts as the Bidder deems  
26 proper for Contractor's overhead, costs, profit, and other expenses on account of cash  
27 allowances, if any, named in the Contract Documents, in accordance with Paragraph  
28 11.02.B of the General Conditions.  
29

30 **ARTICLE 14 - SUBMITTAL OF BID**

---

31 14.01 A Bid shall be submitted no later than the date and time prescribed and at the place indicated  
32 in the Advertisement for Bid or Invitation to Bid and shall be enclosed in a plainly marked  
33 package with the Project title (and, if applicable, the designated portion of the Project for  
34 which the Bid is submitted), the name and address of BIDDER, and shall be accompanied by  
35 the Bid security and other required documents. If a Bid is sent by mail or other delivery  
36 system, the sealed envelope containing the Bid shall be enclosed in a separate package  
37 plainly marked on the outside with the notation “BID ENCLOSED”. A mailed Bid shall be  
38 addressed to Department of Public Works, Municipal Services Facility, 675 North Green  
39 Bay Road, Grafton, WI 53024.  
40

41 **ARTICLE 15 - MODIFICATION AND WITHDRAWAL OF BID**

---

42 15.01 A Bid may be modified or withdrawn by an appropriate document duly executed in the same  
43 manner that a Bid must be executed and delivered to the place where Bids are to be  
44 submitted prior to the date and time for the opening of Bids.

1  
2 15.02 If within 24 hours after Bids are opened, any BIDDER files a duly signed written notice with  
3 OWNER and promptly thereafter demonstrates to the reasonable satisfaction of OWNER  
4 that there was a material and substantial mistake in the preparation of its Bid, that BIDDER  
5 may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid,  
6 that BIDDER will be disqualified from further bidding on the Work.  
7

## 8 **ARTICLE 16 - OPENING OF BIDS**

---

9 16.01 Bids will be opened at the time and place indicated in the Advertisement for Bid or Invitation  
10 to Bid and, unless obviously nonresponsive, read aloud publicly. An abstract of the amounts  
11 of the base Bids and major alternates, if any, will be made available to Bidders after the  
12 opening of Bids.  
13

## 14 **ARTICLE 17 - BIDS TO REMAIN SUBJECT TO ACCEPTANCE**

---

15 17.01 All Bids will remain subject to acceptance for the period of time stated in the Bid form, but  
16 OWNER may, in its sole discretion, release any Bid and return the Bid security prior to the  
17 end of this period.  
18

## 19 **ARTICLE 18 - EVALUATION OF BIDS AND AWARD OF CONTRACT**

---

20 18.01 OWNER reserves the right to reject any or all Bids, including without limitation,  
21 nonconforming, nonresponsive, unbalanced, or conditional Bids. OWNER further reserves  
22 the right to reject the Bid of any BIDDER whom it finds, after reasonable inquiry and  
23 evaluation, to not be responsible. OWNER may also reject the Bid of any BIDDER if  
24 OWNER believes that it would not be in the best interest of the Project to make an award to  
25 that BIDDER. OWNER also reserves the right to waive all informalities not involving price,  
26 time, or changes in the Work and to negotiate contract terms with the Successful BIDDER.  
27

28 18.02 More than one Bid for the same Work from an individual or entity under the same or  
29 different names will not be considered. Reasonable grounds for believing that any BIDDER  
30 has an interest in more than one Bid for the Work may be cause for disqualification of that  
31 BIDDER and the rejection of all Bids in which that BIDDER has an interest.  
32

33 18.03 In evaluating Bids, OWNER will consider whether or not the Bids comply with the  
34 prescribed requirements, and such alternates, unit prices and other data, as may be requested  
35 in the Bid form or prior to the Notice of Award.  
36

37 18.04 In evaluating Bidders, OWNER will consider the qualifications of Bidders and may consider  
38 the qualifications and experience of Subcontractors, Suppliers, and other individuals or  
39 entities proposed for those portions of the Work for which the identity of Subcontractors,  
40 Suppliers, and other individuals or entities must be submitted as provided in the  
41 Supplementary Conditions.  
42

43 18.05 OWNER may conduct such investigations as OWNER deems necessary to establish the  
44 responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors,

1 Suppliers, individuals, or entities to proposed for those portions of the Work in accordance  
2 with the Contract Documents.  
3

4 18.06 If the Contract is to be awarded, OWNER will award the Contract to the BIDDER whose  
5 Bid is in the best interests of the project and determined to be the lowest responsive,  
6 responsible bidder.  
7

#### 8 **ARTICLE 19 - CONTRACT SECURITY AND INSURANCE**

---

9 19.01 Article 5 of the General Conditions, as may be modified by the Supplementary Conditions,  
10 sets forth OWNER's requirements as to performance and payment Bonds and insurance.  
11 When the Successful BIDDER delivers the executed Agreement to OWNER, it shall be  
12 accompanied by such bonds.  
13

#### 14 **ARTICLE 20 - SIGNING OF AGREEMENT**

---

15 20.01 When OWNER issues a Notice of Award to the Successful BIDDER, it shall be  
16 accompanied by the required number of unsigned counterparts of the Agreement along with  
17 all the other Contract Documents which are identified in the Agreement as attached thereto.  
18 Within 15 days thereafter, Successful BIDDER shall sign and deliver the required number of  
19 counterparts of the Agreement and attached documents to OWNER. Within 10 days  
20 thereafter, OWNER shall deliver one fully signed counterpart to Successful BIDDER with a  
21 complete set of the Drawings with appropriate identification.  
22

#### 23 **ARTICLE 21 - RETAINAGE**

---

24 21.01 Provisions concerning CONTRACTORS' rights to deposit securities in lieu of retainage are  
25 set forth in the Agreement.

**BID**

VETERANS MEMORIAL PARK RIVERWALK  
VILLAGE OF GRAFTON  
OZAUKEE COUNTY, WI

PROJECT #09303002

**TABLE OF ARTICLES**

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<u>Article</u>	<u>Article</u>
<u>Number</u>	
1	Bid Recipient
2	Bidder's Acknowledgements
3	Bidder's Representations
4	Bidder's Certification
5	Basis of Bid
6	Time of Completion
7	Attachments to this Bid
8	Defined Terms
9	Bid Submittal

1 **ARTICLE 1 - BID RECIPIENT**

---

2 1.01 This Bid is submitted to:

3  
4 Village of Grafton - Department of Public Works  
5 Municipal Services Facility  
6 675 North Green Bay Road  
7 Grafton, WI 53024  
8

9 1.02 The undersigned BIDDER proposes and agrees, if this Bid is accepted, to enter into an  
10 Agreement with OWNER in the form included in the Bidding Documents to perform all  
11 Work as specified or indicated in the Bidding Documents for the prices and within the times  
12 indicated in this Bid and in accordance with the other terms and conditions of the Bidding  
13 Documents.  
14

15 **ARTICLE 2 - BIDDERS ACKNOWLEDGEMENTS**

---

16 2.01 BIDDER accepts all of the terms and conditions of the Instructions to Bidders, including  
17 without limitation those dealing with the disposition of Bid security. This Bid will remain  
18 subject to acceptance for 60 days after the Bid opening, or for such longer period of time that  
19 BIDDER may agree to in writing upon request of OWNER.  
20

21 **ARTICLE 3 - BIDDER'S REPRESENTATIONS**

---

22 3.01 In submitting this Bid, BIDDER represents that:

23  
24 A. BIDDER has examined and carefully studied the Bidding Documents, other related  
25 data identified in the Bidding Documents, and the following Addenda, receipt of all  
26 which is hereby acknowledged.  
27

<u>Addendum No.</u>	<u>Addendum Date</u>
_____	_____
_____	_____
_____	_____

28  
29 B. BIDDER has visited the Site and become familiar with and is satisfied as to the  
30 general, local and Site conditions that may affect cost, progress, and performance of  
31 the Work.  
32

33 C. BIDDER is familiar with and is satisfied as to all Laws and Regulations that may  
34 affect cost, progress and performance of the Work.  
35

36  
37 D. Bidder has considered the information known to Bidder; information commonly  
38 known to contractors doing business in the locality of the Site; information and  
39 observations obtained from visits to the Site; the Bidding Documents, with respect to

1 the effect of such information, observations, and documents on (1) the cost, progress,  
2 and performance of the Work; (2) the means, methods, techniques, sequences, and  
3 procedures of construction to be employed by Bidder, including applying the specific  
4 means, methods, techniques, sequences, and procedures of construction expressly  
5 required by the Bidding Documents; and (3) Bidder's safety precautions and  
6 programs.

- 7
- 8 E. Based on the information and observations referred to in Paragraph 3.01.E above,  
9 Bidder does not consider that further examinations, investigations, explorations,  
10 tests, studies, or data are necessary for the determination of this Bid for performance  
11 of the Work at the price(s) bid and within the times required, and in accordance with  
12 the other terms and conditions of the Bidding Documents.
- 13
- 14 F. BIDDER is aware of the general nature of work to be performed by OWNER and  
15 others at the Site that relates to the Work as indicated in the Bidding Documents.
- 16
- 17 G. BIDDER has given ENGINEER written notice of all conflicts, errors, ambiguities, or  
18 discrepancies that BIDDER has discovered in the Bidding Documents, and the  
19 written resolution thereof by ENGINEER is acceptable to BIDDER.
- 20
- 21 H. The Bidding Documents are generally sufficient to indicate and convey  
22 understanding of all terms and conditions for the performance of the Work for which  
23 this Bid is submitted.
- 24

25 **ARTICLE 4 - BIDDER'S CERTIFICATION**

---

26 4.01 BIDDER certifies that:

- 27
- 28 A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed  
29 individual or entity and is not submitted in conformity with any collusive agreement  
30 or rules of any group, association, organization or corporation;
- 31
- 32 B. BIDDER has not directly or indirectly induced or solicited any other BIDDER to  
33 submit a false or sham Bid;
- 34
- 35 C. BIDDER has not solicited or induced any individual or entity to refrain from  
36 bidding; and
- 37
- 38 D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in  
39 competing for the Contract. For the purposes of this Paragraph 4.01.D:
- 40 1. "corrupt practice" means the offering, giving, receiving, or soliciting of any  
41 thing of value likely to influence the action of a public official in the bidding  
42 process;
- 43 2. "fraudulent practice" means an intentional misrepresentation of facts made  
44 (a) to influence the bidding process to the detriment of Owner, (b) to  
45 establish bid prices at artificial non-competitive levels, or (c) to deprive  
46 Owner of the benefits of free and open competition;

- 1           3.     “collusive practice” means a scheme or arrangement between two or more  
 2           Bidders, with or without the knowledge of Owner, a purpose of which is to  
 3           establish bid prices at artificial, non-competitive levels; and  
 4           4.     “coercive practice” means harming or threatening to harm, directly or  
 5           indirectly, persons or their property to influence their participation in the  
 6           bidding process or affect the execution of the Contract.  
 7

8 **ARTICLE 5 - BASIS OF BID**

---

9 5.01 BIDDER will complete the Work in accordance with the Contract Documents for the  
 10 following price(s):  
 11

**Veterans Memorial Park Riverwalk**

ITEM NO.	ITEM DESCRIPTION	EST. QTY	UNITS	UNIT PRICE	TOTAL PRICE
1.	Mobilization, Bonds, & Insurance	1	LS	\$ _____	\$ _____
2.	Erosion Control-General	1	LS	\$ _____	\$ _____
3.	Inlet Protection Type C	2	EA.	\$ _____	\$ _____
4.	Silt Fence	100	L.F.	\$ _____	\$ _____
5.	Erosion Mat Urban Class 1 Type A	778	S.Y.	\$ _____	\$ _____
6.	Bioroll Blanket System	817	L.F.	\$ _____	\$ _____
7.	Tracking Pad	70	S.Y.	\$ _____	\$ _____
8.	Traffic Control	1	LS	\$ _____	\$ _____
9.	Rock/Debris Removals Along Shoreline	1	LS	\$ _____	\$ _____
10.	Bevel Cut End of Concrete Storm Outfall	1	LS	\$ _____	\$ _____
11.	Bevel Cut End of CMP Storm Outfall	1	LS	\$ _____	\$ _____
12.	Removals, Unc. Excavation & Grading	1	LS	\$ _____	\$ _____
13.	Geotextile Fabric (Type R)	389	S.Y.	\$ _____	\$ _____
14.	Riprap (6" Minus Ave. Diameter - 12" Thick)	300	TON	\$ _____	\$ _____
15.	Topsoiling-Planting Area (4" Thick)	515	S.Y.	\$ _____	\$ _____
16.	Topsoiling-Sod Area (4" Thick)	297	S.Y.	\$ _____	\$ _____
17.	Sodding	297	S.Y.	\$ _____	\$ _____
18.	Topsoiling & Grass Turf Restoration	1	LS	\$ _____	\$ _____
19.	Decorative Landscape Stone	27	C.F.	\$ _____	\$ _____
20.	Decorative Hardwood Mulch	45	C.F.	\$ _____	\$ _____
21.	Planting-Wisconsin Juniper	7	EA.	\$ _____	\$ _____
22.	Planting-Goldmound Spirea	8	EA.	\$ _____	\$ _____
23.	Planting-Fox Sedge	160	EA.	\$ _____	\$ _____
24.	Planting-Monkeyflower	40	EA.	\$ _____	\$ _____
25.	Planting-Great Blue Lobelia	40	EA.	\$ _____	\$ _____
26.	Planting-Prairie Dropseed	335	EA.	\$ _____	\$ _____
27.	Shoreland Planting Management Plan (2 yr.)	1	LS	\$ _____	\$ _____
28.	30" Curb/Gutter Type D (Remove/Replace)	79	L.F.	\$ _____	\$ _____
29.	30" Curb/Gutter Type A (Remove/Replace)	25	L.F.	\$ _____	\$ _____
30.	Colored Concrete Crosswalk 8-Inch	54	S.F.	\$ _____	\$ _____
31.	Colored & Stamped Concrete Border 4-Inch	116	S.F.	\$ _____	\$ _____
32.	Curb Ramp Detectable Warning Field	24	S.F.	\$ _____	\$ _____
33.	4" HMA Pvmnt. Type E-1 (Remove/Replace)	25	S.Y.	\$ _____	\$ _____



1 BIDDER acknowledges that estimated quantities are not guaranteed, and are solely for the  
2 purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based  
3 on actual quantities determined as provided in the Contract Documents.  
4

5  
6 **ARTICLE 6 - TIME OF COMPLETION**

---

7 6.01 BIDDER accepts the provisions of the Agreement as contract times.  
8

9 6.02 BIDDER accepts the provisions of the Agreement as to liquidated damages.  
10

11 **ARTICLE 7 - ATTACHMENTS TO THE BID**

---

12 7.01 The following documents are submitted with and made a condition of this Bid:  
13

14 A. Required Bid security in the form of \_\_\_\_\_  
15

16 B. List of Proposed Subcontractors  
17  
18 \_\_\_\_\_  
19  
20 \_\_\_\_\_  
21  
22 \_\_\_\_\_

23 C. List of Proposed Suppliers  
24  
25 \_\_\_\_\_  
26  
27 \_\_\_\_\_  
28  
29 \_\_\_\_\_  
30  
31 \_\_\_\_\_

32 **ARTICLE 8 - DEFINED TERMS**

---

33 8.01 The terms used in this Bid with initial capital letters have the meanings stated in the  
34 Instructions to Bidders, the General Conditions, and the Supplementary Conditions.  
35

1 **ARTICLE 9 - BID SUBMITTAL**

2 If BID is submitted by:

3 An Individual

4 Name (typed or printed): \_\_\_\_\_

6 By: \_\_\_\_\_ (SEAL)

7 *(Individual's signature)*

8 Doing business as: \_\_\_\_\_

9 Business address: \_\_\_\_\_

11 Phone No.: \_\_\_\_\_ FAX No.: \_\_\_\_\_ E-MAIL: \_\_\_\_\_

13 A Partnership

14 Partnership Name: \_\_\_\_\_ (SEAL)

16 By: \_\_\_\_\_ (SEAL)

17 *(Signature of general partner -- attach evidence of authority to sign)*

19 Name (typed or printed): \_\_\_\_\_

20 Business address: \_\_\_\_\_

22 Phone No.: \_\_\_\_\_ FAX No.: \_\_\_\_\_ E-MAIL: \_\_\_\_\_

24 A Corporation

25 Corporation Name: \_\_\_\_\_ (SEAL)

26 State of Incorporation: \_\_\_\_\_

27 Type (General Business, Professional, Service, Limited Liability): \_\_\_\_\_

29 By: \_\_\_\_\_ (SEAL)

30 *(Signature -- attach evidence of authority to sign)*

32 Name (typed or printed): \_\_\_\_\_

34 Title: \_\_\_\_\_

35 (CORPORATE SEAL)

36 Attest: \_\_\_\_\_

37 *(Signature -- Indicate Title of Attesting Signature)*

39 Business address: \_\_\_\_\_

41 Phone No.: \_\_\_\_\_ FAX No.: \_\_\_\_\_ E-MAIL: \_\_\_\_\_

43 Date of Qualification to do business in Wisconsin is \_\_\_\_/\_\_\_\_/\_\_\_\_.

1 A Joint Venture

2 Name of Joint Venturer: \_\_\_\_\_

3  
4 First Joint Venturer Name: \_\_\_\_\_ (SEAL)

5  
6 By: \_\_\_\_\_  
7 *(Signature of joint venture partner -- attach evidence of authority to sign)*

8  
9 Name (typed or printed): \_\_\_\_\_

10  
11 Title: \_\_\_\_\_

12  
13 Business address: \_\_\_\_\_

14  
15 Phone No.: \_\_\_\_\_ FAX No.: \_\_\_\_\_ E-MAIL: \_\_\_\_\_

16  
17  
18  
19 Second Joint Venturer Name: \_\_\_\_\_ (SEAL)

20  
21  
22 By: \_\_\_\_\_  
23 *(Signature of joint venture partner -- attach evidence of authority to sign)*

24  
25 Name (typed or printed): \_\_\_\_\_

26  
27 Title: \_\_\_\_\_

28  
29 (Each joint venturer must sign. The manner of signing for each individual, partnership, and  
30 corporation that is a party to the joint venture should be in the manner indicated above.)

31  
32 Business address: \_\_\_\_\_

33  
34 Phone No.: \_\_\_\_\_ FAX No.: \_\_\_\_\_ E-MAIL: \_\_\_\_\_

35  
36 SUBMITTED on \_\_\_\_\_, \_\_\_\_\_.

37  
38 State Contractor License No. \_\_\_\_\_ (if applicable)

**BID BOND**

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

BIDDER *(Name and Address)*:

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

OWNER *(Name and Address)*:

**BID**

Bid Due Date:  
Description *(Project Name and Include Location)*:

**BOND**

Bond Number:  
Date *(Not earlier than Bid due date)*:  
Penal sum \_\_\_\_\_

(Words)

\$

\_\_\_\_\_ (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

**BIDDER**

**SURETY**

\_\_\_\_\_  
Bidder's Name and Corporate Seal (Seal)

\_\_\_\_\_  
Surety's Name and Corporate Seal (Seal)

By: \_\_\_\_\_  
Signature

By: \_\_\_\_\_  
Signature (Attach Power of Attorney)

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

Attest: \_\_\_\_\_  
Signature

Attest: \_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

*Note: Above addresses are to be used for giving any required notice. Provide execution by any additional parties, such as joint venturers, if necessary.*

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder shall occur upon the failure of Bidder to deliver 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.
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, 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 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 total 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. Notices 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 pre-paid, 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 the 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 this Bond conflicts with 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.

# NOTICE OF AWARD

Date: \_\_\_\_\_

Project: \_\_\_\_\_

Owner: \_\_\_\_\_

Owner's Contract No.: \_\_\_\_\_

Contract: \_\_\_\_\_

Engineer's Project No.: \_\_\_\_\_

Bidder: \_\_\_\_\_

Bidder's Address: *[send Notice of Award Certified Mail, Return Receipt Requested]*

You are notified that your Bid dated \_\_\_\_\_ for the above Contract has been considered. You are the Successful Bidder and are awarded a Contract for \_\_\_\_\_

*[Indicate total Work, alternates, or sections of Work awarded.]*

The Contract Price of your Contract is \_\_\_\_\_ Dollars (\$ \_\_\_\_\_).

*[Insert appropriate data if unit prices are used. Change language for cost-plus contracts.]*

\_\_\_\_ copies of the proposed Contract Documents (except Drawings) accompany this Notice of Award.

\_\_\_\_ sets of the Drawings will be delivered separately or otherwise made available to you immediately.

You must comply with the following conditions precedent within [15] days of the date you receive this Notice of Award.

1. Deliver to the Owner [\_\_\_\_] fully executed counterparts of the Contract Documents.
2. Deliver with the executed Contract Documents the Contract security [Bonds] as specified in the Instructions to Bidders (Article 20), General Conditions (Paragraph 5.01), and Supplementary Conditions (Paragraph SC-5.01).
3. Other conditions precedent:

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award, and declare your Bid security forfeited.

Within ten days after you comply with the above conditions, Owner will return to you one fully executed counterpart of the Contract Documents.

\_\_\_\_\_  
Owner  
By: \_\_\_\_\_  
Authorized Signature  
\_\_\_\_\_  
Title

Copy to Engineer

1 **AGREEMENT**

2  
3 THIS AGREEMENT is by and between VILLAGE OF GRAFTON, WI (hereinafter called  
4 OWNER) and \_\_\_\_\_ (hereinafter called CONTRACTOR).

5  
6 OWNER and CONTRACTOR, hereby agree as follows:  
7

8 **ARTICLE 1 - WORK**

---

9 1.01 CONTRACTOR shall complete all Work as specified or indicated in the Contract  
10 Documents. The Work is generally described as follows: **Veterans Memorial Park**  
11 **Riverwalk, Village of Grafton, Ozaukee County, WI.**  
12

13 **ARTICLE 2 - THE PROJECT**

---

14 2.01 The Project for which the Work under the Contract Documents may be the whole or only a  
15 part is generally described as follows: **Veterans Memorial Park Riverwalk, Village of**  
16 **Grafton, Ozaukee County, WI.**  
17

18 **ARTICLE 3 - ENGINEER**

---

19 3.01 The Project has been designed by MSA Professional Services, Inc., 201 Corporate Drive,  
20 Beaver Dam, WI 53916 which is to act as Owner’s representative, assume all duties and  
21 responsibilities, and have the rights and authority assigned to Engineer in the Contract  
22 Documents in connection with the completion of the Work in accordance with the Contract  
23 Documents.  
24

25 **ARTICLE 4 - CONTRACT TIMES**

---

26 4.01 *Time of the Essence*

27  
28 A. All time limits for Milestones, if any, Substantial Completion, and completion and  
29 readiness for final payment as stated in the Contract Documents are of the essence of  
30 the Contract.  
31

32 4.02 *Days to Achieve Substantial Completion and Final Payment*

33  
34 A. The Work shall be completed according to the following schedule.

35  
36

Notice of Award	Anticipated March 3, 2016
Substantial Completion	September 1, 2016
Final Completion	September 1, 2018

37  
38  
39

40 B. The definitions for completion milestones shall be as follows.  
41

1           **Substantial Completion.** Substantial Completion shall include all work EXCEPT  
2 the following:

- 3           • Completion of the 2-year shoreline plantings maintenance and management  
4 plan.

5  
6           The Contractor shall submit all start-up reports for the lighting and electrical system  
7 and notify Engineer and Owner that the project is substantially complete and work is  
8 ready for final field inspection and measurement. The Contractor shall also submit  
9 such written guarantees to the Engineer for presentation to the Owner for all  
10 applicable equipment and items. Furnish guarantees in triplicate unless otherwise  
11 indicated.

12  
13           **Final Completion.** Final completion shall include all remaining items.

- 14           • Successful completion of the 2-year shoreline plantings maintenance and  
15 management plan.
- 16           • Completing all items addressed in final project closeout and warranty punch  
17 list.
- 18           • Submitting final project closeout documentation inclusive of closeout  
19 letter and final pay request.

20  
21   4.03   *Liquidated Damages*

22  
23           A.   CONTRACTOR and OWNER recognize that time is of the essence as stated in  
24 Paragraph 4.01 above and that OWNER will suffer financial loss if the Work is not  
25 completed within the times specified in Paragraph 4.02 above, plus any extensions  
26 thereof allowed in accordance with Article 12 of the General Conditions. The parties  
27 also recognize the delays, expense and difficulties involved in proving in a legal or  
28 arbitration proceeding the actual loss suffered by OWNER if the Work is not  
29 completed on time. Accordingly, instead of requiring any such proof, OWNER and  
30 CONTRACTOR agree that as liquidated damages for delay (but not as a penalty)  
31 CONTRACTOR shall pay OWNER \$500.00 for each day that expires after the time  
32 specified in Paragraph 4.02 above for Substantial Completion(s) until the Work is  
33 substantially complete. After Substantial Completion, if CONTRACTOR shall  
34 neglect, refuse or fail to complete the remaining Work within the Contract Time or  
35 any proper extension thereof granted by OWNER, CONTRACTOR shall pay  
36 OWNER \$500.00 for each day that expires after the time specified in Paragraph 4.02  
37 above for completion and readiness for final payment until the Work is completed  
38 and ready for final payment.

39  
40   **ARTICLE 5 - CONTRACT PRICE**

---

41   5.01   OWNER shall pay CONTRACTOR for completion of the Work in accordance with the  
42 Contract Documents an amount in current funds equal to the sum of the amounts determined  
43 pursuant to Paragraph 5.01.A. and 5.01.B below:  
44

1 A. For all Unit Price Work, an amount equal to the sum of the established unit price for  
2 each separately identified item of Unit Price Work times the actual quantity of that  
3 item. The Bid prices for Unit Price Work set forth as of the Effective Date of the  
4 Agreement are based on estimated quantities. As provided in Paragraph 11.03 of the  
5 General Conditions, estimated quantities are not guaranteed, and determinations of  
6 actual quantities and classifications are to be made by Engineer as provided in  
7 Paragraph 9.07 of the General Conditions.  
8

9 B. For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit in  
10 the amount of \_\_\_\_\_.  
11

## 12 **ARTICLE 6 - PAYMENT PROCEDURES**

---

### 13 6.01 *Submittal and Processing of Payments*

14  
15 A. CONTRACTOR shall submit Applications for Payment in accordance with  
16 Article 14 of the General Conditions. Applications for Payment will be processed by  
17 ENGINEER as provided in the General Conditions.  
18

### 19 6.02 *Progress Payments; Retainage*

20  
21 A. OWNER shall make progress payments on account of the Contract Price on the basis  
22 of CONTRACTOR's Applications for Payment on or about the 1st day of each  
23 month during performance of the Work as provided in Paragraphs 6.02.A.1 below.  
24 All such payments will be measured by the schedule of values established as  
25 provided in Paragraph 2.07.A of the General Conditions (and in the case of Unit  
26 Price Work based on the number of units completed) or, in the event there is no  
27 schedule of values, as provided in Division 01-General Requirements.  
28

29 1. Prior to Substantial Completion, progress payments will be made in an  
30 amount equal to the percentage indicated below but, in each case, less the  
31 aggregate of payments previously made and less such amounts as  
32 ENGINEER may determine or OWNER may withhold, including but not  
33 limited to liquidated damages, in accordance with Paragraph 14.02 of the  
34 General Conditions.  
35

36 a. 95% of Work completed (with the balance being retainage). If the  
37 Work has been 50% completed as determined by ENGINEER, and if  
38 the character and progress of the Work have been satisfactory to  
39 OWNER and ENGINEER, then as long as the character and progress  
40 of the Work remain satisfactory to OWNER and ENGINEER, there  
41 will be no additional retainage; and  
42

43 b. Estimates may include any fabricated or manufactured materials and  
44 components specified, previously paid for by the CONTRACTOR  
45 and delivered to the work or properly stored and suitable for

1 incorporation in the work embraced in the contract. Invoices  
2 showing the amount of the fabricated or manufactured materials and  
3 components specified must be submitted with proof of payment by  
4 the CONTRACTOR prior to being considered for payment.  
5 Retainage shall be as outlined in paragraph 6.02.A.1.a. above.  
6

- 7 B. Upon Substantial Completion, OWNER shall pay an amount sufficient to increase  
8 total payments to CONTRACTOR to 97.5% of the Work completed, less such  
9 amounts as ENGINEER shall determine in accordance with Paragraph 14.02.B.5 of  
10 the General Conditions and less 100% of ENGINEER's estimate of the value of  
11 Work to be completed or corrected as shown on the tentative list of items to be  
12 completed or corrected attached to the certificate of Substantial Completion.  
13

14 **6.03 Final Payment**

- 15  
16 A. Upon final completion and acceptance of the Work in accordance with Paragraph  
17 14.07 of the General Conditions, OWNER shall pay the remainder of the Contract  
18 Price as recommended by ENGINEER as provided in said Paragraph 14.07.  
19

20 **ARTICLE 7 - INTEREST**

---

- 21 7.01 All moneys not paid when due as provided in Article 14 of the General Conditions shall bear  
22 interest at the rate of 5.0% per annum.  
23

24 **ARTICLE 8 - CONTRACTOR'S REPRESENTATIONS**

---

- 25 8.01 In order to induce OWNER to enter into this Agreement, CONTRACTOR makes the  
26 following representations:  
27

- 28 A. CONTRACTOR has examined and carefully studied the Contract Documents and the  
29 other related data identified in the Bidding Documents.  
30  
31 B. CONTRACTOR has visited the Site and become familiar with and is satisfied as to  
32 the general, local, and Site conditions that may affect cost, progress, and performance  
33 of the Work.  
34  
35 C. CONTRACTOR is familiar with and is satisfied as to all federal, state, and local  
36 Laws and Regulations that may affect cost, progress, and performance of the work.  
37  
38 D. Contractor has considered the information known to Contractor; information  
39 commonly known to contractors doing business in the locality of the Site;  
40 information and observations obtained from visits to the Site; the Contract  
41 Documents; with respect to the effect of such information, observations, and  
42 documents on (1) the cost, progress, and performance of the Work; (2) the means,  
43 methods, techniques, sequences, and procedures of construction to be employed by  
44 Contractor, including any specific means, methods, techniques, sequences, and

1 procedures of construction expressly required by the Contract Documents; and (3)  
2 Contractor's safety precautions and programs.

3  
4 E. Based on the information and observations referred to in Paragraph 8.01.E above,  
5 Contractor does not consider that further examinations, investigations, explorations,  
6 tests, studies, or data are necessary for the performance of the Work at the Contract  
7 Price, within the Contract Times, and in accordance with the other terms and  
8 conditions of the Contract Documents.

9  
10 F. CONTRACTOR is aware of the general nature of work to be performed by OWNER  
11 and others at the Site that relates to the Work as indicated in the Contract Documents.

12  
13 G. CONTRACTOR has given ENGINEER written notice of all conflicts, errors,  
14 ambiguities, or discrepancies that CONTRACTOR has discovered in the Contract  
15 Documents, and the written resolution thereof by ENGINEER is acceptable to  
16 CONTRACTOR.

17  
18 H. The Contract Documents are generally sufficient to indicate and convey  
19 understanding of all terms and conditions for performance and furnishing of the  
20 Work.

21  
22 **ARTICLE 9 - CONTRACT DOCUMENTS**

---

23 9.01 *Contents*

24  
25 A. The Contract Documents consist of the following:

- 26  
27 1. This Agreement (pages 00 52 00-1 to 00 52 00-8, inclusive).  
28  
29 2. Performance Bond (pages 00 61 13.13-1 to 00 61 13.13-3, inclusive).  
30  
31 3. Payment Bond (pages 00 61 13.16-1 to 00 61 13.16-3, inclusive).  
32  
33 4. General Conditions (pages 00 72 00-1 to 00 72 00-68, inclusive).  
34  
35 5. Supplementary Conditions (pages 00 73 00-1 to 00 73 00-7, inclusive).  
36  
37 6. State Wage Rate Determination No. 201501942.  
38  
39 7. Specifications as listed in the table of contents of the Project Manual bearing  
40 the title: Veterans Memorial Park Riverwalk, Village of Grafton, Ozaukee  
41 County, WI.  
42  
43 8. Drawings consisting of 32 sheets with each sheet bearing the following title:  
44 Veterans Memorial Park Riverwalk, Village of Grafton, Ozaukee County,  
45 WI.

- 1  
2 9. Addenda (Numbers \_\_\_\_ to \_\_\_\_, inclusive).  
3  
4 10. Exhibits to this Agreement (enumerated as follows):  
5  
6 a. CONTRACTOR'S Bid (pages 00 41 00-1 to 00 41 00-\_\_\_\_,  
7 inclusive).  
8  
9 b. Documentation submitted by CONTRACTOR prior to Notice of  
10 Award (pages \_\_\_\_ to \_\_\_\_, inclusive).  
11  
12 c. List other required attachments (if any), such as documents required  
13 by funding or lending agencies.  
14 (i) N/A.  
15  
16 11. The following which may be delivered or issued on or after the Effective  
17 Date of the Agreement and are not attached hereto:  
18  
19 a. Notice to Proceed (pages 00 55 00-1, inclusive).  
20  
21 b. Written Amendment(s);  
22  
23 c. Work Change Directive(s);  
24  
25 d. Change Order(s).  
26  
27 e. Field Order(s).  
28  
29 B. The documents listed in Paragraphs 9.01.A are attached to this Agreement (except as  
30 expressly noted otherwise above).  
31  
32 C. There are no Contract Documents other than those listed above in this Article 9.  
33  
34 D. The Contract Documents may only be amended, modified, or supplemented as  
35 provided in Paragraph 3.04 of the General Conditions.  
36

## 37 **ARTICLE 10 - MISCELLANEOUS**

---

### 38 10.01 *Terms*

- 39  
40 A. Terms used in this Agreement will have the meanings stated in the General  
41 Conditions and the Supplementary Conditions.  
42

### 43 10.02 *Assignment of Contract*

44

- 1 A. No assignment by a party hereto of any rights under or interests in the Contract will  
2 be binding on another party hereto without the written consent of the party sought to  
3 be bound; and, specifically but without limitation, moneys that may become due and  
4 moneys that are due may not be assigned without such consent (except to the extent  
5 that the effect of this restriction may be limited by law), and unless specifically stated  
6 to the contrary in any written consent to an assignment, no assignment will release or  
7 discharge the assignor from any duty or responsibility under the Contract  
8 Documents.  
9

10 10.03 *Successors and Assigns*  
11

- 12 A. OWNER and CONTRACTOR each binds itself, its partners, successors, assigns, and  
13 legal representatives to the other party hereto, its partners, successors, assigns, and  
14 legal representatives in respect to all covenants, agreements and obligations  
15 contained in the Contract Documents.  
16

17 10.04 *Severability*  
18

- 19 A. Any provision or part of the Contract Documents held to be void or unenforceable  
20 under any Law or Regulation shall be deemed stricken, and all remaining provisions  
21 shall continue to be valid and binding upon OWNER and CONTRACTOR, who  
22 agrees that the Contract Documents shall be reformed to replace such stricken  
23 provision or part thereof with a valid and enforceable provision that comes as close  
24 as possible to expressing the intention of the stricken provision.  
25

26 10.05 *Contractor's Certifications*  
27

- 28 A. CONTRACTOR certifies that it has not engaged in corrupt, fraudulent, collusive, or  
29 coercive practices in competing for or in executing the Contract. For the purposes of  
30 this Paragraph 10.05:  
31 1. "corrupt practice" means the offering, giving, receiving, or soliciting of any  
32 thing of value likely to influence the action of a public official in the bidding  
33 process or in the Contract execution;  
34 2. "fraudulent practice" means an intentional misrepresentation of facts made  
35 (a) to influence the bidding process or the execution of the Contract to the  
36 detriment of OWNER, (b) to establish Bid or Contract prices at artificial non-  
37 competitive levels, or (c) to deprive OWNER of the benefits of free and open  
38 competition;  
39 3. "collusive practice" means a scheme or arrangement between two or more  
40 BIDDERS, with or without the knowledge of OWNER, a purpose of which is  
41 to establish Bid prices at artificial, non-competitive levels; and  
42 4. "coercive practice" means harming or threatening to harm, directly or  
43 indirectly, persons or their property to influence their participation in the  
44 bidding process or affect the execution of the Contract.  
45

1 IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement.  
2 Counterparts have been delivered to OWNER and CONTRACTOR. All portions of the Contract  
3 Documents have been signed or have been identified by OWNER and CONTRACTOR or on their  
4 behalf.

5  
6 This Agreement will be effective on \_\_\_\_\_, 2016 (which is the Effective Date of the  
7 Agreement).

8  
9 OWNER: 38 CONTRACTOR:  
10 39  
11 VILLAGE OF GRAFTON, WI 40  
12 41  
13 42  
14 43

15 By: \_\_\_\_\_ 45 By: \_\_\_\_\_  
16 46  
17 47

18 (Corporate Seal) 48 (Corporate Seal)  
19 49

20 Attest \_\_\_\_\_ 50 Attest \_\_\_\_\_  
21 51  
22 52

23 Address for giving notices: 53 Address for giving notices:  
24 Village of Grafton 54  
25 860 Badger Circle 55  
26 Grafton, WI 53024 56  
27 57

28 58 License No. \_\_\_\_\_  
29 (where applicable) 59

30 (If OWNER is a corporation, attach evidence 60  
31 of authority to sign. If OWNER is a public 61 Agent for service of process:  
32 body, attach evidence of authority to sign and 62  
33 resolution or other documents authorizing 63

34 execution of this Agreement.) 64 \_\_\_\_\_  
35 (If Contractor is a corporation, a partnership,  
36 or a joint venture, attach evidence of authority  
37 to sign.) 65  
66

# NOTICE TO PROCEED

Date: \_\_\_\_\_

Project:	
Owner:	Owner's Contract No.:
Contract:	Engineer's Project No.:
Contractor:	
Contractor's Address: <i>[send Certified Mail, Return Receipt Requested]</i>	

You are notified that the Contract Times under the above Contract will commence to run on \_\_\_\_\_. On or before that date, you are to start performing your obligations under the Contract Documents. In accordance with Article 4 of the Agreement, the date of Substantial Completion is \_\_\_\_\_, and the date of readiness for final payment is \_\_\_\_\_ [(or) the number of days to achieve Substantial Completion is \_\_\_\_\_, and the number of days to achieve readiness for final payment is \_\_\_\_\_].

Before you may start any Work at the Site, Paragraph 2.01.B of the General Conditions provides that you and Owner must each deliver to the other (with copies to Engineer and other identified additional insureds and loss payees) certificates of insurance which each is required to purchase and maintain in accordance with the Contract Documents.

Also, before you may start any Work at the Site, you must:

\_\_\_\_\_ [add other requirements].

_____ (Contractor)	_____ Owner
Received by: _____	Given by: _____
_____ (Title)	_____ Authorized Signature
_____ Date	_____ Title
_____ Date	_____ Date

Copy to Engineer

# PERFORMANCE BOND

CONTRACTOR *(Name and Address)*:

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

OWNER *(Name and Address)*:

## CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:\$

Description *(Name and Location)*:

## BOND

Bond Number:

Date *(not earlier than the Effective Date of the Agreement of the Construction Contract)*:

Amount:\$

Modifications to this Bond Form:  None  See Paragraph 16

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

## CONTRACTOR AS PRINCIPAL

## SURETY

\_\_\_\_\_  
Contractor's Name and Corporate Seal *(seal)*

\_\_\_\_\_  
Surety's Name and Corporate Seal *(seal)*

By: \_\_\_\_\_  
Signature

By: \_\_\_\_\_  
Signature *(attach power of attorney)*

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

Attest: \_\_\_\_\_  
Signature

Attest: \_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

*Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.*

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

2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after:

3.1 The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

3.2 The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

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

4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

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

5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners 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 the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

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

5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy

available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:

7.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

7.2 additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and

7.3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.

9. The Surety shall not be liable to the Owner or others for obligations of the 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 the Owner or its heirs, executors, administrators, successors, and assigns.

10. The 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. 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 a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the 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 periods of limitations available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

13. 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. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

#### 14. Definitions

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

14.2 Construction Contract: The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

14.3 Contractor Default: Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

14.4 Owner Default: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

14.5 Contract Documents: All the documents that comprise the agreement between the Owner and Contractor.

15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

16. Modifications to this Bond are as follows:

FOR INFORMATION ONLY – *(Name, Address and Telephone)*

Surety Agency or Broker:

Owner's Representative *(Engineer or other party)*:

# PAYMENT BOND

CONTRACTOR *(Name and Address)*:

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

OWNER *(Name and Address)*:

## CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount: \$

Description *(Name and Location)*:

## BOND

Bond Number:

Date *(not earlier than the Effective Date of the Agreement of the Construction Contract)*:

Amount: \$

Modifications to this Bond Form:  None  See Paragraph 18

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

## CONTRACTOR AS PRINCIPAL

## SURETY

\_\_\_\_\_  
Contractor's Name and Corporate Seal *(seal)*

\_\_\_\_\_  
Surety's Name and Corporate Seal *(seal)*

By: \_\_\_\_\_  
Signature

By: \_\_\_\_\_  
Signature *(attach power of attorney)*

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

Attest: \_\_\_\_\_  
Signature

Attest: \_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

*Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.*

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.
2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.
4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.
5. The Surety's obligations to a Claimant under this Bond shall arise after the following:
  - 5.1 Claimants who do not have a direct contract with the Contractor,
    - 5.1.1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
    - 5.1.2 have sent a Claim to the Surety (at the address described in Paragraph 13).
  - 5.2 Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).
6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
  - 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
  - 7.2 Pay or arrange for payment of any undisputed amounts.
  - 7.3 The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.
8. The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.
9. Amounts owed by the Owner to the 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 the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.
11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
12. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, 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.
13. Notice and Claims to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.
14. 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. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.
16. **Definitions**
  - 16.1 **Claim:** A written statement by the Claimant including at a minimum:
    1. The name of the Claimant;
    2. The name of the person for whom the labor was done, or materials or equipment furnished;
    3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;

4. A brief description of the labor, materials, or equipment furnished;
  5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
  6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
  7. The total amount of previous payments received by the Claimant; and
  8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.
- 16.2 **Claimant:** An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms of "labor, materials, or equipment" that part of the 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 the Contractor and the 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.

- 16.3 **Construction Contract:** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.
- 16.4 **Owner Default:** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
- 16.5 **Contract Documents:** All the documents that comprise the agreement between the Owner and Contractor.
17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.
18. Modifications to this Bond are as follows:

FOR INFORMATION ONLY – *(Name, Address, and Telephone)*

Surety Agency or Broker:

Owner's Representative *(Engineer or other)*:

## Contractor's Application For Payment No. \_\_\_\_\_

To (Owner):	Application Period:	Application Date:
Project:	From (Contractor):	Notice to Proceed Date:
	Contract:	Via (Engineer)
Owner's Contract No.:	Contractor's Project No.:	Engineer's Project No.:

### Application for Payment

#### Change Order Summary

Approved Change Orders		
Number	Additions	Deductions
TOTALS	\$0.00	\$0.00
NET CHANGE BY CHANGE ORDERS		\$0.00

<b>1. ORIGINAL CONTRACT PRICE</b>	\$ _____
<b>2. Net change by Change Orders</b>	\$ _____
<b>3. CURRENT CONTRACT PRICE (Line 1 ± 2)</b>	\$ _____
<b>4. TOTAL COMPLETED AND STORED TO DATE (Column G on Progress Estimate)</b>	\$ _____
<b>5. RETAINAGE:</b>	
a. ____ % x \$ _____ Work Completed	\$ _____
b. ____ % x \$ _____ Stored Material	\$ _____
c. Total Retainage (Line 5a + Line 5b)	\$ _____
<b>6. AMOUNT ELIGIBLE TO DATE (Line 4 - Line 5c)</b>	\$ _____
<b>7. LESS PREVIOUS PAYMENTS (Line 6 from prior Application)</b>	\$ _____
<b>8. AMOUNT DUE THIS APPLICATION</b>	\$ _____
<b>9. BALANCE TO FINISH, PLUS RETAINAGE (Column I on Progress Estimate + Line 5 above)</b>	\$ _____

### Contractor's Certification

The undersigned Contractor certifies that: (1) all previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with Work covered by prior Applications for Payment; (2) title of all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to Owner at time of payment free and clear of all Liens, security interests and encumbrances (except such as are covered by a Bond acceptable to Owner indemnifying Owner against any such Liens, security interest or encumbrances); and (3) all Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

By:	Date:
-----	-------

Payment of:	\$ _____	(Line 8 or other - attach explanation of other amount)
is recommended by:	_____	_____ (Date)
	(Engineer)	
Payment of:	\$ _____	(Line 8 or other - attach explanation of other amount)
is approved by:	_____	_____ (Date)
	(Owner)	
Approved by:	_____	_____ (Date)
	Funding Agency (if applicable)	

**Progress Estimate**

**Contractor's Application**

For (contract):					Application Number:						
Application Period:					Application Date:						
A			B	C	D	E	F	G	H	I	
Item		Bid Quantity	Unit Price	Bid Value	Work Completed			Materials Presently Stored (not in C or D)	Total Completed and Stored to Date		Balance to Finish (B - G)
Bid Item No.	Description				From Previous Application	Quantity this Period	Value this Application		\$ (C + E + F)	% (G / B)	
Totals											







# Change Order

No. \_\_\_\_\_

Date of Issuance: \_\_\_\_\_ Effective Date: \_\_\_\_\_

Project:	Owner:	Owner's Contract No.:
Contract:	Date of Contract:	
Contractor:	Engineer's Project No.:	

**The Contract Documents are modified as follows upon execution of this Change Order:**

Description:

**Attachments (list documents supporting change):**

**CHANGE IN CONTRACT PRICE:**

Original Contract Price:  
\$ \_\_\_\_\_

[Increase] [Decrease] from previously approved Change Orders  
No. \_\_\_\_\_ to No.: \_\_\_\_\_

\$ \_\_\_\_\_

Contract Price prior to this Change Order:

\$ \_\_\_\_\_

[Increase] [Decrease] of this Change Order:

\$ \_\_\_\_\_

Contract Price incorporating this Change Order:

\$ \_\_\_\_\_

**CHANGE IN CONTRACT TIMES:**

Original Contract Times:  Working days  Calendar days  
Substantial completion (days or date): \_\_\_\_\_  
Ready for final payment (days or date): \_\_\_\_\_

[Increase] [Decrease] from previously approved Change Orders  
No. \_\_\_\_\_ to No.: \_\_\_\_\_

Substantial completion (days): \_\_\_\_\_  
Ready for final payment (days): \_\_\_\_\_

Contract Times prior to this Change Order:

Substantial completion (days or date): \_\_\_\_\_  
Ready for final payment (days or date): \_\_\_\_\_

[Increase] [Decrease] of this Change Order:

Substantial completion (days or date): \_\_\_\_\_  
Ready for final payment (days or date): \_\_\_\_\_

Contract Times with all approved Change Orders:

Substantial completion (days or date): \_\_\_\_\_  
Ready for final payment (days or date): \_\_\_\_\_

RECOMMENDED:

By: \_\_\_\_\_  
Engineer (Authorized Signature)

Date: \_\_\_\_\_  
Approved by Funding Agency (if applicable):

ACCEPTED:

By: \_\_\_\_\_  
Owner (Authorized Signature)

Date: \_\_\_\_\_

ACCEPTED:

By: \_\_\_\_\_  
Contractor (Authorized Signature)

Date: \_\_\_\_\_

Date: \_\_\_\_\_

# Change Order

## Instructions

---

### A. GENERAL INFORMATION

This document was developed to provide a uniform format for handling contract changes that affect Contract Price or Contract Times. Changes that have been initiated by a Work Change Directive must be incorporated into a subsequent Change Order if they affect Price or Times.

Changes that affect Contract Price or Contract Times should be promptly covered by a Change Order. The practice of accumulating Change Orders to reduce the administrative burden may lead to unnecessary disputes.

If Milestones have been listed in the Agreement, any effect of a Change Order thereon should be addressed.

For supplemental instructions and minor changes not involving a change in the Contract Price or Contract Times, a Field Order should be used.

### B. COMPLETING THE CHANGE ORDER FORM

Engineer normally initiates the form, including a description of the changes involved and attachments based upon documents and proposals submitted by Contractor, or requests from Owner, or both.

Once Engineer has completed and signed the form, all copies should be sent to Owner or Contractor for approval, depending on whether the Change Order is a true order to the Contractor or the formalization of a negotiated agreement for a previously performed change. After approval by one contracting party, all copies should be sent to the other party for approval. Engineer should make distribution of executed copies after approval by both parties.

If a change only applies to price or to times, cross out the part of the tabulation that does not apply.

# Certificate of Substantial Completion

Project:	
Owner:	Owner's Contract No.:
Contract:	Engineer's Project No.:

This [tentative] [definitive] Certificate of Substantial Completion applies to:

- All Work under the Contract Documents:  The following specified portions of the Work:

---

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---

\_\_\_\_\_  
Date of Substantial Completion

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor, and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Project or portion thereof designated above is hereby declared and is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below.

A [tentative] [definitive] list of items to be completed or corrected is attached hereto. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

**The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance and warranties shall be as provided in the Contract Documents except as amended as follows:**

- Amended Responsibilities  Not Amended

Owner's Amended Responsibilities:

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Contractor's Amended Responsibilities:

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The following documents are attached to and made part of this Certificate:

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This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract Documents.

\_\_\_\_\_  
Executed by Engineer

\_\_\_\_\_  
Date

\_\_\_\_\_  
Accepted by Contractor

\_\_\_\_\_  
Date

\_\_\_\_\_  
Accepted by Owner

\_\_\_\_\_  
Date

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 Laws and Regulations.

# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

**ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE**

and

Issued and Published Jointly by



AMERICAN COUNCIL OF ENGINEERING COMPANIES

ASSOCIATED GENERAL CONTRACTORS OF AMERICA

AMERICAN SOCIETY OF CIVIL ENGINEERS

PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE  
*A Practice Division of the*  
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

Endorsed by



CONSTRUCTION SPECIFICATIONS INSTITUTE

These General Conditions have been prepared for use with the Suggested Forms of Agreement Between Owner and Contractor (EJCDC C-520 or C-525, 2007 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 Narrative Guide to the EJCDC Construction Documents (EJCDC C-001, 2007 Edition). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (EJCDC C-800, 2007 Edition).

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# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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## ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

### 1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed 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. *Bidder*—The individual or entity who submits a Bid directly to Owner.
  7. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).
  8. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.
  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*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions 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 Milestones, if any; (ii) achieve Substantial Completion; and (iii) 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 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. *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.
21. *General Requirements*—Sections of Division 1 of the Specifications.
22. *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.
23. *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.
24. *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.
25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.
26. *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.

27. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.
28. *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.
29. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
30. *PCBs*—Polychlorinated biphenyls.
31. *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.
32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
33. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.
34. *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.
35. *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.
36. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.
37. *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.
38. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.
39. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

40. *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.
41. *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.
42. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
43. *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.
44. *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.
45. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.
46. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.
47. *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 Subcontractor.
48. *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.
49. *Unit Price Work*—Work to be paid for on the basis of unit prices.
50. *Work*—The entire 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.
51. *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.

## 1.02 *Terminology*

A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

### B. *Intent of Certain Terms or Adjectives:*

1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, 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 exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the 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 is not intended to and 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 9.09 or any other provision of the Contract Documents.

### C. *Day:*

1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.

### D. *Defective:*

1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
  - a. does not conform to the Contract Documents; or
  - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
  - c. 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).

E. *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.
- F. Unless stated otherwise in the Contract Documents, words or phrases that 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 and Evidence of Insurance*

- A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *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.

### *2.02 Copies of Documents*

- A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

### *2.03 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 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 Construction*

- A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for 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 Submittals; 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.

## 2.06 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, 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.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

## 2.07 *Initial Acceptance of Schedules*

- A. At least 10 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.A. Contractor shall have an additional 10 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 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 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 *Intent***

- A. The Contract Documents are complementary; what is required by one is as binding as if required 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 reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated 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***

- 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. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, 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 Discrepancies*

#### A. *Reporting Discrepancies:*

1. *Contractor's Review of Contract Documents Before Starting Work:* 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 discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.
2. *Contractor's Review of Contract Documents During Performance of Work:* 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 (a) any applicable Law or Regulation, (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. 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.
3. 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 had actual knowledge 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, or code, or the instruction of any Supplier (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 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 by either a Change Order or 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:

1. A Field Order;
2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or
3. Engineer's written interpretation or clarification.

### 3.05 *Reuse of Documents*

- A. Contractor and any Subcontractor or Supplier shall not:
  1. 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 its consultants, including electronic media editions; or
  2. reuse any 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 adaptation by Engineer.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

### 3.06 *Electronic Data*

- A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.
- C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

## **ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS**

### *4.01 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 or a part thereof, 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 Conditions*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
  - 1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and
  - 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the 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 or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors 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*

A. *Notice:* If Contractor believes that any subsurface or physical condition 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 9.07 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 with respect to 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 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, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall 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 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 provided by others; 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 or 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 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 Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the 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 or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors 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.A); 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. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.
- 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 written notice to Contractor: (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, and Engineer, and the officers, directors, members, partners, employees, agents, 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.G 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 and Engineer, and the officers, directors, members, partners, employees, agents, 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.H 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 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

## **ARTICLE 5 – BONDS AND INSURANCE**

### **5.01 *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 of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, 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 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 or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.
- 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 promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide 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***

- 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 Insurance*

- A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee 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.
- B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee 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.
- C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.
- D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.
- E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

#### 5.04 *Contractor's Insurance*

- A. Contractor shall purchase and maintain such 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:

- a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
  - b. 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 required by this Paragraph 5.04 shall:
1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, 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, members, partners, employees, agents, 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 contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;
  4. contain a provision or endorsement that the coverage afforded will not be canceled, 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 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);
  5. 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
  6. include completed operations coverage:
    - a. Such insurance shall remain in effect for two years after final payment.
    - b. 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 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 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, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;
  2. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, 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 (other than that caused by flood), 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 loss payee to whom a certificate of insurance has been issued.
- B. Owner shall purchase and maintain such equipment breakdown 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, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors,

members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.

- C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this 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 loss payee 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 this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. 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*

- A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, 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 loss payees thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, 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 and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, 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, and Engineer, and the officers, directors, members, partners, employees, agents, 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 perils 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, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

#### 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 loss payees, 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.
- 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 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 2.01.B. 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 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 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. 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.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

6.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor 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. Contractor will not permit the performance of Work on a 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 Equipment*

- A. Unless otherwise specified in the Contract Documents, 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 special warranties and guarantees required 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.
- C. 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 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. Such adjustments will comply with any provisions of the General Requirements applicable thereto.
  - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

#### 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:
      - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

- 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and
  - 3) it has a proven record of performance and availability of responsive service.
- b. Contractor certifies that, if approved and incorporated into the Work:
- 1) there will be no increase in cost to the Owner or increase in Contract Times; and
  - 2) it will conform substantially 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 if 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 requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.
- d. Contractor shall 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:
  - 1) shall certify that the proposed substitute item will:
    - a) perform adequately the functions and achieve the results called for by the general design,
    - b) be similar in substance to that specified, and
    - c) be suited to the same use as that specified;
  - 2) will state:
    - a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,
    - b) whether 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 other work on the Project) to adapt the design to the proposed substitute item, and

- c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;
  - 3) will identify:
    - a) all variations of the proposed substitute item from that specified, and
    - b) available engineering, sales, maintenance, repair, and replacement services; and
  - 4) shall 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.
- B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is 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 requirements for review by Engineer will be similar to those provided in Paragraph 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 may require Contractor to furnish additional data about the proposed substitute item. 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 a Change Order in the case of a substitute and 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 Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each 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*

- 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. 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:
1. 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
  2. shall 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 a loss payee 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, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, 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*

- 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.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors 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 specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, 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 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 *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. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

## 6.09 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall 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 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 shall 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 *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 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 and Engineer, and the officers, directors, members, partners, employees, agents, 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 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 the Work 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*

- A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, 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 Protection*

- A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. 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.

- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
- D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- E. 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 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).
- F. 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 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 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 *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 Samples*

A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

##### 1. *Shop Drawings:*

- a. Submit number of copies specified in the General Requirements.
- b. 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.D.

##### 2. *Samples:*

- a. Submit number of Samples specified in the Specifications.
- b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, 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.

##### C. *Submittal Procedures:*

1. Before submitting each Shop Drawing or Sample, Contractor shall have:

- a. 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;
- b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
- c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
- d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.
3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. *Engineer's Review:*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of 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 Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. *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 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.

## 6.19 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
  - 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
  - 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
  - 1. observations by Engineer;
  - 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 review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;
  - 6. any inspection, test, or approval by others; or
  - 7. any correction of defective Work by Owner.

## 6.20 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, 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 the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any 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 .

- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any 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, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
  - 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
  - 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

#### 6.21 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.
- B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.

- E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

## **ARTICLE 7 – OTHER WORK AT THE SITE**

### *7.01 Related Work at Site*

- A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:
1. written notice thereof will be given to Contractor prior to starting any such other work; and
  2. 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 that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.
- B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.
- C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

### *7.02 Coordination*

- A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:
1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
  2. the specific matters to be covered by such authority and responsibility will be itemized; and
  3. the extent of such authority and responsibilities will be provided.

- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

- A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.
- B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.
- C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

**ARTICLE 8 – OWNER'S RESPONSIBILITIES**

8.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

- A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

- A. Owner's duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

8.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents.

8.12 *Compliance with Safety Program*

A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed pursuant to Paragraph 6.13.D.

**ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION**

9.01 *Owner's Representative*

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents.

9.02 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or

continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

#### 9.03 *Project Representative*

- A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

#### 9.04 *Authorized Variations in Work*

- A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties 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.

#### 9.05 *Rejecting Defective Work*

- A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

- A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.
- B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.
- C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.
- D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.
- B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.
- C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.
- D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not

exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

#### 9.10 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.D.

### **ARTICLE 10 – CHANGES IN THE WORK; CLAIMS**

#### 10.01 *Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).
- B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

## 10.02 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

## 10.03 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:
  - 1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;
  - 2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and
  - 3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

## 10.04 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

## 10.05 *Claims*

- A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.
- B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data

shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

- C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:
1. deny the Claim in whole or in part;
  2. approve the Claim; or
  3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.
- D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.
- E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.
- F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

## **ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK**

### **11.01 *Cost of the Work***

- A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.
2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
  - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
  - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
  - c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of

said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

- d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
- e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.
- 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not

limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.
- C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.
- D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

#### 11.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances:*
  1. Contractor agrees that:
    - a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
    - b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.
- C. *Contingency Allowance:*
  1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

#### 11.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to

the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:
  - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
  - 2. there is no corresponding adjustment with respect to any other item of Work; and
  - 3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

## **ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES**

### *12.01 Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:
  - 1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
  - 2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or
  - 3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

C. *Contractor's Fee*: The Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or
2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
  - a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
  - b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;
  - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;
  - d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;
  - 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 plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
  - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

#### 12.02 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

#### 12.03 *Delays*

- A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or

neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

- B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.
- D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors 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.
- E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

## **ARTICLE 13 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK**

### *13.01 Notice of Defects*

- A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

### *13.02 Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

### 13.03 *Tests and Inspections*

- A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:
  - 1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
  - 2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and
  - 3. as otherwise specifically provided in the Contract Documents.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.
- E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.
- F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

### 13.04 *Uncovering Work*

- A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.
- B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.

- C. If it is found that the uncovered Work is defective, Contractor shall pay 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 uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.
- D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

#### 13.05 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

#### 13.06 *Correction or Removal of Defective Work*

- A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay 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 correction or removal (including but not limited to all costs of repair or replacement of work of others).
- B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

#### 13.07 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. repair such defective land or areas; or
  2. correct such defective Work; or
  3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
  4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. 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 correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

### 13.08 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay 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) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

### 13.09 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.
- C. 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 or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

## **ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION**

### 14.01 *Schedule of Values*

- A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

### 14.02 *Progress Payments*

#### A. *Applications for Payments:*

- 1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an

Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

**B. *Review of Applications:***

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
  - a. the Work has progressed to the point indicated;
  - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and
  - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
  - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or

- involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or
- b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
    - a. to supervise, direct, or control the Work, or
    - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
    - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
    - d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or
    - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
  5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:
    - a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
    - b. the Contract Price has been reduced by Change Orders;
    - c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
    - d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

*C. Payment Becomes Due:*

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. *Reduction in Payment:*

1. Owner may refuse to make payment of the full amount recommended by Engineer because:
  - a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
  - b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
  - c. there are other items entitling Owner to a set-off against the amount recommended; or
  - d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.
2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.
3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before

final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

- D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.
- E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

#### 14.05 *Partial Utilization*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
  - 1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.
  - 2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
  - 3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

#### 14.06 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

#### 14.07 *Final Payment*

##### A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
  - a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;
  - b. consent of the surety, if any, to final payment;
  - c. a list of all Claims against Owner that Contractor believes are unsettled; and
  - d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

##### B. *Engineer's Review of Application and Acceptance:*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying

documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

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, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

- A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

- A. The making and acceptance of final payment will constitute:
  1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and
  2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

## ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

### 15.01 *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 granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

### 15.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will justify termination for cause:
1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);
  2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
  3. Contractor's repeated disregard of the authority of Engineer; or
  4. Contractor's violation in any substantial way of any provisions of the Contract Documents.
- B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:
1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);
  2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and
  3. complete the Work as Owner may deem expedient.
- C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. 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.

- D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.
- E. 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.
- F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

#### 15.03 *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, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
  - 1. 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. 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. 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. 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 Terminate*

- A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) 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.

- B. 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 Procedures*

- A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.
- B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.
- C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:
1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or
  2. agrees with the other party to submit the Claim to another dispute resolution process; or
  3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

## **ARTICLE 17 – MISCELLANEOUS**

### *17.01 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:

1. 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
2. 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 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 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. 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 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 Contract or termination of the services of Contractor.

#### 17.05 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

#### 17.06 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

1 **SUPPLEMENTARY CONDITIONS**

2  
3 These Supplementary Conditions amend or supplement the Standard General Conditions of the  
4 Construction Contract (No. C-700, 2007 Edition). All provisions which are not so amended or  
5 supplemented remain in full force and effect.  
6

7 The terms used in these Supplementary Conditions will have the meanings indicated in the General  
8 Conditions. Additional terms used in these Supplementary Conditions have the meanings stated  
9 below, which are applicable to both the singular and plural thereof.  
10

11 The address system used in these Supplementary Conditions is the same as the address system used  
12 in the General Conditions, with the prefix "SC" added thereto.  
13

14 **SC-1.01**

15 Amend Article 1.01 (A)(19) to read as follows:  
16

17           Engineer – The Village Engineer, Village of Grafton.  
18  
19

20 **SC-2.02       Copies of Documents**

21  
22 SC-2.02 Delete Paragraph 2.02.A in its entirety and insert the following in its place:  
23

- 24           A.     Owner shall furnish to Contractor one set of Drawings and Project Manual in electric  
25                   (PDF) format. Additional copies will be furnished upon request at the cost of  
26                   reproduction.  
27

28 **SC-2.03**

29           Delete the last sentence of Article 2.03 of the General Conditions in its entirety.  
30  
31

32 **SC-2.06**

33           Add new paragraph immediately after Article 2.06 of the General Conditions, which is to  
34                   read as follows:  
35

- 36           2.06(A) The conference will be held at a location selected by OWNER.  
37  
38

39 **SC-4.02       Subsurface and Physical Conditions**

40  
41 Delete Paragraphs 4.02.A and 4.02.B in their entirety and insert the following:  
42

- 43           A.     No reports or explorations or tests of subsurface conditions at or contiguous to the  
44                   Site are known to the Owner or Engineer.  
45

1 **SC-4.06 Hazardous Environmental Condition**

2  
3 SC-4.06 Delete Paragraphs 4.06.A and 4.06.B in their entirety and insert the following:

- 4
- 5 A. No reports or drawings of Hazardous Environmental Conditions at or contiguous to
- 6 the Site are known to the Owner or Engineer.
- 7
- 8 B. Not Used.
- 9

10 **SC 5.04 Contractor’s Liability Insurance**

11  
12 SC-5.04 Add the following new paragraph immediately after Paragraph 5.04.B:

13  
14 C. The limits of liability for the insurance required by Paragraph 5.04 of the General  
15 Conditions shall provide coverage for not less than the following amounts or greater  
16 where required by Laws and Regulations:

17  
18 1. Workers’ Compensation, and related coverages under Paragraphs 5.04.A.1  
19 and A.2 of the General Conditions:

- 20 a. State: Statutory
- 21 b. Applicable Federal (e.g., Longshoreman’s): Statutory
- 22 c. Employer’s Liability:
  - 23
  - 24 Bodily Injury by Accident - \$1,000,000
  - 25 Each Accident
  - 26 Bodily Injury by Disease - \$1,000,000
  - 27 Each Employee
  - 28 Bodily Injury by Disease - \$1,000,000
  - 29 Policy Limit

30  
31 2. Contractor’s General Liability under Paragraphs 5.04.A.3 through A.6 of the  
32 General Conditions which shall include completed operations and product  
33 liability coverages:

- 34 a. General Aggregate \$1,000,000
- 35 b. Products-Completed
- 36 Operations Aggregate \$1,000,000
- 37 c. Personal and Advertising Injury \$1,000,000
- 38 d. Each Occurrence (Bodily Injury
- 39 and Property Damage) \$1,000,000
- 40 e. Personal Medical Expense (Per Person) \$5,000
- 41 f. Property Damage liability
- 42 insurance will provide Explosion,
- 43 Collapse, and Underground coverages
- 44 where applicable. Provide X, C, U
- 45 Standard

- 1 g. Excess or Umbrella Liability:
- 2 General Aggregate \$2,000,000
- 3 Each Occurrence \$2,000,000
- 4
- 5 3. Automobile Liability under Paragraph 5.04.A.6 of the General Conditions:
- 6 a. Combined Single Limit \$1,000,000
- 7 (Bodily Injury and Property Damage
- 8 Each Accident)
- 9
- 10 4. The Contractual Liability coverage required by Paragraph 5.04.B.3 of the
- 11 General Conditions shall provide coverage for not less than the following
- 12 amounts:
- 13 a. Bodily Injury:
- 14 Each Person \$1,000,000
- 15 Each Accident \$2,000,000
- 16 b. Property Damage:
- 17 Each Accident \$1,000,000
- 18 Annual Aggregate \$2,000,000
- 19

20 **SC 5.06.A Property Insurance**

21

22 SC-5.06.A. Delete Paragraph 5.06.A in its entirety and insert the following in its place:

23

- 24 A. CONTRACTOR shall purchase and maintain property insurance upon the Work at the
- 25 Site in the amount of the full replacement cost thereof. Contractor shall be responsible
- 26 for any deductible or self-insured retention. This insurance shall:
- 27
- 28 1. include the interests of OWNER, CONTRACTOR, Subcontractors,
- 29 ENGINEER, and the officers, directors, partners, employees, agents and
- 30 other consultants and subcontractors of any of them each of whom is deemed
- 31 to have an insurable interest and shall be listed as an insured or loss payee;
- 32
- 33 a. Village of Grafton, WI
- 34 b. MSA Professional Services, Inc.
- 35
- 36 2. be written on a Builder's Risk "all-risk" or "installation floater" or open peril
- 37 or special causes of loss policy form that shall at least include insurance for
- 38 physical loss and damage to the Work, temporary buildings, falsework, and
- 39 materials and equipment in transit and shall insure against at least the
- 40 following perils or causes of loss: fire, lightning, extended coverage, theft,
- 41 vandalism and malicious mischief, earthquake, collapse, debris removal,
- 42 demolition occasioned by enforcement of Laws and Regulations, water
- 43 damage (other than that caused by flood), and such other perils or causes of
- 44 loss as may be specifically required by the Supplementary Conditions;
- 45

- 1 3. include expenses incurred in the repair or replacement of any insured  
2 property (including but not limited to fees and charges of engineers and  
3 architects);
- 4
- 5 4. cover materials and equipment stored at the Site or at another location that  
6 was agreed to in writing by OWNER prior to being incorporated in the Work,  
7 provided that such materials and equipment have been included in an  
8 Application for Payment recommended by ENGINEER;
- 9
- 10 5. allow for partial utilization of the Work by OWNER;
- 11
- 12 6. include testing and startup; and
- 13
- 14 7. be maintained in effect until final payment is made unless otherwise agreed  
15 to in writing by OWNER, CONTRACTOR and ENGINEER with 30 days  
16 written notice to each other loss payee to whom a certificate of insurance has  
17 been issue; and
- 18
- 19 8. comply with the requirements of Paragraph 5.06.C of the General Conditions.
- 20

21 **SC-6.06 Concerning Subcontractors, Suppliers, and Others**

22  
23 SC-6.06 Add the new paragraph immediately after paragraph 6.06.G:

- 24  
25 H. OWNER may furnish to any Subcontractor or Supplier, to the extent practicable,  
26 information about amounts paid to CONTRACTOR on account of Work performed  
27 for CONTRACTOR by a particular Subcontractor or Supplier.

28  
29 **SC-6.08**

30  
31 Owner will obtain and pay for all necessary permits for the work.

32  
33 **SC-6.13.C**

34  
35 Add a new paragraph immediately after Article 6.13.B. of the General Conditions which is to  
36 read as follows:

- 37  
38 6.13.C In emergencies affecting the safety or protection of persons or property or maintenance  
39 of temporary construction at the site or adjacent thereto, and CONTRACTOR cannot  
40 be reached, OWNER may act to attempt to prevent threatened damage, injury, or loss.  
41 OWNER will give CONTRACTOR and ENGINEER prompt written notice of such  
42 action and the cost of the correction or remedy shall be charged against  
43 CONTRACTOR. A Change Order will be issued to document the change in Contract  
44 Price.

1 6.13.D CONTRACTOR shall assist and cooperate fully with VILLAGE in meeting any  
2 obligations under the Wisconsin Public Records law. In the event that CONTRACTOR  
3 withholds records, for any reason, and said withholding is found to be in violation of  
4 the law or a Court Order, CONTRACTOR shall indemnify and hold harmless  
5 VILLAGE for any and all costs related to the withholding of those records, including,  
6 but not limited to, monetary damages of any kind, actual attorney's fees, and litigation  
7 costs of any kind.  
8

9 **SC-6.17 Shop Drawings and Samples**

10  
11 SC-6.17 Add the following new paragraphs immediately after Paragraph 6.17.E:

- 12  
13 F. CONTRACTOR shall furnish required submittals with sufficient information and  
14 accuracy in order to obtain required approval of an item with no more than three  
15 submittals. ENGINEER will record ENGINEER's time for reviewing subsequent  
16 submittals of Shop Drawings, samples or other items requiring approval and  
17 CONTRACTOR shall reimburse OWNER for ENGINEER's charges for such time.  
18  
19 G. In the event that CONTRACTOR requests a change of a previously approved item,  
20 CONTRACTOR shall reimburse OWNER for ENGINEER's charges for its review  
21 time unless the need for such change is beyond the control of CONTRACTOR.  
22

23 **SC-7.04 Claims Between Contractors**

24  
25 SC-7.04 Add the following paragraph(s) immediately after Paragraph GC-7.03:

26  
27 **SC-7.04 Claims Between Contractors**

- 28  
29 A. Should CONTRACTOR cause damage to the work or property of any separate  
30 contractor at the Site, or should any claim arising out of CONTRACTOR's  
31 performance of the Work at the Site be made by any other contractor against  
32 CONTRACTOR, OWNER, ENGINEER, or the construction coordinator, then  
33 CONTRACTOR (without involving Owner, Engineer, or construction coordinator)  
34 shall either (1) remedy the damage, (2) agree to compensate the other contractor for  
35 remedy of the damage, or (3) remedy the damage and attempt to settle with such  
36 other contractor by agreement, or otherwise resolve the dispute by arbitration or at  
37 law.  
38  
39 B. CONTRACTOR shall, to the fullest extent permitted by Laws and Regulations,  
40 indemnify and hold harmless OWNER, ENGINEER, the construction coordinator  
41 and the officers, directors, partners, employees, agents and other consultants and  
42 subcontractors of each and any of them from and against all claims, costs, losses and  
43 damages (including, but not limited to, fees and charges of engineers, architects,  
44 attorneys, and other professionals and court and arbitration costs) arising directly,  
45 indirectly or consequentially out of any action, legal or equitable, brought by any

1 other contractor against OWNER, ENGINEER, consultants, or the construction  
2 coordinator to the extent said claim is based on or arises out of CONTRACTOR's  
3 performance of the Work. Should another contractor cause damage to the Work or  
4 property of CONTRACTOR or should the performance of work by any other  
5 contractor at the Site give rise to any other Claim, CONTRACTOR shall not institute  
6 any action, legal or equitable, against OWNER, ENGINEER, or the construction  
7 coordinator or permit any action against any of them to be maintained and continued  
8 in its name or for its benefit in any court of before any arbiter which seeks to impose  
9 liability on or to recover damages from OWNER, ENGINEER, or the construction  
10 coordinator on account of any such damage or Claim.

11  
12 C. If CONTRACTOR is delayed at any time in performing or furnishing Work by any  
13 act or neglect of a another contractor, and OWNER and CONTRACTOR are unable  
14 to agree as to the extent of any adjustment in Contract Times attributable thereto,  
15 CONTRACTOR may make a Claim for an extension of times in accordance with  
16 Article 12. An extension of the Contract Times shall be CONTRACTOR's exclusive  
17 remedy with respect to OWNER, ENGINEER, and construction coordinator for any  
18 delay, disruption, interference, or hindrance caused by any other contractor. This  
19 paragraph does not prevent recovery from OWNER, ENGINEER, ENGINEER's  
20 consultant, or construction coordinator for activities that are their respective  
21 responsibilities.

22  
23 **SC-8.11 Evidence of Financial Arrangements**

24  
25 SC-8.11 Add the following new paragraph immediately after Paragraph 8.11.A:

26  
27 B. On request of CONTRACTOR prior to the execution of any Change Order involving  
28 a significant increase in the Contract Price, OWNER shall furnish to  
29 CONTRACTOR reasonable evidence that adequate financial arrangements have  
30 been made by OWNER to enable OWNER to fulfill the increased financial  
31 obligations to be undertaken by OWNER as a result of such Change Order.

32  
33 **SC-9.11**

34  
35 Add a new paragraph immediately after Article 9.10.A of the General Conditions:

36  
37 9.11 When ENGINEER is on the Project site to perform the duties and responsibilities as  
38 set forth in the Contract Documents, ENGINEER will comply with  
39 CONTRACTOR'S safety plans, programs, and procedures. In the event ENGINEER  
40 determines that CONTRACTOR'S safety plans, programs, and procedures do not  
41 provide adequate protection for ENGINEER, ENGINEER may direct its employees  
42 to leave the Project site or implement additional safeguards for ENGINEER'S  
43 protection. If taken, these actions will be in furtherance of ENGINEER'S  
44 responsibility to its own employees only, and ENGINEER will not assume any  
45 responsibility for protection of any other persons or property, ENGINEER may warn

1 the persons who appear to be affected by such situations. Such warnings, if issued,  
2 shall be given based on general humanitarian concerns, and ENGINEER will not, by  
3 the issuance of any such warning, assume any responsibility to issue future warnings  
4 or any general responsibility for protection of persons or property affected by the  
5 Work.

6  
7 **SC-11.03 Unit Price Work**

8  
9 SC-11.03.D Delete Paragraph 11.03.D in its entirety and insert the following in its place:

- 10  
11 D. The unit price of an item of Unit Price Work shall be subject to reevaluation and  
12 adjustment under the following conditions:  
13  
14 1. if the Bid price of a particular item of Unit Price Work amounts to  
15 10 percent or more of the Contract Price and the variation in the quantity of  
16 that particular item of Unit Price Work performed by CONTRACTOR differs  
17 by more than 25 percent from the estimated quantity of such item indicated in  
18 the Agreement; and  
19  
20 2. if there is no corresponding adjustment with respect to any other item of  
21 Work; and  
22  
23 3. if CONTRACTOR believes that CONTRACTOR has incurred additional  
24 expense as a result thereof or if OWNER believes that the quantity variation  
25 entitles OWNER to an adjustment in the unit price, either OWNER or  
26 CONTRACTOR may make a Claim for an adjustment in the Contract Price  
27 in accordance with Article 10 if the parties are unable to agree as to the effect  
28 of any such variations in the quantity of Unit Price Work performed.  
29

30 **SC-12.01 Change of Contract Price**

31  
32 SC-12.01.C Contractor's Fee. Delete the semicolon at the end of GC 12.01.C.2.c, and add the  
33 following language:

34  
35 , provided, however, that on any subcontracted work the total maximum fee  
36 to be paid by Owner under this subparagraph shall be no greater than 27  
37 percent of the costs incurred by the Subcontractor who actually performs the  
38 work;  
39

40 **SC-16.01 Methods and Procedure**

41  
42 SC-16.01 Delete Paragraph 16.01.C in its entirety and insert the following in its place:

- 43  
44 C. If the Claim is not resolved by mediation, ENGINEER's action under Paragraph  
45 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final

1 and binding 30 days after termination of the mediation unless, within that time  
2 period, OWNER or CONTRACTOR:

- 3  
4 1. elects in writing to demand arbitration of the Claim, pursuant to  
5 Paragraph SC-16.02, or  
6  
7 2. agrees with the other party to submit the Claim to another dispute resolution  
8 process.  
9

10 SC-16.02 Add the following new paragraph immediately after Paragraph 16.01.

11  
12 **SC-16.02 Arbitration**

- 13  
14 A. All Claims or counterclaims, disputes, or other matters in question between OWNER  
15 and CONTRACTOR arising out of or relating to the Contract Documents or the  
16 breach thereof (except for Claims which have been waived by the making or  
17 acceptance of final payment as provided by Paragraph 14.09) including but not  
18 limited to those not resolved under the provisions of Paragraphs SC-16.01.A and  
19 16.01.B will be decided by arbitration in accordance with the rules of The American  
20 Arbitration Association under the Construction Industry Mediation Rules of the  
21 American Arbitration Association, subject to the conditions and limitations of this  
22 Paragraph SC-16.02. This agreement to arbitrate and any other agreement or consent  
23 to arbitrate entered into will be specifically enforceable under the prevailing law of  
24 any court having jurisdiction.  
25  
26 B. The demand for arbitration will be filed in writing with the other party to the  
27 Contract and with the selected arbitrator or arbitration provider, and a copy will be  
28 sent to ENGINEER for information. The demand for arbitration will be made within  
29 the 30 day period specified in Paragraph SC-16.01.C, and in all other cases within a  
30 reasonable time after the Claim or counterclaim, dispute, or other matter in question  
31 has arisen, and in no event shall any such demand be made after the date when  
32 institution of legal or equitable proceedings based on such Claim or other dispute or  
33 matter in question would be barred by the applicable statute of limitations.  
34  
35 C. No arbitration arising out of or relating to the Contract Documents shall include by  
36 consolidation, joinder, or in any other manner any other individual or entity  
37 (including ENGINEER, and ENGINEER's consultants and the officers, directors,  
38 partners, agents, employees or consultants of any of them) who is not a party to this  
39 Contract unless:  
40  
41 1. the inclusion of such other individual or entity is necessary if complete relief  
42 is to be afforded among those who are already parties to the arbitration; and  
43

1                   2.       such other individual or entity is substantially involved in a question of law  
2                               or fact which is common to those who are already parties to the arbitration  
3                               and which will arise in such proceedings.  
4

5           D.       The award rendered by the arbitrator(s) shall be consistent with the agreement of the  
6                   parties, in writing, and include: (i) a concise breakdown of the award; (ii) a written  
7                   explanation of the award specifically citing the Contract Document provisions  
8                   deemed applicable and relied on in making the award.  
9

10          E.       The award will be final. Judgment may be entered upon it in any court having  
11                   jurisdiction thereof, and it will not be subject to modification or appeal, subject to  
12                   provisions of the Controlling Law relating to vacating or modifying an arbitral  
13                   award.  
14

15          F.       The fees and expenses of the arbitrators and any arbitration service shall be shared  
16                   equally by OWNER and CONTRACTOR.  
17

18  
19   **SC-17.07**

20  
21           Add a new paragraph immediately following Article 17.06 of the General Conditions, which  
22           is to read as follows:  
23

24   17.07. Lien Waivers

25           OWNER may at any time during the Work or before Substantial Completion of the  
26           Work require CONTRACTOR to furnish lien waivers for labor and materials used.  
27

1  
2

## **State Wage Rates**

State of Wisconsin Department of Workforce Development Equal Rights Division	<b>DEPARTMENTAL ORDER</b>
<b>ISSUE DATE:</b> 6/15/2015	
<b>PROJECT:</b>	
VETERANS MEMORIAL PARK RIVERWALK GRAFTON VILLAGE, OZAUKEE COUNTY, WI Determination No. 201501942 [Owner Project No. 09303002]	
<b>PROJECT OWNER:</b>	<b>REQUESTER:</b>
DAVID MURPHY, DIRECTOR OF PUBLIC WORKS VILLAGE OF GRAFTON 675 N GREEN BAY ROAD GRAFTON, WI 53024	MICHAEL J LAUE, CITY ENGINEER MSA PROFESSIONAL SERVICES 201 CORPORATE DR BEAVER DAM, WI 53916
<b>ADDITIONAL CONTACT:</b>	<b>NOTE:</b> The Requester must provide a copy of this Project Determination and enclosures to the Project Owner and Additional Contact.
<p>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.</p> <p>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), Stats., or s. 103.49(3)(c), Stats., for a complete explanation of the administrative review process.</p> <p>Enclosures</p>	
<p>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 <b>FINAL ORDER</b> of the department unless a timely request for an administrative review is filed with the department.</p> <p>ISSUED BY:</p> <p style="text-align: center;">         Equal Rights Division          Labor Standards Bureau          Construction Wage Standards Section          P.O. Box 8928, Madison, WI 53708-8928          (608)266-6861       </p> <p style="text-align: center;">         Web Site: <a href="http://dwd.wisconsin.gov/er/">http://dwd.wisconsin.gov/er/</a> </p>	

**PREVAILING WAGE RATE DETERMINATION**

Issued by the State of Wisconsin  
Department of Workforce Development  
Pursuant to s. 66.0903, Wis. Stats.  
Issued On: 6/15/2015

**DETERMINATION NUMBER:** 201501942

**EXPIRATION DATE:** Prime Contracts MUST Be Awarded or Negotiated On Or Before 12/31/2015. If NOT, You MUST Reapply.

**PROJECT NAME:** VETERANS MEMORIAL PARK RIVERWALK  
PROJECT NO: 09303002

**PROJECT LOCATION:** GRAFTON VILLAGE, OZAUKEE COUNTY, WI

**CONTRACTING AGENCY:** VILLAGE OF GRAFTON

<b>CLASSIFICATION:</b>	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: <a href="http://dwd.wisconsin.gov/er/prevailing_wage_rate/Dictionary/dictionary_main.htm">dwd.wisconsin.gov/er/prevailing_wage_rate/Dictionary/dictionary_main.htm</a> .
<b>OVERTIME:</b>	Time and one-half must be paid for all hours worked: <ul style="list-style-type: none"><li>- over 10 hours per day on prevailing wage projects</li><li>- over 40 hours per calendar week</li><li>- Saturday and Sunday</li><li>- 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;</li><li>- The day before if January 1, July 4 or December 25 falls on a Saturday;</li><li>- The day following if January 1, July 4 or December 25 falls on a Sunday.</li></ul> 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.  A DOT Premium (discussed below) may supersede this time and one-half requirement.
<b>FUTURE INCREASE:</b>	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.
<b>PREMIUM PAY:</b>	If indicated for a specific trade or occupation, the full amount of such pay MUST be added to the "HOURLY BASIC RATE OF PAY" indicated for such trade or occupation, whenever such pay is applicable.
<b>DOT PREMIUM:</b>	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.
<b>APPRENTICES:</b>	Pay apprentices a percentage of the applicable journey person'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.
<b>SUBJOURNEY:</b>	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.

**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.

<b>BUILDING OR HEAVY CONSTRUCTION</b>
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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.

<b>SKILLED TRADES</b>
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<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>		<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
101	Acoustic Ceiling Tile Installer Future Increase(s): Add \$1.50/hr on 6/1/2015; Add \$1.65/hr on 6/1/2016. Premium Increase(s): 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.	34.13	20.61	54.74
102	Boilermaker Future Increase(s): Add \$1.50/hr. on 01/01/2016	33.35	28.24	61.59
103	Bricklayer, Blocklayer or Stonemason	35.37	18.05	53.42
104	Cabinet Installer Future Increase(s): Add \$1.42/hr on 6/1/2015; Add \$1.42/hr on 6/1/2016.	32.72	16.00	48.72
105	Carpenter Future Increase(s): Add \$1.50/hr on 6/1/2015; Add \$1.65/hr on 6/1/2016. Premium Increase(s): 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.	34.13	20.61	54.74
106	Carpet Layer or Soft Floor Coverer	33.68	19.92	53.60
107	Cement Finisher Future Increase(s): Add \$1.30 on 06/01/2015; Add \$1.40 on 06/06/2016	32.09	19.21	51.30
108	Drywall Taper or Finisher Future Increase(s): Add \$.90/hr eff. 06/01/2015; Add \$1.00/hr eff. 06/01/2016; Add \$1.05/hr eff. 06/01/2017	29.97	20.74	50.71
109	Electrician Premium Increase(s): 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.	33.93	22.77	56.70
110	Elevator Constructor	43.21	25.49	68.70

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>		<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
111	Fence Erector	23.73	19.09	42.82
112	Fire Sprinkler Fitter	38.50	20.15	58.65
113	Glazier Future Increase(s): Add \$.75/hr eff. 06/01/2015; Add \$.90/hr eff. 06/01/2016	34.19	18.50	52.69
114	Heat or Frost Insulator	33.43	25.78	59.21
115	Insulator (Batt or Blown) Future Increase(s): Add \$1.42/hr on 6/1/2015; Add \$1.42/hr on 6/1/2016.	32.72	16.00	48.72
116	Ironworker Premium Increase(s): 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.	30.77	23.97	54.74
117	Lather	33.68	19.81	53.49
118	Line Constructor (Electrical)	39.50	20.34	59.84
119	Marble Finisher	20.00	0.52	20.52
120	Marble Mason	35.37	18.05	53.42
121	Metal Building Erector	24.25	10.85	35.10
122	Millwright Future Increase(s): Add \$1.35/hr on 6/1/2015; Add \$1.35/hr on 6/1/2016.	29.03	25.78	54.81
123	Overhead Door Installer	20.00	6.00	26.00
124	Painter Future Increase(s): Add \$.90/hr on 06/01/2015; Add \$1.00/hr on 06/01/2016; Add \$1.05/hr on 06/01/2017 Premium Increase(s): Add \$.20/hr for paperhanging; Add \$.35/hr for bridge, iron and drywall; Add \$.75/hr for spraying and sandblasting; Add \$.60/hr for EIFS work; Add \$1.00/hr for lead based paint removal.	29.62	20.74	50.36
125	Pavement Marking Operator	30.10	18.09	48.19
126	Piledriver Future Increase(s): Add \$1.50/hr on 6/1/2015; Add \$1.60/hr on 6/1/2016. Premium Increase(s): Add \$.65/hr for Piledriver Loftsmen; Add \$.75/hr for Sheet Piling Loftsmen. 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.	30.11	26.51	56.62

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>		<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
127	Pipeline Fuser or Welder (Gas or Utility)	31.88	20.89	52.77
129	Plasterer Premium Increase(s): Add \$.40/hr for swing stage work.	31.21	19.93	51.14
130	Plumber	38.37	19.55	57.92
132	Refrigeration Mechanic Future Increase(s): Add \$1.70 on 6/1/15	41.01	21.54	62.55
133	Roofer or Waterproofor Future Increase(s): Add \$1.25/hr eff. 06/01/2015; Add \$1.25/hr eff. 06/01/2016	29.65	18.15	47.80
134	Sheet Metal Worker	36.17	15.57	51.74
135	Steamfitter	41.01	21.54	62.55
137	Teledata Technician or Installer Future Increase(s): Add \$.86/hr on 6/1/2015. Premium Increase(s): 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.	25.63	17.25	42.88
138	Temperature Control Installer	39.76	21.09	60.85
139	Terrazzo Finisher	20.00	0.52	20.52
140	Terrazzo Mechanic	31.18	17.35	48.53
141	Tile Finisher Future Increase(s): Add \$.20/hr on 1/ 5/2015	24.24	17.54	41.78
142	Tile Setter	30.38	17.33	47.71
143	Tuckpointer, Caulker or Cleaner Future Increase(s): Add \$1.35on 06/01/2015; Add \$1.45 on 06/01/2016 Premium Increase(s): 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.	34.28	18.48	52.76
144	Underwater Diver (Except on Great Lakes)	35.40	15.90	51.30
146	Well Driller or Pump Installer	25.32	15.65	40.97
147	Siding Installer	36.17	19.44	55.61
150	Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	30.16	15.11	45.27

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>				
<b><u>CODE</u></b>	<b><u>TRADE OR OCCUPATION</u></b>	<b><u>HOURLY BASIC RATE OF PAY</u></b>	<b><u>HOURLY FRINGE BENEFITS</u></b>	<b><u>TOTAL</u></b>
		<b>\$</b>	<b>\$</b>	<b>\$</b>
151	Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY	31.60	15.71	47.31
152	Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	27.65	14.49	42.14
153	Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	27.83	15.01	42.84
154	Groundman - ELECTRICAL LINE CONSTRUCTION ONLY	24.00	11.57	35.57

**TRUCK DRIVERS**

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>				
<b><u>CODE</u></b>	<b><u>TRADE OR OCCUPATION</u></b>	<b><u>HOURLY BASIC RATE OF PAY</u></b>	<b><u>HOURLY FRINGE BENEFITS</u></b>	<b><u>TOTAL</u></b>
		<b>\$</b>	<b>\$</b>	<b>\$</b>
201	Single Axle or Two Axle	34.07	18.10	52.17
203	Three or More Axle	22.00	16.03	38.03
204	Articulated, Euclid, Dumptor, Off Road Material Hauler Future Increase(s): Add \$1.60/hr on 5/30/2016.	33.02	18.70	51.72
205	Pavement Marking Vehicle	20.85	11.02	31.87
207	Truck Mechanic	22.00	16.03	38.03

**LABORERS**

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>				
<b><u>CODE</u></b>	<b><u>TRADE OR OCCUPATION</u></b>	<b><u>HOURLY BASIC RATE OF PAY</u></b>	<b><u>HOURLY FRINGE BENEFITS</u></b>	<b><u>TOTAL</u></b>
		<b>\$</b>	<b>\$</b>	<b>\$</b>
301	General Laborer Future Increase(s): Add \$1.35/hr eff. 06/01/2015; Add \$1.25/hr eff. 06/06/2016 Premium Increase(s): Add \$.11 for mortar mixer, fork lift operator, air and electric equipment and power buggy operators; Add \$.22 for jackhammer operator, certified welder, gunite machineman.	29.01	17.22	46.23
302	Asbestos Abatement Worker	22.05	19.16	41.21
303	Landscaper	13.00	10.76	23.76
310	Gas or Utility Pipeline Laborer (Other Than Sewer and Water)	20.13	17.79	37.92
311	Fiber Optic Laborer (Outside, Other Than Concrete Encased) Premium Increase(s): DOT PREMIUMS: Pay two times the hourly basic rate on New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.	18.06	16.76	34.82
314	Railroad Track Laborer	14.50	4.39	18.89

315	Final Construction Clean-Up Worker	28.31	11.95	40.26
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**HEAVY EQUIPMENT OPERATORS  
SITE PREPARATION, UTILITY OR LANDSCAPING WORK ONLY**

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

<u>CODE</u>	<u>TRADE OR OCCUPATION</u>	<u>HOURLY BASIC RATE OF PAY</u> \$	<u>HOURLY FRINGE BENEFITS</u> \$	<u>TOTAL</u> \$
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). Future Increase(s): Add \$1.50/hr on 6/1/2015; Add \$1.60/hr on 5/30/2016.	34.47	18.70	53.17
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). Future Increase(s): Add \$1.50/hr on 6/1/2015; Add \$1.60/hr on 5/30/2016.	34.17	18.70	52.87
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. Future Increase(s): Add \$1.50/hr on 6/1/2015; Add \$1.60/hr on 5/30/2016.	34.47	18.70	53.17
504	Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer.	41.65	21.71	63.36
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. Premium Increase(s): Add \$.50/hr for Friction Crane, Lattice Boom or Crane Certification (CCO).	41.65	21.71	63.36

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>				
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
		\$	\$	\$
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.	35.72	17.85	53.57
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.	35.46	20.40	55.86

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

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>				
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
		\$	\$	\$
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. Future Increase(s): Add \$1.55/hr on 6/1/2015. Premium Increase(s): Crane Operators with CCO certification add \$.50/hr. Cranes with boom length over 200 ft. not exceeding 300 ft. OR lifting capacity over 200 ton not exceeding 300 ton add \$.50/hr. Over 300 ton OR 300 ft. add \$.01/hr. per foot OR ton whichever is greater.	40.61	20.15	60.76
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). Future Increase(s): Add \$1.55/hr on 6/1/2015. Premium Increase(s): Crane Operators with CCO certification add \$.50/hr.	40.11	20.15	60.26

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>		<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
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). Future Increase(s): Add \$1.55/hr on 6/1/2015. Premium Increase(s): Crane Operators with CCO certification add \$.50/hr.	39.61	20.15	59.76
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).	32.89	21.51	54.40
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; 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. Future Increase(s): Add \$1.55/hr on 6/1/2015.	37.04	20.15	57.19

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>		<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b><u>TOTAL</u></b>
<b><u>CODE</u></b>	<b><u>TRADE OR OCCUPATION</u></b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
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; Robotic Tool Carrier (With or Without Attachments); Rock, Stone Breaker; Skid Steer Loader (With or Without Attachments); Vibratory Hammer or Extractor, Power Pack. Future Increase(s): Add \$1.55/hr on 6/1/2015.	31.89	20.15	52.04
514	Gas or Utility Pipeline, Except Sewer & Water (Primary Equipment). Future Increase(s): Add \$1/hr on 6/1/2015; Add \$1/hr on 5/30/2016.	36.34	22.14	58.48
515	Gas or Utility Pipeline, Except Sewer & Water (Secondary Equipment). Future Increase(s): Add \$1.65/hr on 6/1/2015.	34.06	19.35	53.41
516	Fiber Optic Cable Equipment	28.89	17.95	46.84

<b>SEWER, WATER OR TUNNEL CONSTRUCTION</b>
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Includes those projects that primarily involve public sewer or water distribution, transmission or collection systems and related tunnel work (excluding buildings).

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**SKILLED TRADES**

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<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>		
		<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
		<b>\$</b>	<b>\$</b>	<b>\$</b>
103	Bricklayer, Blocklayer or Stonemason	35.37	18.05	53.42
105	Carpenter Future Increase(s): Add \$1.50/hr on 6/1/2015; Add \$1.65/hr on 6/1/2016. Premium Increase(s): 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.	34.13	20.61	54.74
107	Cement Finisher Future Increase(s): Add \$1.87 on 6/1/15; Add \$1.75 on 6/1/16. Premium Increase(s): 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.	35.18	16.78	51.96
109	Electrician	47.76	0.00	47.76
111	Fence Erector	23.73	19.09	42.82
116	Ironworker	31.50	20.01	51.51
118	Line Constructor (Electrical)	39.50	20.34	59.84
125	Pavement Marking Operator	30.10	18.09	48.19
126	Piledriver	29.56	25.71	55.27
130	Plumber	21.50	0.00	21.50
135	Steamfitter	39.76	21.09	60.85
137	Teledata Technician or Installer	24.89	17.15	42.04
143	Tuckpointer, Caulker or Cleaner	33.76	17.82	51.58
144	Underwater Diver (Except on Great Lakes)	35.40	15.90	51.30
146	Well Driller or Pump Installer	25.32	15.65	40.97
150	Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	35.55	15.57	51.12

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>		<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
151	Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY	31.60	15.19	46.79
152	Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	27.65	13.44	41.09
153	Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	25.68	13.28	38.96
154	Groundman - ELECTRICAL LINE CONSTRUCTION ONLY	21.75	12.97	34.72

**TRUCK DRIVERS**

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>		<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
201	Single Axle or Two Axle Future Increase(s): Add \$1.15/hr on 6/1/2015. Premium Increase(s): 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.	25.18	18.31	43.49
203	Three or More Axle	18.00	0.00	18.00
204	Articulated, Euclid, Dumptor, Off Road Material Hauler	32.89	18.96	51.85
205	Pavement Marking Vehicle	20.85	11.02	31.87
207	Truck Mechanic	18.00	0.00	18.00

**LABORERS**

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>		<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
301	General Laborer Future Increase(s): Add \$1.35/hr eff. 06/01/2015; Add \$1.25/hr eff. 06/06/2016 Premium Increase(s): Add \$2.29 for bottomman; Add \$2.15 for concrete manhole builder, bracer, jointman, or pipelayer; Add \$5.44 for blaster. Add \$2.00 for all tunnel work under 15 lbs. compressed air; Add \$2.00 for 0-30 lbs. compressed air; Add \$3.00 for over 30 lbs. compressed air.	29.16	17.72	46.88
303	Landscaper	39.43	0.00	39.43
304	Flagperson or Traffic Control Person	31.95	0.00	31.95
311	Fiber Optic Laborer (Outside, Other Than Concrete Encased)	17.71	16.01	33.72

314	Railroad Track Laborer	14.50	4.39	18.89
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**HEAVY EQUIPMENT OPERATORS  
SEWER, WATER OR TUNNEL WORK**

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

<u>CODE</u>	<u>TRADE OR OCCUPATION</u>	<u>HOURLY BASIC RATE OF PAY</u> \$	<u>HOURLY FRINGE BENEFITS</u> \$	<u>TOTAL</u> \$
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. Future Increase(s): Add \$1.55/hr on 6/1/2015. Premium Increase(s): Add \$.25/hr for operating tower crane.	37.24	20.10	57.34
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). Future Increase(s): Add \$1.55/hr on 6/1/2015. Premium Increase(s): Add \$.25/hr for operating tower crane.	36.46	20.10	56.56
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). Future Increase(s): Add \$1.55/hr on 6/1/2015. Premium Increase(s): Add \$.25/hr for operating tower crane.	35.51	20.10	55.61

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>		<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
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.	36.79	19.15	55.94
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.	50.50	0.42	50.92
526	Boiler (Temporary Heat); Forklift; Greaser; Oiler.	31.64	19.15	50.79
527	Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer.	41.65	21.71	63.36
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.	41.65	21.71	63.36
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.	35.72	17.85	53.57
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.	35.46	20.40	55.86

<b>LOCAL STREET OR MISCELLANEOUS PAVING CONSTRUCTION</b>
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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).

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**SKILLED TRADES**

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<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>		
		<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
		\$	\$	\$
103	Bricklayer, Blocklayer or Stonemason	35.37	18.05	53.42
105	Carpenter Future Increase(s): Add \$1.42/hr on 6/1/2015; Add \$1.42/hr on 6/1/2016. Premium Increase(s): 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.	32.72	16.00	48.72
107	Cement Finisher	30.96	18.53	49.49
109	Electrician	32.04	23.38	55.42
111	Fence Erector	23.73	19.09	42.82
116	Ironworker	30.52	23.47	53.99
118	Line Constructor (Electrical)	39.50	20.34	59.84
124	Painter	29.52	19.99	49.51
125	Pavement Marking Operator	30.10	18.09	48.19
126	Piledriver	29.56	25.71	55.27
133	Rofer or Waterproofer	29.40	17.05	46.45
137	Teledata Technician or Installer	24.89	17.15	42.04
143	Tuckpointer, Caulker or Cleaner	33.76	17.82	51.58
144	Underwater Diver (Except on Great Lakes)	35.40	15.90	51.30
150	Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	35.55	15.57	51.12
151	Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY	31.60	15.19	46.79
152	Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	27.65	13.44	41.09
153	Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	25.68	13.28	38.96
154	Groundman - ELECTRICAL LINE CONSTRUCTION ONLY	21.75	12.97	34.72

**TRUCK DRIVERS**

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>		<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
201	Single Axle or Two Axle Future Increase(s): Add \$1.15/hr on 6/1/2015. Premium Increase(s): 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.	25.18	18.31	43.49
203	Three or More Axle	18.00	0.00	18.00
204	Articulated, Euclid, Dumptor, Off Road Material Hauler Future Increase(s): Add \$1.60/hr on 6/2/2015; Add \$1.60/hr on 6/3/2016.	33.69	19.78	53.47
205	Pavement Marking Vehicle	20.85	11.02	31.87
206	Shadow or Pilot Vehicle	24.37	17.77	42.14
207	Truck Mechanic	18.00	0.00	18.00

**LABORERS**

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>		<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
301	General Laborer	24.75	19.69	44.44
303	Landscaper Future Increase(s): Add \$1.05/hr eff. 06/01/2015; Add \$1.00/hr eff. 06/01/2016; Add \$1.00/hr eff. 06/01/2017 Premium Increase(s): 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).	27.06	20.03	47.09
304	Flagperson or Traffic Control Person	25.67	12.66	38.33
311	Fiber Optic Laborer (Outside, Other Than Concrete Encased)	17.71	16.01	33.72
314	Railroad Track Laborer	14.50	4.39	18.89

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

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>		<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
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. Future Increase(s): Add \$1.25/hr on 6/1/2015; Add \$1.30/hr on 6/1/2016; Add \$1.25/hr on 6/1/2017. Premium Increase(s): DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: <a href="http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm">http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm</a> .	37.72	21.15	58.87
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. Future Increase(s): Add \$1.25/hr on 6/1/2015; Add \$1.30/hr on 6/1/2016; Add \$1.25/hr on 6/1/2017. Premium Increase(s): DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: <a href="http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm">http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm</a> .	37.22	21.15	58.37

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>		<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
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.	35.72	17.85	53.57
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 Sawyer (Multiple Blade); Launch (NOT Performing Work on the Great Lakes); Lift Slab Machine; Mechanical Float; Mulcher; Power Subgrader; Robotic Tool Carrier (With or Without Attachments); Self Propelled Chip Spreader; Shouldering Machine; Skid Steer Loader (With or Without Attachments); Telehandler; Tining or Curing Machine. Future Increase(s): Add \$1.25/hr on 6/1/2015; Add \$1.30/hr on 6/1/2016; Add \$1.25/hr on 6/1/2017. Premium Increase(s): DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: <a href="http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm">http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm</a> .	36.46	21.15	57.61
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.	35.17	20.40	55.57
546	Fiber Optic Cable Equipment.	28.89	17.95	46.84

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>				
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
		<b>\$</b>	<b>\$</b>	<b>\$</b>
547	Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer.	41.65	21.71	63.36
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.	41.65	21.71	63.36
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.	35.72	17.85	53.57
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.	35.46	20.40	55.86

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

<b>Fringe Benefits Must Be Paid On <u>All</u> Hours Worked</b>				
<b>CODE</b>	<b>TRADE OR OCCUPATION</b>	<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
		<b>\$</b>	<b>\$</b>	<b>\$</b>
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.	36.72	20.40	57.12
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. Future Increase(s): Add \$1.25/hr on 6/1/2015; Add \$1.30/hr on 6/1/2016; Add \$1.25/hr on 6/1/2017. Premium Increase(s): DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: <a href="http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm">http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm</a> .	37.22	21.15	58.37

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

<u>CODE</u>	<u>TRADE OR OCCUPATION</u>	<u>HOURLY BASIC RATE OF PAY</u> \$	<u>HOURLY FRINGE BENEFITS</u> \$	<u>TOTAL</u> \$
553	<p>Air, Track, Rotary or Percussion Drilling Machine &amp;/or Hammers, Blaster; Asphalt Heater, Planer &amp; 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. &amp; Under); Bituminous (Asphalt) Plant &amp; 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 &amp; 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 &amp; A-Frames.</p> <p>Future Increase(s):                      Add \$1.25/hr on 6/1/2015; Add \$1.30/hr on 6/1/2016;                      Add \$1.25/hr on 6/1/2017.</p>	36.17	20.80	56.97
554	<p>Backfiller; Broom or Sweeper; Compactor (Self-Propelled or Tractor Mounted, Towed &amp; Light Equipment); Concrete Finishing Machine (Road Type); Environmental Burner; Farm or Industrial Type Tractor; Fireman (Asphalt Plant, Pile Driver &amp; Derrick NOT Performing Work on the Great Lakes); Forklift; Greaser; Hoist (Tugger, Automatic); Jeep Digger; Joint Sawyer (Multiple Blade); Launch (NOT Performing Work on the Great Lakes); Lift Slab Machine; Mechanical Float; Mulcher; Power Subgrader; Robotic Tool Carrier (With or Without Attachments); Roller (Rubber Tire, 5 Ton or Under); Self-Propelled Chip Spreader; Shouldering Machine; Skid Steer Loader (With or Without Attachments); Telehandler.</p> <p>Future Increase(s):                      Add \$1.25/hr on 6/1/2015; Add \$1.30/hr on 6/1/2016;                      Add \$1.25/hr on 6/1/2017.</p>	36.17	20.80	56.97

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

<u>CODE</u>	<u>TRADE OR OCCUPATION</u>	<u>HOURLY BASIC RATE OF PAY</u> \$	<u>HOURLY FRINGE BENEFITS</u> \$	<u>TOTAL</u> \$
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. Future Increase(s): Add \$1.25/hr on 6/1/2015; Add \$1.30/hr on 6/1/2016; Add \$1.25/hr on 6/1/2017. Premium Increase(s): DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: <a href="http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm">http://www.dot.wi.gov/business/civilrights/laborwages/pwc.htm</a> .	36.17	21.15	57.32
556	Fiber Optic Cable Equipment.	27.89	17.20	45.09

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

The documents following the Prevailing Wage Rate Determination consist of eighteen pages (including this one) 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
	Prevailing Wage - Public Entity Project Owners	Explanation of project owner responsibilities	2
16056	Post the White Sheet	Contracting agency	1
10908	Consolidated List of Debarred Contractors	Any party contracting someone to complete work on a prevailing wage project	3
	Prevailing Wage – Contractors	Explanation of contractor responsibilities	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
	Additional General Prevailing Wage Law Information	General information for public entity or any other interested party	3

6/1/2015

## 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 most 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.

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](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:

- 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.”
- Notify contractors that they are required to have a written substance abuse testing program in place that fulfills the requirements of §103.503, Wis. Stats., before commencing work on the prevailing wage project.
- 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/prevaling\\_wage\\_rate/default.htm](http://dwd.wisconsin.gov/er/prevaling_wage_rate/default.htm). For further assistance, call the Equal Rights Division at 608-266-6861 and ask for prevailing wage.

## **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.

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

June 1, 2015

This list has been prepared in accordance with the provisions of §§66.0903(12) and 103.49(7), Wis. 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. 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 Jim Chiolino, Equal Rights Division, P. O. Box 8928, Madison, WI 53708 or call (608) 266-3345. Deaf, hearing or speech-impaired callers may contact the department by calling its TDD number (608) 264-8752.

<u>Name of Contractor</u>	<u>Address</u>	<u>Effective Date</u>	<u>Termination Date</u>	<u>Cause Code</u>	<u>Date of Violation(s)</u>	<u>Limitations/Deviations</u>
A-1 Duran Roofing & Insulation Services, Inc.	3700 N Fratney St Milwaukee, WI 53212 or 8095 NW 64 <sup>th</sup> St Miami, FL 33166	11/1/14	10/31/17	1, 2 and 4	2011- 2012	None
Abel, Mike	See, Abel Electric, Inc					
Abel Electric, Inc	3385 Belmar Rd Green Bay, WI 54313	9/1/12	8/31/15	1	2011	None
Arnie Christiansen Mason Contractors, LLC	2304 65 <sup>th</sup> Dr Franksville, WI 53126	9/1/14	8/31/16	1, 2 and 4	2011	None
Atkins, Scott	See, Freedom Insulation, Inc					
Boecker, Roger	See, R-Way Pumping, Inc					
Brechtel, Mark G	See, Ecodec, Inc					
Cargill Heating and Air Conditioning Company, Inc	3049 Edgewater La La Crosse, WI 54603	3/1/14	2/28/17	1 and 2	2011	None
Castlerock Commercial Construction, Inc	PO Box 11699 Milwaukee, WI 53211-0699	2/1/12	1/31/15	1, 2 and 4	2009 & 2010	None

<u>Name of Contractor</u>	<u>Address</u>	<u>Effective Date</u>	<u>Termination Date</u>	<u>Cause Code</u>	<u>Date of Violation(s)</u>	<u>Limitations/ Deviations</u>
Christiansen, Andy	See, Arnie Christiansen Mason Contractors, LLC					
Christiansen, Arnold	See, Arnie Christiansen Mason Contractors, LLC					
Darnick, Gregory L	See, Darnick Trucking, LLC					
Darnick Trucking, LLC	W914 County Rd V Berlin, WI 54923	11/1/14	10/31/15	1, 2 and 4	2012 & 2013	None
Dem/Ex Group, Inc	805 S Adams St Manito, IL 61546	12/1/11	11/30/14	1 and 2	2010	None
Duran, Bernardo	See, A-1 Duran Roofing & Insulation Services and RRS2 Inc					
Ecodec, Inc	5106 Wintergreen Dr Madison, WI 53704	10/1/14	9/30/17	1	2011 & 2012	None
Fisher, Ed &/or Fisher, Rhonda	See, Dem/Ex Group, Inc					
Freedom Insulation, Inc	117925 219th Ave Chippewa Falls, WI 54729	9/1/11	8/31/14	1	2008- 2010	None
Galstad, Michael E (aka Michael Earl Galstad)	See, Cargill Heating and Air Conditioning Company, Inc					
Gjolaj, Ded	See, Horizon Bros Painting Corp					
Horizon Bros Painting Corp	1053 Kendra La Howell, MI 48843	10/1/14	9/30/16	4	2012	None
JT Roofing, Inc	350 Tower Dr Saukville, WI 53080	6/1/12	5/31/15	1, 2 and 4	2007 & 2008	None

<u>Name of Contractor</u>	<u>Address</u>	<u>Effective Date</u>	<u>Termination Date</u>	<u>Cause Code</u>	<u>Date of Violation(s)</u>	<u>Limitations/ Deviations</u>
Jinkins, Richard	See, Castlerock Commercial Construction, Inc					
Mid-W Enterprises, Inc	1730 22 <sup>nd</sup> Avenue Kenosha, WI 53140	6/1/15	5/31/17	1, 2 and 4	2013	None
Midwest Construction Co., Inc.	See, Mid-W Enterprises, Inc					
Oden, Cassie	See, A-1 Duran Roofing & Insulation Services and RRS2 Inc					
Ofstie, Darin	See, Precision Excavating and Grading, LLC					
Peret, Robert	See, A-1 Duran Roofing & Insulation Services and RRS2 Inc					
Precision Excavating and Grading, LLC or Precision Excavating Enterprises, LLC	2104 Pierce Saint Croix Rd Baldwin, WI 54002	5/1/11	4/30/14	1, 2 and 4	2006- 2008	None
R-Way Pumping, Inc	3023 Lake Maria Rd Freeport, MN 56331	3/1/12	2/28/15	1, 2 and 4	2008	None
RRS2 Inc	133 N Jackson St, #427 Milwaukee, WI 53202 or 1313 N Franklin Pl, #805 Milwaukee, WI 53202	11/1/14	10/31/17	1, 2 and 4	2011- 2012	None
Thull, Gerald T	See, JT Roofing, Inc					
Ventura, Robert	See, Mid-W Enterprises, Inc					

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

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## 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 most of these exclusions. The prevailing wage laws that apply to local governmental units and their contractors are §§66.0903 and 103.503, Wis. Stats. The prevailing wage laws that apply to state agencies and their contractors are §§103.49 and 103.503, 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.

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."
- Have a written substance abuse testing program in place that fulfills the requirements of §103.503, Wis. Stats., before commencing work on the project.

- 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](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.

## 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; or
    - (2) 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 hours worked in excess of the prevailing hours of labor, to any employee at any time within the preceding three (3) years.

### Other Construction Business

Business Name			
Street Address or P O Box	City	State	Zip Code
Business Name			
Street Address or P O Box	City	State	Zip Code
Business Name			
Street Address or P O Box	City	State	Zip Code
Business Name			
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			
Authorized Officer Signature		Date Signed	
Corporation, Partnership or Sole Proprietorship Name			
Street Address or P O Box	City	State	Zip Code

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

## 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		

## 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 _____ )  )SS  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 (     )			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**

## 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 (     )	Requester Title		
Email address (if you prefer to receive your response via email)	Fax Number (if you prefer to receive your response via fax) (     )		

**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) 267-4592 / **DO NOT e-mail your request.**  
 Call (608) 266-6861 for assistance in completing this form.

## ADDITIONAL GENERAL PREVAILING WAGE LAW INFORMATION

(This document updated February 2014)

For prevailing wage laws and frequently asked questions, refer to the prevailing wage website at:  
[http://dwd.wisconsin.gov/er/prevailing\\_wage\\_rate/default.htm](http://dwd.wisconsin.gov/er/prevailing_wage_rate/default.htm)

Topic	Who's affected?	Brief description of requirement under §66.0903 or §103.49
Non-applicability	All public entities	Prevailing wage rates do not apply to minor service or maintenance work, warranty work, or work under a supply and installation contract.
Non-applicability: Minor service or maintenance work	Local governmental units & Contractors	Minor service or maintenance work means a project of public works that is limited to <ul style="list-style-type: none"> <li>• minor crack filling, chip or slurry sealing, or other minor pavement patching, not including overlays, that has a projected life span of no longer than 5 years or that is performed for a TOWN and is not funded under §86.31, regardless of projected life span;</li> <li>• the depositing of gravel on an existing gravel road applied solely to maintain the road;</li> <li>• road shoulder maintenance;</li> <li>• cleaning of drainage or sewer ditches or structures; or</li> <li>• any other limited, minor work on public facilities or equipment that is routinely performed to prevent breakdown or deterioration.</li> </ul>
Non-applicability: Minor service or maintenance work	State agencies	Minor service or maintenance work means a project of public works that is limited to <ul style="list-style-type: none"> <li>• minor crack filling, chip or slurry sealing, or other minor pavement patching, not including overlays, that has a projected life span of no longer than 5 years;</li> <li>• cleaning of drainage or sewer ditches or structures; or</li> <li>• any other limited, minor work on public facilities or equipment that is routinely performed to prevent breakdown or deterioration.</li> </ul>
Non-applicability: Supply & installation contract	All public entities	Supply and installation contract means a contract under which the material is installed by means of simple fasteners or connectors such as screws or nuts and bolts and no other work is performed on the site of the project of public works, and the total labor cost to install the material does not exceed 20 percent of the total cost of the contract.
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.

<b>Topic</b>	<b>Who's affected?</b>	<b>Brief description of requirement under §66.0903 or §103.49</b>
<b>Non-applicability: Residential</b>	<b>All public entities</b>	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.
<b>Non-applicability: Residential subdivision infrastructure</b>	<b>All public entities</b>	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.
<b>Electronic certified payroll record</b>	<b>Contractors</b>	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 was discontinued effective July 1, 2011. Contractors are still required to maintain payroll records and provide them upon request from DWD &/or the project owner.
<b>Payroll record inspection request by any person</b>	<b>Contractors &amp; Complainants</b>	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.
<b>Statewide uniformity</b>	<b>Local governmental units</b>	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.
<b>Substance Abuse Testing</b>	<b>Contractors &amp; Workers</b>	Before commencing work on a prevailing wage project, a contractor must have a written substance abuse testing program in place that complies with §103.503, Wis. Stats. No employee may use, possess, attempt to possess, distribute, deliver, or be under the influence of a drug or under the influence of alcohol while performing work on a prevailing wage project.

Topic	Who's affected	Brief description of requirement under §66.0903 or §103.49
Covered employees	Truck drivers & Other workers & Contractors	<p>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:</p> <ol style="list-style-type: none"> <li>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.</li> <li>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.</li> </ol>

1 SECTION 01 11 00

2  
3 SUMMARY OF WORK

4 PART 1 GENERAL

5 1.01 APPLICABLE PROVISIONS

6 A. Applicable provisions of Division 01 shall govern work of this section.

7 1.02 APPLICABLE PUBLICATIONS (NONE)

8 1.03 DESCRIPTION OF WORK

9 A. The work basically consists of installing a new concrete riverwalk trail (sidewalk),  
10 one new stairway structure down to the river, landscaping and select plantings plus  
11 providing a plant maintenance and management plan, site lighting and miscellaneous  
12 electrical work, and numerous other related work items. The work is described in  
13 detail by the plan sheets titled: Veterans Memorial Park Rivewalk, Village of  
14 Grafton, Ozaukee County, Wisconsin and the associated contract documents,  
15 including specifications, contained herein.

16 B. The construction consists of supplying all materials (unless otherwise noted for  
17 Owner Direct Purchase item), equipment, labor, etc. to complete the project.

18 C. Final Completion shall mean the successful completion of all work. This shall  
19 include the delivery (by Contractor to Owner) of all project closeout documentation,  
20 which includes in part the following.

- 21 • Completed original lien waivers from all sub-contractors and suppliers.
- 22 • Final payment request and change order documentation (if applicable).
- 23 • Warranty documents and certificates.
- 24 • Any other documentation required by the contract documents (load delivery tickets,  
25 prevailing wage rate compliance statements, etc.).

26  
27 END OF SECTION

1 SECTION 01 11 13

2  
3 WORK COVERED BY CONTRACT DOCUMENTS

4 PART 1 GENERAL

5 1.01 APPLICABLE PROVISIONS

6 A. Applicable provisions of Division 01 shall govern work of this section.

7 1.02 APPLICABLE PUBLICATIONS

8 1.03 DESCRIPTION OF WORK

9 A. See Section 01 10 00 entitled Summary of Work

10 1.04 RELATED WORK ELSEWHERE

11 A. Procurement and Contracting Requirements - Division 00 (All Sections)

12 1.05 SUBMITTALS

13 A. Construction Schedule. The Contractor shall submit a schedule of operation at the  
14 pre-construction meeting for approval by Owner and Engineer. The schedule shall  
15 indicate the various activities and work involved and shall clearly show the start-  
16 finish dates of each type of work as applicable (ie. project start, erosion control,  
17 construction, restoration, final completion, etc.).

18 B. Shop Drawings. See Section 01 33 00 Submittals.

19 C. Material List. See Section 01 33 00 Submittals.

20 1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS

21 PART 2 PRODUCTS AND MATERIALS (N/A)

22 PART 3 CONSTRUCTION METHODS (N/A)

23 PART 4 MEASUREMENT AND PAYMENT (N/A)

24  
25 END OF SECTION

1 SECTION 01 14 00

2  
3 WORK RESTRICTIONS AND PROVISIONS

4 PART 1 GENERAL

5 1.01 APPLICABLE PROVISIONS

6 A. Applicable provisions of Division 01 shall govern work of this section.

7 1.02 APPLICABLE PUBLICATIONS

8 A. The following publications of the issues listed below, but referred to thereafter by  
9 basic designation only, form a part of this specification to the extent indicated by the  
10 reference thereto.

- 11 1. Manual on Uniform Traffic Control Devices (MUTCD) for Streets and  
12 Highways, current edition.  
13 2. State of Wisconsin, Department of Transportation, Standard Specifications  
14 for Highway and Structure Construction, Current Edition at time of bid  
15 opening.

16 1.03 DESCRIPTION OF WORK (N/A)

17 1.04 RELATED WORK ELSEWHERE

18 A. Procurement and Contracting Requirements - Division 00 (All Sections)

19 1.05 SUBMITTALS (N/A)

20 1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS (N/A)

21 PART 2 PRODUCTS AND MATERIALS (N/A)

22 PART 3 CONSTRUCTION METHODS

23 3.01 EXAMINATIONS

24 A. Contractor shall obtain complete data at the site and inspect surfaces that are to  
25 receive the work before proceeding with assembling, fitting or erecting his work  
26 under this contract. The Contractor shall notify the Engineer in writing in the case of  
27 discrepancies between existing work and drawings, and of any defects in surfaces  
28 that are to receive the Contractor's work. The Engineer will direct the remedy of  
29 applicable surfaces.

30 B. Information pertaining to existing conditions that appear on the drawings is based on  
31 available records. While such data has been collected with reasonable care, there is  
32 no expressed or implied guarantee that conditions so indicated are entirely  
33 representative of those actually existing or that unexpected developments may not

1 occur. All data included was provided to assist the Contractor in the investigation of  
2 conditions. The Contractor is responsible for the interpretation of the data provided.

3 C. The Contractor shall become acquainted with the location of underground service,  
4 utilities, structures, etc., which may be encountered or be affected by the  
5 Contractor's work, and shall be responsible for any damage caused by neglect to  
6 provide proper precautions or protection.

7 D. Utility Locations. Contractor shall be responsible for locating and verifying all  
8 utilities on the project and also all relocations where necessary. Typically the  
9 utilities require the request for locate be made a minimum of three working days  
10 before the Contractor begins work in the area. The utilities shown on the contract  
11 drawings are approximate in location, depth, number, and type.

12 E. Contractor shall verify grades, lines, levels, locations, and dimensions as shown on  
13 drawings and report any errors or inconsistencies to the Engineer before commencing  
14 work. Starting of work by the Contractor shall imply acceptance of existing  
15 conditions.

### 16 3.02 STORAGE AND HANDLING

17 A. Contractor or the Contractor's authorized representative must be present to accept  
18 delivery of all equipment and material shipments. The Owner's employees will not  
19 knowingly accept, unload, or store anything delivered to the site for the Contractor's  
20 use. Inadvertent acceptance of delivered items by any representative of the Owner  
21 shall not constitute acceptance or responsibility to assume all liability for any  
22 equipment or material delivered to the job site.

23 B. Any material or equipment removed from the present construction shall be the  
24 property of the Owner and disposition shall be as directed by the Owner or  
25 stockpiled at locations shown on the contract drawings. All salvaged materials shall  
26 be removed in a workmanlike manner and carefully transported to Owner's storage  
27 area. The Contractor shall coordinate the salvaging of items with the Owner.

28 C. Contractor shall confine all operations, equipment, apparatus, and storage of  
29 materials to the immediate area of work to the greatest possible extent. Contractor  
30 shall ascertain, observe, and comply with all rules and regulations in effect on the  
31 project site, including, but not limited to parking and traffic regulations, use of  
32 walks, security restrictions and hours of allowable ingress and egress.

33 D. The storage of materials on the grounds shall be in strict accordance with the  
34 instructions of the Owner.

35 1. All materials affected by moisture shall be stored on platforms and protected  
36 from the weather in accordance with manufacturer recommendations.

37 2. Should it be necessary at any time to move material storage platforms, the  
38 Contractors shall move same at the Contractor's expense, when directed by  
39 the Owner.

1           3.     Areas used for storage of materials shall be repaired and restored by the  
2           Contractor.

3           E.     The Owner assumes no responsibility for materials stored on the site. The  
4           Contractor shall assume full responsibility for damage due to the storage of  
5           materials.

6           F.     During the construction of this project, materials, storage areas, and earth stockpiles  
7           shall be located so as not to interfere with the installation of the utilities nor cause  
8           damage to existing structures or utilities.

9   3.03   WORK RESTRICTIONS AND PROVISIONS

10          A.     Notification. The Contractor shall notify the Owner and the Engineer 72 hours in  
11          advance of beginning work. Notice must also be given to the Owner and the  
12          Engineer for each subsequent day the Contractor will be working.

13          B.     Operation During Construction. The existing facilities shall remain completely  
14          operational during construction. The Contractor shall be responsible to see that the  
15          facilities are operating as they should. Sequence of operations or place of  
16          commencement may be determined by the Engineer as deemed to best serve the  
17          needs and convenience of the Owner, or as necessity of occasion requires.

18          C.     Starting of work implies acceptance of the work of others. Removal and replacement  
19          of work applied to defective surfaces, in order to correct defects, shall be done at the  
20          expense of the Contractor who applied work to defective surfaces.

21          D.     Access to Work. Representatives of the State and Federal Regulatory Agencies and  
22          Owner shall have access to the work and on-site records at all times.

23          E.     Project Log. A project log shall be maintained showing daily progress of work.  
24          Engineer and Owner shall have access to this logbook and the project schedule at all  
25          times.

26          F.     Existing pipes, electrical work, and all other utilities encountered, which may  
27          interfere with new work, shall be rerouted, capped, cut off, or replaced by the  
28          Contractor.

29          G.     Dust and Noise. Contractor shall make an effort to keep dust and noise to a  
30          minimum during construction. The dispersion of dust from construction related  
31          activities shall, until acceptance of work, be minimized by the application of water.

32          H.     Contractor shall confine equipment, apparatus, storage of materials and operations to  
33          limits by specific direction of the Owner or Engineer and shall not bring material  
34          onto the site until they are needed for the progress of the work.

1 I. Cleaning. Contractor shall be responsible for all cleaning required within the  
2 technical sections of the specifications governing work under the Contractor's  
3 jurisdiction as well as for keeping all work areas, passageways, and all other areas of  
4 the premises free of rubbish, debris and scrap which may be caused by the  
5 Contractor's operations or that of the Subcontractors.

- 6 1. Remove rubbish, debris, and scrap promptly upon its accumulation and in no  
7 event later than the end of each week.
- 8 2. Combustible waste shall be removed immediately or stored in fire resistive  
9 containers until disposed of in an approved manner.
- 10 3. Spillage of oil, grease, or other liquids which could cause a slippery or  
11 otherwise hazardous situation or stain a finished surface, shall be cleaned up  
12 immediately.
- 13 4. Dust, dirt, and other foreign matter shall be removed completely from all  
14 internal surfaces of all mechanical and electrical units, cabinets, ducts, pipes,  
15 etc.
- 16 5. Dirt, soil, fingerprints, stains and the like, shall be completely removed from  
17 all exposed finished surfaces.
- 18 6. If rubbish and debris is not removed, or surfaces cleaned as specified above,  
19 the Owner reserves the right to have said work done by others and the related  
20 cost(s) will be deducted from monies due the Contractor.

21 J. Disposal of Demolished Materials. Remove from the site all debris, rubbish, and  
22 other materials resulting from demolition operations. Storage of removed materials  
23 will not be permitted on the site. If burning is allowed, the Contractor shall obtain all  
24 required permits.

25 K. Mail Service. If the Postal Carrier cannot deliver mail to the properties affected by  
26 the construction of utilities or roadway, the Contractor shall provide temporary  
27 mailboxes or shall relocate existing mailboxes to an accessible site. Contractor shall  
28 relocate mailboxes to their new location and set to proper height, as directed by an  
29 authorized representative of the US Postal Service. Mailboxes shall be reset to  
30 original location upon restoration of postal service. If mailboxes, bases or posts are  
31 damaged during removal, it shall be the Contractor's responsibility to replace the  
32 damaged part prior to reinstallation.

33 L. Street Signs. The Contractor shall salvage and reinstall all signs required to be  
34 moved for construction. All signs to be removed shall be done in a workmanlike  
35 manner and carefully transported to Owner's storage area. If sign bases or posts are  
36 damaged during removal, it shall be the Contractor's responsibility to replace the  
37 base or post prior to reinstalling signs.

### 38 3.04 OPERATION AND PROTECTION

39 A. Contractor shall schedule his work as to minimize the inconvenience to the Owner  
40 and residents adjacent to the project.

- 1 B. Traffic Control. The Contractor shall meet the requirements for traffic control in  
2 accordance with the Manual on Uniform Traffic Control Devices.
- 3 C. All structures and equipment shall be constructed, installed, and operated with  
4 guards, controls, and other devices in place.
- 5 D. The Contractor shall provide protection as follows:
- 6 1. Protection. The Contractor shall provide and maintain proper barricades,  
7 fences, signal lights, or watchmen to properly protect the work, persons,  
8 animal and property against injury. The cost of protection shall be incidental  
9 to the contract and no extra payment will be allowed therefore.
  - 10 2. Provide, erect, and maintain all required barricades, guard rails, temporary  
11 walkways, etc., of sufficient size and strength necessary for protection of  
12 stored material and equipment; adjacent to or within project area; adjoining  
13 property and the building(s) as well as to prevent accidents to the public and  
14 the workmen at the job site.
  - 15 3. Provide and maintain proper shoring and bracing for existing underground  
16 utilities encountered during excavation work, to protect them from collapse  
17 or other type of damage until such time as they are to be removed,  
18 incorporated into the new work, or can be properly backfilled upon  
19 completion of new work.
  - 20 4. Provide protection against rain, snow, wind, ice, storms or heat so as to  
21 maintain all work, materials, apparatus, and fixtures, incorporated in the  
22 work or stored on the site, free from injury or damage. At the end of the  
23 day's work, cover all new work likely to be damaged. Remove snow and ice  
24 as necessary for safety and proper execution of the work.
  - 25 5. Protect the building and foundations from damage at all times from rain and  
26 groundwater. Provide all equipment and enclosures as necessary to provide  
27 this protection.
  - 28 6. Damaged property shall be repaired or replaced in order to return it to  
29 preconstruction conditions.
  - 30 7. Protect materials, work, and equipment, not normally covered by above  
31 protection, until construction proceeds to a point where the general building  
32 protection of the area where located, dispenses with the necessity therefore.  
33 Protect work outside of the building lines such as trenches and open  
34 excavations, as specified above.
  - 35 8. Take any and all necessary precautions to protect Owner's property as well  
36 as adjacent property, including trees, shrubs, buildings, sanitary sewers,  
37 water piping, gas piping, electric conduit or cable, etc., from any and all  
38 damage which may result due to work on this project.
  - 39 9. Repair work outside of property line in accordance with the requirements of  
40 the authority having jurisdiction.
  - 41 10. Repair any work damaged by failure to provide proper and adequate  
42 protection to its original state to the satisfaction of the Owner or remove and  
43 replace with new work at the Contractor's expense.



1 SECTION 01 31 13

2  
3 PROJECT COORDINATION

4 PART 1 GENERAL

5 1.01 APPLICABLE PROVISIONS

6 A. Applicable provisions of Division 01 shall govern work of this section.

7 1.02 APPLICABLE PUBLICATIONS (NONE)

8 1.03 DESCRIPTION OF WORK

9 A. The General Contractor or his appointed representative shall act as the project  
10 coordinator. He shall generally be charged with all duties of a project coordinator  
11 including, but not limited to, being responsible for conditions of the contract,  
12 administrative requirements, subcontractor's scheduling and cooperation, compliance  
13 with specifications and drawings, and all other work related requirements.

14 B. Contractor shall coordinate the work with adjacent work and shall cooperate with all  
15 other Contractors so as to facilitate the general progress of the work. Each  
16 Contractor shall afford all other Contractors every reasonable opportunity for the  
17 installation of their work and for the storage of their material. In no case will any  
18 Contractor be permitted to exclude from the premises or work, any other Contractor  
19 or employees thereof, or interfere with any Contractor in the executing or installation  
20 of the work.

21 C. Each Contractor shall perform its work in proper sequence in relation to that of other  
22 Contractors and as approved by the Engineer. Any cost caused by defective or ill-  
23 timed work shall be borne by the Contractors responsible therefore.

24 D. Contractor shall arrange the work and dispose of materials so as not to interfere with  
25 the work or storage of materials of others and each shall join their work to that of  
26 others in accordance with the intent of the drawings and specifications.

27 E. All Contractors shall work in cooperation with each other and fit their work into the  
28 structure as job conditions may demand. All final decisions as to right-of-way and  
29 run of pipes and ducts, etc., shall be made by the Engineer or the Owner.

30 F. It shall be the responsibility of the Contractor to keep constant check on the progress  
31 of the work so that each particular trade can insure proper preparation for installation  
32 of that Contractor's work and not cause delay in the progress of the work. It shall  
33 further be the responsibility of the Contractor to periodically make inspections of  
34 work in progress and to notify the Engineer when work is complete in compliance  
35 with specifications and drawings.

1 G. A project log shall be maintained showing daily progress of work. The Engineer and  
2 Owner shall have access to this log book and the project schedule at all times.

3 1.04 RELATED WORK ELSEWHERE

4 A. Procurement and Contracting Requirements - Division 00 (All Sections)

5 1.05 SUBMITTALS (NONE)

6 1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS (NONE)

7 PART 2 PRODUCTS AND MATERIALS (N/A)

8 PART 3 CONSTRUCTION METHODS (N/A)

9 PART 4 MEASUREMENT AND PAYMENT (N/A)

10

11

END OF SECTION

SECTION 01 31 19

PROJECT MEETINGS

PART 1 GENERAL

1.01 APPLICABLE PROVISIONS

A. Applicable provisions of Division 01 shall govern work of this section.

1.02 APPLICABLE PUBLICATIONS (NONE)

1.03 DESCRIPTION OF WORK

A. Preconstruction Meeting. A Preconstruction Meeting will be scheduled and conducted by the Engineer and shall be attended by representatives of the Owner, Contractor and all subcontractors as deemed required by the Engineer. The purpose of the meeting will be to identify all project participants, review project requirements and specifications, establish the method of making pay requests and other matters that may be deemed necessary to be discussed. At this meeting, the Contractor shall submit the proposed construction schedule for review, consensus by the parties and approval. The Contractor shall also submit a schedule of values for the work to be used as the accounting format for all progress payments.

B. Construction Progress Meetings. Brief weekly meetings, as deemed necessary by the Engineer, will be held and shall be attended by all Contractors. The purpose of the meeting will be to coordinate work schedules, review the project progress and other matters that may be deemed necessary to be discussed.

1. A construction progress meeting agenda shall be prepared as deemed necessary to the Engineer.

2. All construction progress meeting attendees shall be fully prepared prior to the meeting and shall be ready to discuss issues raised as they relate to their work. This shall include, but not be limited to, providing revised schedules, milestone activities, specific requirements for subordinate construction and any proposed or completed changes required for their work.

1.04 RELATED WORK ELSEWHERE

A. Procurement and Contracting Requirements - Division 00 (All Sections)

1.05 SUBMITTALS (NONE)

1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS (NONE)

PART 2 PRODUCTS AND MATERIALS (N/A)

PART 3 CONSTRUCTION METHODS (N/A)

PART 4 MEASUREMENT AND PAYMENT (N/A)

END OF SECTION

1 SECTION 01 32 16

2  
3 CONSTRUCTION PROGRESS SCHEDULE

4 PART 1 GENERAL

5 1.01 APPLICABLE PROVISIONS

6 A. Applicable provisions of Division 01 shall govern work of this section.

7 1.02 APPLICABLE PUBLICATIONS (NONE)

8 1.03 DESCRIPTION OF WORK

9 A. Submit preliminary Construction Progress Schedule in accordance with General  
10 Conditions prior to pre-construction conference.

11 1.04 RELATED WORK ELSEWHERE

12 A. Procurement and Contracting Requirements - Division 00 (All Sections)

13 1.05 SUBMITTALS

14 A. Furnish four (4) copies of preliminary schedule, and subsequent revisions thereof, to  
15 Engineer three (3) days before each progress meeting.

16 B. Within three (3) days after monthly progress meetings, furnish four (4) copies of  
17 revised schedule to Engineer. Furnish revised schedule to Subcontractors as  
18 appropriate.

19 C. Failure to submit schedules on a timely basis shall be considered cause for  
20 withholding progress payments.

21 1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS (NONE)

22 PART 2 PRODUCTS AND MATERIALS (N/A)

23 PART 3 CONSTRUCTION METHODS

24 3.01 FORM OF SCHEDULE

25 A. Prepare schedule in form of horizontal bar chart.

- 26 1. Provide separate horizontal bar for each trade, activity or operation.  
27 2. Provide continuous vertical line to identify first working day of each week.  
28 3. Scale and space to allow for notations and future revisions.

29 3.02 CONTENT OF SCHEDULE

30 A. Show complete sequence of construction by activity or operation.

- 1 B. Show dates for beginning and completion of each major element of construction and  
2 installation dates for major equipment items. Include:  
3 1. Each individual task of construction.  
4 2. Procurement of equipment and systems including Shop Drawing submittals,  
5 Engineer's review of submittals, shop tests, and delivery dates.  
6 3. Identification of Work that will affect existing plant operations.  
7 4. Services of manufactures' representatives.  
8 5. Startup dates for major equipment.  
9 6. Field tests.  
10 7. Dates of Substantial and Final completion.  
11 8. Subcontractor Work items.  
12 9. MBE, WBE, and SBE activities.  
13 10. O&M data activities  
14 11. Contractor-provided training.
- 15 C. Show projected percentage of completion for each activity as of first day of each  
16 month.

### 17 3.03 REVISIONS TO SCHEDULE

- 18 A. Each month Contractor shall receive update information from Subcontractors and  
19 Suppliers that shall be included in current schedule. Revised schedule shall indicate  
20 changes such as:  
21 1. Major changes in scope.  
22 2. Activities modified since previous submittal.  
23 3. Revised projections of progress and completion.  
24 4. Other identifiable changes.
- 25 B. Provide narrative report to define following:  
26 1. Problem area and anticipated delays and their impact on schedule.  
27 2. Corrective action recommended and its effect.

### 28 3.04 MONTHLY PROGRESS MEETINGS

- 29 A. Once each month Construction Progress Schedule will be reviewed. Progress will be  
30 reviewed:  
31 1. To identify those activities started and completed during previous period.  
32 2. For remaining duration required to complete each activity started, but not  
33 completed.  
34 3. For durations of selected activities not yet started.  
35 4. For effect of Change Orders and proposed sequencing.
- 36 B. Update schedule accordingly.

1 3.05 DELAYS AND RECOVERY

2 A. If, at any time during the Project, Contractor fails to complete activity by its latest  
3 scheduled completion date, Contractor shall, within five (5) working days, submit to  
4 Engineer written statement as to how and when work force will be reorganized to  
5 return to current construction schedule.

6 B. If, during schedule review meetings, it becomes apparent that milestone completion  
7 dates or Contract completion dates will not be met, Contractor shall take some or all  
8 of the following actions:

9 1. Increase construction staffing in such quantities and crafts as shall eliminate  
10 backlog of Work.

11 2. Increase number of working hours per shift, shifts per day, Work days per  
12 week, amount of construction equipment or combination of foregoing  
13 sufficient to substantially eliminate backlog of Work.

14 3. Reschedule Work actives to achieve concurrency of accomplishment

15 C. Under no circumstances will addition of equipment or construction forces, increasing  
16 working hours or other method, manner or procedure to return to current  
17 Construction Progress Schedule be considered justification for Contract modification  
18 or treated as acceleration.

19 PART 4 MEASUREMENT AND PAYMENT

20 4.01 CONSTRUCTION PROGRESS SCHEDULE

21 A. General. Construction Progress Schedule shall be paid for at the bid price in  
22 accordance with one of the following methods, unless indicated otherwise in the Bid  
23 Schedule or Special Procedures - Division 01.

24 1. Construction Progress Schedule, Lump Sum. When so provided, payment  
25 for construction progress schedule shall be made at the contract lump sum  
26 price bid or as specified in Special Procedures - Division 01.

27 2. Construction Progress Schedule, Inclusive. When no quantity is provided,  
28 construction progress schedule shall be considered inclusive to payment for  
29 work associated with administration.

30  
31

END OF SECTION

1 SECTION 01 32 23

2  
3 SURVEY AND LAYOUT DATA

4 PART 1 GENERAL

5 1.01 APPLICABLE PROVISIONS

6 A. Applicable provisions of Division 1 shall govern work of this section.

7 1.02 APPLICABLE PUBLICATIONS (NONE)

8 1.03 DESCRIPTION OF WORK

9 A. The Engineer shall supply no more than the following line and grade staking for  
10 construction. The Contractor shall be responsible for the cost of any extra staking  
11 required and/or replacement of any stakes negligently disturbed as determined by the  
12 Engineer. The Contractor shall notify the Engineer at least three (3) working days  
13 prior to the need for construction staking.

14 Reference Line: Set one offset hub and lath along the reference line at even 50 foot  
15 stations plus additional offset hubs and lath at each circular bump-out. Additionally,  
16 the Engineer will provide an AutoCAD file of the reference line stationing and major  
17 design elements for use by the Contractor to lay out the improvements. All other  
18 staking and/or layout shall be by Contractor. The offset distance for the hubs from  
19 the reference line shall be mutually agreed upon by the Contractor and the Engineer  
20 at the preconstruction conference. The Engineer shall prepare a cut sheet for the  
21 Contractor. The cut sheet shall show the elevations of the offset hubs relative to the  
22 corresponding finish pavement elevations.

23 1.04 RELATED WORK ELSEWHERE

24 A. Procurement and Contracting Requirements - Division 00 (All Sections)

25 1.05 SUBMITTALS (NONE)

26 1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS (NONE)

27 PART 2 PRODUCTS AND MATERIALS (N/A)

28 PART 3 CONSTRUCTION METHODS (N/A)

29 PART 4 MEASUREMENT AND PAYMENT (N/A)

30  
31  
32 END OF SECTION

1 SECTION 01 33 00

2  
3 SUBMITTALS

4 PART 1 GENERAL

5 1.01 APPLICABLE PROVISIONS

6 A. Applicable provisions of Division 01 shall govern work of this section.

7 1.02 APPLICABLE PUBLICATIONS (NONE)

8 1.03 DESCRIPTION OF WORK

9 A. The work under this section shall cover furnishing submittal information as required  
10 by the contract drawings, other specification sections and as specified herein.

11 1.04 RELATED WORK ELSEWHERE

12 A. Procurement and Contracting Requirements - Division 00 (All Sections)

13 B. Submittal Log - Section 01 33 23

14 1.05 SUBMITTALS

15 A. As soon as possible after Notice to Proceed, submit brochures of catalog cuts and  
16 specifications for all new equipment. Submittal of product data shall comply with  
17 the requirements for Submittals.

18 B. Prior to fabrication or installation, submit Submittals for review. Each submittal  
19 shall consist of the minimum number of copies as listed on the submittal log. Two  
20 will be returned to the Contractor. Should more than two copies of reviewed  
21 Submittals be necessary for Contractor's use and distribution, the Contractor shall  
22 supply additional sufficient number of Submittals for review as required.

23 C. Submittals shall include layout details, schedules, setting instructions, and  
24 manufacturer's literature. Concrete reinforcing steel Submittals shall include a  
25 concrete pouring sequence for structures with vertical construction joints.

26 1. Submittals shall be identified with the name of the project, numbered  
27 consecutively and bear the stamp of review of the Contractor as evidence that  
28 all drawings have been checked by the Contractor for accuracy and  
29 compatibility with contract requirements. Drawings not so checked and  
30 noted will be returned without being examined.

31 2. Partial lists will not be considered; Submittals for each part of work shall be  
32 complete in one submittal.

33 D. If information on previously submitted Submittals is altered, in addition to the  
34 notations made by the Engineer, the Contractor shall bring all changes to the

1 attention of the Engineer. Corrections or changes indicated on reviewed Submittals  
2 shall not be considered an order for extra work.

3 E. Submittals will not be considered reviewed unless they bear the stamp of review and  
4 signature of the Engineer. Drawings will be reviewed for general design only.  
5 Dimensions and fit of units of various parts shall be the Contractor's responsibility.

6 F. Prior to work at the site, submit samples allowing reasonable time for review and  
7 testing. Submit samples in sufficient quantity (minimum of five), of adequate size  
8 showing quality, type, color range, finish and texture. Label each sample stating  
9 material, description, applicable specification sections, intended use, project name,  
10 and Contractor's name.

11 G. Order no materials subject to sample review until receipt of written shop drawing  
12 review. Materials installed shall match reviewed samples. No review of samples  
13 shall be taken in itself to change or modify contract requirements beyond the  
14 expressed stipulations of the review letter.

15 H. All Submittals for major equipment must be reviewed and delivery dates scheduled  
16 prior to performing any work at the site. A revised work schedule shall be submitted  
17 weekly showing corrected delivery dates.

#### 18 1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS

19 A. Prior to start up of the equipment, the Contractor shall provide the Engineer with  
20 operation and maintenance manuals as listed on the submittal log. The manuals shall  
21 include the following:

- 22 1. Supplier and manufacturer's name, address, telephone number, and local  
23 representative's name, address and telephone number. Sources of service  
24 and parts and a list of local repair services, supply houses, and potential  
25 sources for the types of repairs and equipment parts.
- 26 2. Complete and accurate set of record drawings including drawing dimensions,  
27 schematics of hydraulics, wiring, and piping.
- 28 3. Warranties and bonds shall be included in manual.
- 29 4. Catalog literature complete with test data and performance data and ratings.
- 30 5. Specify equipment function, normal operating, and limiting conditions.
- 31 6. Assembly, installation, alignment, adjusting, and checking instructions.
- 32 7. Operating instructions for start-up, shutdown, routine and normal operation.
- 33 8. Emergency operating instructions indicating range and flexibility during  
34 emergencies.
- 35 9. Detailed service information including schedule of recommended  
36 maintenance.
- 37 10. Troubleshooting, common operating problems, problems that might occur in  
38 unit/process. List probable causes and discuss control/prevention.
- 39 11. Detailed safety section covering the operation and maintenance of unit.  
40 Contractor shall supply a complete list of equipment service numbers, model  
41 numbers, electrical requirements, manufacturer's names, etc.

- 1           12.    The correct model number shall be designated where the literature covers  
2                    more than one model.  
3           13.    For items assembled by the Contractor, the Contractor shall write and  
4                    provide duplicate operation and maintenance instructions.  
5           14.    Data shall be folded to 8-1/2 inch x 11 inch size and placed into hard cover  
6                    binders. Material shall be grouped according to specifications section and  
7                    filed behind individual filing tab pages on which the following is to be typed:  
8                    Item, Manufacturer, Contractor's Order Number, Supplier's Order Number,  
9                    Manufacturer's Order Number.  
10          15.    Manuals shall be delivered to the Engineer for approval prior to job  
11                    completion.

12   1.07   PERMITS AND APPROVALS

- 13          A.    Obtain and submit copies of all permits, code inspections, and approval documents,  
14                    as specified.

15   1.08   CONSTRUCTION SCHEDULE

- 16          A.    Submit a minimum of five copies of a schedule of operation prior to construction.  
17                    The schedule shall provide for activities of the various trades and shall be sequenced  
18                    to provide a minimum of interruption to the operation of existing facilities. Allow  
19                    ample time for the Owner to alter operations as required by the construction of the  
20                    various components of the work. Revised and updated construction schedule shall be  
21                    provided throughout the construction as deemed necessary and requested by the  
22                    Engineer.
- 23          B.    The construction schedule shall be supplemented by a list of Submittals, dates they  
24                    will be submitted for approval and a reasonable time allowance for review.

25   1.09   START-UP REPORTS

- 26          A.    Where equipment startup by a factory-trained representative is required, a minimum  
27                    of three copies of the start-up report shall be submitted which describe the  
28                    representatives activities and installation approval.
- 29                  1.    Start-up report shall be a typewritten document containing descriptive  
30                        information specifically identifying the piece by equipment, all tests  
31                        conducted, and the results of the tests.
- 32                  2.    Start-up role log, with the dated signatures of those conducting and accepting  
33                        all start-up instructions and tests shall be provided as part of the report.
- 34          B.    Substantial completion will not be issued until all start-up reports have been  
35                    submitted.

1 1.10 RECORD DRAWINGS

- 2 A. The Engineer will provide the Contractor with a suitable set of contract drawings on  
3 which daily records of changes and deviations from contract shall be recorded. All  
4 buried or concealed piping, conduit, or similar items shall be located by dimensions  
5 and elevations on the record drawings.
- 6 1. The daily record of changes shall be the responsibility of Contractor's field  
7 superintendent. No arbitrary mark-ups will be permitted.
  - 8 2. At completion of the project, the Contractor shall submit the marked-up  
9 record drawings to the Owner.

10 1.11 SUBMITTAL LOG

- 11 A. A submittal log is included as Section 01 33 23 of this Project Manual, which lists  
12 the minimum required Submittals, product data, samples, and operation and  
13 maintenance manuals. Additional submittals not listed on the log may be required by  
14 the Engineer during the course of construction. All submittals to the Engineer shall  
15 include the submittal number shown on the log. The minimum number of copies to  
16 be submitted is shown on the submittal log. Any additional copies required by the  
17 Contractor may be submitted in addition to the number shown on the log.

18 PART 2 PRODUCTS AND MATERIALS (N/A)

19 PART 3 CONSTRUCTION METHODS (N/A)

20 PART 4 MEASUREMENT AND PAYMENT

21 4.01 GENERAL

- 22 A. Submittals shall be paid for at the bid price in accordance with one of the following  
23 methods, unless indicated otherwise in the Bid Schedule or Special Procedures -  
24 Division 01.
- 25 B. All work specified herein shall be considered in each of the measurement and  
26 payment method(s) stipulated, unless indicated otherwise in the Bid Schedule or  
27 Special Procedures - Division 01.

28 4.02 SUBMITTALS

- 29 A. Submittals, Inclusive. The cost for all submittals shall be considered inclusive to  
30 payment for work related to the respective equipment, associated construction, or  
31 utility, unless indicated otherwise in the Bid Schedule or Special Procedures -  
32 Division 01.

33  
34 END OF SECTION

**SUBMITTAL, SAMPLE AND O&M MANUAL SUBMITTAL LOG**

PROJECT: \_\_\_\_\_ MSA PROJECT NO: \_\_\_\_\_  
 CONTRACTOR: \_\_\_\_\_

Spec Section #	Spec Section Title/Product	Date Rec'd	Min. # Req'd	# Submitted	Submittal/Revision #	Referred		Date Reviewed	Action					# copies to					
						To	Date Sent		Reviewed with no Comments	Reviewed with Comments as Noted	Amend and Resubmit	Rejected	Date Ret'd	Contractor	Owner	Field	File		
01 32 16	Construction Progress Schedule		6																
03 30 00	Cast-in-Place Concrete		6																
31 23 33	Trenching and Backfilling		6																
32 13 10	Concrete Sidewalk, Steps and Driveways		6																
32 91 19.13	Topsoil Placement Grading		6																
32 92 19	Seeding		6																
	Geotextile Fabric		6																
	Landscape Stone & Mulch		6																
	Pavers		6																
	Lannon Stone Wall		6																
	Railings		6																
	Electrical Panel & Lighting Controls		6																
			6																

1 SECTION 01 35 00

2  
3 SPECIAL PROCEDURES

4  
5 CONTENTS: Work under this section is intended to supplement and/or modify the individual  
6 specifications. This section does not relieve the Contractor from fulfilling all items in said sections.  
7

8 DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS

9 00.01 SPECIFICATION EXPLANATION

- 10 A. The Special Procedures items contained herein will supplement or supersede the  
11 standard specifications contained elsewhere in the contract documents.  
12  
13 B. Specification Explanation for Work. All street and site work including, but not  
14 limited to: erosion and traffic control, street or site grading, removals, base course,  
15 pavement, curb/gutter, walkway/trail, electrical/lighting, topsoiling, seeding and  
16 mulching, along with all related work shall be done in accordance with these  
17 specifications and the "State of Wisconsin Standard Specifications for Highway and  
18 Structure Construction, current edition and all amendments to date thereto,  
19 hereinafter referred to as the "State Specifications".

20 00.02 WAGE RATES

- 21 A. The Contractor under this proposal shall pay the State of Wisconsin prevailing wage  
22 rates as indicated in the wage schedule. A copy of the "Affidavit of Compliance  
23 with Prevailing Wage Rate Determination" is also included. This form must be  
24 completed by the Contractor before final project payment will be issued.  
25  
26 B. The Contractor shall also comply with all current DWD requirements as provided at  
the following website: [http://dwd.wisconsin.gov/er/prevailing\\_wage\\_rate/](http://dwd.wisconsin.gov/er/prevailing_wage_rate/)

27 00.03 DEFINITIONS

- 28 A. When either the OWNER or VILLAGE is mentioned herein, it shall be construed to  
29 mean the Village of Grafton, Wisconsin, including its designated representatives.  
30 When ENGINEER is mentioned herein, it shall mean the consultants, MSA  
31 Professional Services, Inc. or its delegated representative.

1 00.04 BID QUANTITIES

- 2 A. All Bid Quantities are estimated. The Contractor shall field verify all quantities and
- 3 work prior to submitting a Bid. Final quantities shall be adjusted to reflect the field
- 4 installed quantities. The unit price in the Bid shall not be adjusted though final
- 5 quantities may vary. Lump sum prices shall not be adjusted. The Engineer’s
- 6 estimate of quantities as shown in the Bid is approximate and the right is reserved by
- 7 the Owner to increase or decrease said quantities.
  
- 8 B. The Bid contains one or more Bid Alternates that are intended to offer the Owner an
- 9 option for substitution of a particular item. The Bidder shall insert prices for each
- 10 line item for the Owner’s consideration. The Owner reserves the right to award the
- 11 contract on the base bid and any combination of the bid alternates.

12 00.05 PROJECT SCHEDULE

- 13 A. It is anticipated that the work will be awarded by approximately March 1, 2016 and
- 14 that work shall commence sometime in the spring thereafter. The Contractor shall
- 15 commence work as directed by the Notice to Proceed. According to the DNR permit,
- 16 no work near the river shall be performed from March 15 to June 1.
  
- 17 B. The Contractor shall have all aspects of the construction substantially complete and
- 18 ready for final payment as follows:

<u>Contract Event</u>	<u>Calendar Days or Dates</u>
Notice of Award	Anticipated March 3, 2016
Substantial Completion	September 1, 2016
Final Completion	September 1, 2018

26 The Contractor shall prepare and submit for approval to the Engineer a schedule of  
27 proposed construction activities. The schedule will be reviewed at the  
28 Preconstruction Meeting. It shall be in written and graphic form. The schedule shall  
29 define all construction activities including target beginning and completion dates for  
30 various facilities, indicate milestones and all critical path events and have notation of  
31 how many crews and/or subcontractors will be used and when they will start and end.

33 It is recommended that shop drawings for long lead items be initiated after Notice of  
34 Award to ensure completion times are not affected.

36 **Substantial Completion.** Substantial Completion shall include all work EXCEPT  
37 the following:

- 38 • Completion of the 2-year shoreline plantings maintenance and management
- 39 plan.

1 The Contractor shall submit all start-up reports for the lighting and electrical  
2 system and notify Engineer and Owner that the project is substantially  
3 complete and work is ready for final field inspection and measurement. The  
4 Contractor shall also submit such written guarantees to the Engineer for  
5 presentation to the Owner for all applicable equipment and items. Furnish  
6 guarantees in triplicate unless otherwise indicated.  
7

8 **Final Completion.** Final completion shall include all remaining items.

- 9 • Successful completion of the 2-year shoreline plantings maintenance and  
10 management plan.
- 11 • Completing all items addressed in final project closeout and warranty punch  
12 list.
- 13 • Submitting final project closeout documentation inclusive of closeout  
14 letter and final pay request.

15 00.06 GUARANTEE

- 16 A. All work, labor, materials, etc. included in this project shall be guaranteed against  
17 any defects in workmanship or materials for a period of one year following the date  
18 of acceptance (final payment) of all improvements by the Owner. Neither the final  
19 payment nor any provision in the contract documents shall relieve the Contractor of  
20 the responsibility for negligence or faulty materials or workmanship within the extent  
21 and period provided by law and upon written notice, the Contractor shall remove any  
22 defects due thereto and pay for any damage due to other work resulting there from,  
23 which shall appear within one (1) year after the date of final acceptance.

24 00.07 OWNER DIRECT PURCHASES

- 25 A. The Owner wishes to utilize its tax-exempt status for the purchase of some materials.  
26 The Contractor shall not only assist the Owner with the procurement of these items  
27 but also receive and install these items as a part of the work.
- 28 B. The following procedures shall be used for the items that are either identified on the  
29 plans or bid form (Owner Direct Purchase).
- 30 1. The Contractor shall include in their bid (incidental to the respective  
31 installation bid item) the cost of handling plus equipment and labor to install  
32 said items, but that material purchases shall be by Owner.
  - 33 2. The successful Contractor shall, upon notification of intent by Owner to  
34 purchase specific materials and/or equipment, assist the Owner as needed  
35 with this effort.
  - 36 3. The Owner will supply completed purchase order forms to the Contractor for  
37 review. The Contractor shall review the purchase order information to insure  
38 that all items needed for proper installation are included and return the form  
39 to the Owner. The Owner will sign and send purchaser orders to the  
40 suppliers and copy to the Contractor and Engineer.

- 1 4. Invoices are to be sent to the Owner's attention. The purchase order number  
2 must appear on the invoice.
- 3 5. The Owner will make payment on the approved invoices in a timely manner.  
4 Payments on purchase orders shall not exceed the purchase order amount.
- 5 6. The Contractor shall be responsible for filing freight claims, and handling all  
6 warranty claims. The Contractor shall also be responsible for receiving,  
7 unloading, and handling all material shipments."

#### 8 00.08 EXTRA WORK

- 9 A. When work is necessary to the proper completion of the project for which no  
10 quantities or prices were given in the proposal or contract, the same shall be called  
11 extra work and shall be performed by the Contractor when so directed in writing by  
12 the Owner. Extra work shall be performed by the Contractor in accordance with  
13 these specifications in a proper and workmanlike manner and as may be directed by  
14 the Owner. Prices for extra work shall be itemized and covered by a supplemental  
15 agreement submitted by the Contractor and approved by the Owner prior to the  
16 actual starting of such work. Should the parties be unable to agree on unit prices for  
17 the extra work or if this method is impractical, the Owner may instruct the Contractor  
18 to proceed with the work by day labor or force account as hereinafter provided for in  
19 payment for force account work. Claims for extra work not authorized in writing by  
20 the Owner prior to the work being done will be rejected.
- 21 B. In case a satisfactory adjustment in price cannot be reached for any item requiring a  
22 supplemental agreement, the Owner reserves the right to terminate the contract as it  
23 applies to the items in question and make such arrangements as may be deemed  
24 necessary to complete the work.
- 25 C. All extra work done on a force account basis will be paid for in the manner  
26 hereinafter described, and the compensation thus provided shall be accepted by the  
27 Contractor as payment in full for the use of small tools, superintendent's services, the  
28 timekeeper's services, premium on bond, and all other overhead expenses incurred in  
29 the prosecution of all extra work done on a force account basis. Payment will be  
30 made as follows:
  - 31 • For all materials purchased by the Contractor and used in this specific work he  
32 will receive the actual cost of such materials including freight charges, as shown  
33 by original receipted bills for materials and freight, to which will be added an  
34 amount equal to fifteen (15 percent of the sum thereof).
  - 35 • For all labor and foremen engaged in the specific operation, the Contractor will  
36 receive the wage prevailing and paid on the project for each and every hour that  
37 said labor and foremen are actually engaged in such work, to which will be added  
38 an amount equal to fifteen (15) percent of the sum thereof. In addition, the  
39 Contractor shall be paid a sum equal to the Workmen's Compensation insurance

1 premium and the actual cost of Social Security taxes, computed on the base rate  
2 for the class of work involved, for the actual amount of the payroll.

- 3 • For any machine, power, and equipment which it may deem necessary or  
4 desirable to use, the Contractor will be allowed a reasonable rental price, which  
5 will be agreed upon in writing before such work is begun, for each and every  
6 hour that said machinery or equipment is in use on such work, to which sum no  
7 percentage will be added.

8 D. The Contractor's timekeeper and the inspector shall compare records of extra work  
9 on a force account basis at the end of each day. Copies of these records shall be  
10 made in duplicate by the inspector and shall be signed by both the inspector and the  
11 Contractor's timekeeper, one copy being forwarded respectively to the Owner and  
12 the Contractor.

13 E. No extra work will be paid for unless unit prices or wages have been agreed upon in  
14 writing before such work is started. Bills for force account work must be certified  
15 and submitted in triplicate to the Owner with the current monthly estimate.

## 16 DIVISION 01 - GENERAL REQUIREMENTS

### 17 01.01 HOURS OF OPERATION

18 A. Contractor shall request permission from the Village Engineer at least two days prior  
19 to performing any work prior to 7:00 AM, or later than 5:00 PM, or on Saturdays,  
20 Sundays, or legal holidays. In the event of no inspector being available, excessive  
21 noise, traffic, or other disruption, the Engineer shall have the sole right to order the  
22 discontinuance of work during the above listed times.

### 23 01.02 LOCAL ACCESS

24 A. It shall be the responsibility of the Contractor to schedule his work to minimize the  
25 inconvenience to the residents and/or businesses located along the project street(s)  
26 adjacent to the work site. The cost for this coordination and construction staging  
27 shall be incidental to the work.

28 B. If the Contractor desires to completely close any section of street, the Contractor  
29 shall notify Owner of said intent at the pre-construction meeting. If the Owner  
30 approves of said street closing, the Contractor shall again notify Owner of the intent  
31 at least 72 hours prior to actually closing said street section. All barricades and  
32 construction signs shall be provided by the Contractor to close any street and detour  
33 traffic. If requested by the Owner, the Contractor shall submit a proposed detour  
34 plan for the Owner's approval. The cost of such traffic control and detouring shall  
35 be either incidental to the construction or included in the corresponding traffic  
36 control price bid.

1        01.03 DISPOSAL SITE

2            A.     The nature of this construction dictates removal of some existing unsuitable materials  
3                    and/or structures from the project site. Removal, hauling, and proper placement at an  
4                    off-site disposal site of all unsuitable materials and/or structures, as directed, shall be  
5                    considered incidental to the construction. The Contractor shall be responsible for  
6                    obtaining an off-site disposal site for this purpose.

7        01.04 UTILITY MAINTENANCE/CONFLICTS

8            A.     The Contractor shall be responsible for maintaining local electric, natural gas,  
9                    telephone, cable television service, and other related utilities at all times throughout  
10                   construction. The Contractor shall coordinate any required utility relocations with  
11                   the respective utility company. All costs associated with utility maintenance and  
12                   relocation shall be considered incidental to the project, and shall be provided by the  
13                   Contractor at no additional cost to the Owner.

14       01.05 PROJECT DISTURBANCE

15           A.     The disturbance limits for the project shall be contained within the grading limits as  
16                   shown on the contract drawings. The Contractor shall coordinate with the Engineer  
17                   and/or Owner during construction to review any features (trees, fencing, landscaping,  
18                   etc.) that may be affected by the work prior to any removals or disturbance to these  
19                   features. Unless directed otherwise by the Owner during construction, it shall be the  
20                   responsibility of the Contractor to avoid and/or not disturb any significant features  
21                   (trees, fencing, landscaping, etc.) during construction. If any features are disturbed  
22                   or damaged by the Contractor as determined by the Owner, then repair, replacement,  
23                   or compensation for these features shall be the responsibility of the Contractor.

24  
25       DIVISION 3 - CONCRETE

26       01.06 SECTION 03 30 00 CAST-IN-PLACE CONCRETE

27           A.     The Contractor shall provide for a minimum of one concrete finisher to remain on the  
28                   project site after final finishing of all concrete surfaces until such time as the  
29                   concrete has hardened sufficiently to resist surface scarring caused by footprints,  
30                   handprints or any other type of imprint, malicious or otherwise. The finisher shall  
31                   actively and continuously patrol on foot the newly placed concrete and repair any  
32                   damage to the surface that might be sustained. The cost for providing the finisher(s),  
33                   equipment, and materials shall be construed to be included in the contract price for  
34                   each respective concrete item.

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DIVISION 5 - METALS

01.07 SECTION 05 50 00 METAL FABRICATIONS

- A. Aluminum alloy railing shall be constructed per the plans and details. The railing shall have an anodized finish.
- B. The railings shall have vent holes drilled into the bottom side of all the bars to allow for moisture drainage.

DIVISION 31 - EARTHWORK

01.08 SECTION 31 23 13 SUBGRADE PREPARATION

- A. The Removals, Unclassified Excavation & Grading bid item shall include all saw cutting, removing, hauling, and disposing of existing pavement, curb, and sidewalk, along with all grading and subgrade preparation of the project site as well as any removal/hauling/disposal of excess material. It shall also include any tree branch trimming, tree clearing and grubbing, and shrub removal as directed by the Engineer or Owner. Payment for unclassified excavation shall be made at the contract lump sum price bid.
- B. The Removals, Unclassified Excavation & Grading bid item shall also include the removal of the existing pathway leading from 13<sup>th</sup> Avenue to the playground area plus the removal of the existing sand play area in this location. Restoration of the sand play area shall be grass turf and included in the corresponding restoration bid item.
- C. The Contractor shall be responsible to make computations for verification of the unclassified earthwork quantities prior to bidding. It is recommended that each bidder visit the site to verify the existing conditions. No changes will be made in the quantity amount for these items unless changes are made in the plans after bidding of the contract. Any modifications to the contract quantity caused by corrections or revisions of the original contract plan, which have been approved by the Engineer, will be measured in accordance with the applicable section of the standard specifications and the contract quantity will be adjusted accordingly to determine the final pay quantity.
- D. The Rock/Debris Removals Along Shoreline bid item shall include all removing, hauling, and disposing of existing stones and/or rocks and/or miscellaneous debris along the entire project length of shoreline. The Contractor shall remove all stones/rocks and/or debris as directed by the Engineer. All stones/rocks greater than 6 inches in nominal diameter along the river shoreline from the normal watermark to a point approximately 15 feet out from said watermark shall be removed and

1 properly disposed off-site. The work also includes removal of stones/rocks and/or  
2 debris that is located in the launch pier area as determined by the Engineer.

- 3 E. The Bevel Cut End of (Concrete or CMP) Storm Outfall bid item shall include all  
4 saw cutting, removing, hauling, and proper off-site disposal of the end of the existing  
5 storm sewer outfall pipes as shown on the plan. The bevel cut shall match the new  
6 river bank back-slope profile and be as directed by the Engineer.

7 01.09 SECTION 31 23 19 DEWATERING

- 8 A. The Contractor shall keep the excavations clear of water while the stair structure  
9 foundations and footing walls are being constructed. Wherever required, the  
10 Contractor shall excavate in advance of the work and direct water into sumps or  
11 pump wells. The expense for making all extra excavations necessary to prevent  
12 water from interfering with the proper construction of the work, and for the  
13 construction of all dams, dikes, sumps, pump wells and pumping shall be borne by  
14 Contractor and considered incidental to the work. No extra payment will be made  
15 for dewatering of the trench whether accomplished by the use of sumps and pumps,  
16 well point systems or deep wells.

17 01.10 SECTION 31 25 00 EROSION & SEDIMENTATION CONTROLS

- 18 A. The bid item for Erosion Control-General shall include all measures required to  
19 properly limit erosion of the soil within the work zone, including but not limited to,  
20 to the items listed on the bid form. It also includes the proper maintenance, repair,  
21 inspection, documentation, and removal of said erosion control features, installed  
22 under this work.
- 23 B. All erosion control measures and structures shall be properly removed by the  
24 Contractor after the site has been successfully stabilized. This work shall be  
25 considered incidental to the construction or included in the corresponding erosion  
26 control price bid (if applicable).
- 27 C. All erosion control measures and structures shall be inspected, maintained and  
28 documented by the Contractor in accordance with the Wisconsin DNR Storm Water  
29 Discharges Associated with Land Disturbing Construction Activities General Permit.  
30 These inspections shall be documented by the Contractor and available to the  
31 Engineer and/or Owner upon request. This work shall be considered incidental to  
32 construction or included in the corresponding erosion control price bid (if  
33 applicable).
- 34 D. Erosion matting shall conform to the list of approved products as per the Wisconsin  
35 Department of Transportation Product Acceptability List. The full list can be found  
36 at the following website: <http://www.dot.wisconsin.gov/business/engrserv/pal.htm>

1 DIVISION 32 – EXTERIOR IMPROVEMENTS

2 01.11 SECTION 32 11 23 AGGREGATE BASE COURSE

3 A. Prior to the installation of the concrete walkway trail, the Engineer shall perform  
4 several randomly located test holes to verify the depth of the proposed gravel base  
5 thickness. The Contractor shall notify the Engineer three days prior to paving  
6 activities for coordination purposes. If any of the tests result in a gravel base  
7 thickness less than plan, the Engineer shall perform additional test holes in the  
8 vicinity of the defective test hole to identify the extent of the area which does not  
9 comply with the required thickness. The Contractor shall repair and/or replace any  
10 areas identified by the Engineer, which do not meet the required gravel base  
11 thickness. The Contractor shall also re-grade and re-compact all of the test hole  
12 locations prior to concrete paving (incidental to construction).

13 B. After gravel installation is complete and prior to concrete paving, the gravel base  
14 course will be checked by a “proof-roll” test with a loaded tandem truck. The  
15 Engineer and/or Owner must be present during this testing and will approve or reject  
16 all areas tested. If any of the tests are not met, the Contractor shall determine the  
17 source of the problem, repair or replace all defective materials, and retest the area at  
18 no additional expense to Owner. Proof-roll testing of the gravel base shall be  
19 incidental to the base aggregate work.

20 C. The material for the Riprap bid item shall be according to Section 606 of the State of  
21 Wisconsin Standard Specifications for Highway and Structure Construction except  
22 for the average dimension range of the stone. Stone material conforming to Select  
23 Crushed Material according to Section 312 of the State of Wisconsin Standard  
24 Specifications for Highway and Structure Construction may be used.

25 D. The material for the Base Aggregate Dense ¾ Inch bid item shall be according to  
26 Section 305 of the State of Wisconsin Standard Specifications for Highway and  
27 Structure Construction.

28 01.12 SECTION 32 12 16 ASPHALTIC CONCRETE PAVEMENT

29 A. All cleaning, tack coat installation, minor base course shaping, saw cutting of  
30 adjacent pavement, and utility structure adjustments shall be considered incidental to  
31 asphalt paving.

32 B. All existing pavement that is not proposed to be replaced (as shown within the  
33 contract drawings) or as directed in the field shall remain undisturbed. Any  
34 negligent damage or excessive removal by the contractor (as determined by the  
35 Owner or Engineer) shall be replaced at the Contractor’s expense.

- 1 C. The 4” HMA Pavement, Type E-1 (Remove/Replace) bid item shall be according to  
2 Section 460 of the State of Wisconsin Standard Specifications for Highway and  
3 Structure Construction.

4 01.13 SECTION 32 13 10 CONCRETE SIDEWALK, STEPS AND DRIVEWAYS

- 5 A. The cost for Concrete Stair Structure (South referring to the site location) shall  
6 include all labor, material, equipment, utilities, transportation, sheathing, shoring,  
7 forming, dewatering, and related expense to construct the reinforced concrete stair  
8 structures according to the plan. This work includes the footing and foundation  
9 structures plus the cast in place step nosing but does not include the hand railings and  
10 surface mounting system which will be paid as a separate item.

- 11 B. The cost for Concrete Abutment-Launch Pier shall include all labor, material,  
12 equipment, utilities, transportation, sheathing, shoring, forming, dewatering, and  
13 related expense to construct the reinforced concrete abutment structure for the  
14 canoe/kayak launch pier according to the plan. The final dimensions of the structure  
15 used to receive the launch pier shall be determined at the time of construction based  
16 upon Owner’s selection of the gangway ramp.

- 17 C. If the Contractor desires to have the river level lowered during this work, the  
18 Contractor then shall coordinate with Village staff. The Village staff has indicated  
19 that during dry weather and low flow conditions the water level could be lowered to  
20 approximately an elevation of 732 to 731.

- 21 D. The cast-in-place step nosing shall be custom cast to fit the nosing radius of the steps  
22 and shall be Balco CF-200 or approved equal.

- 23 E. The Colored Concrete Crosswalk 8-Inch and the Colored & Stamped Concrete  
24 Border 4-Inch bid items shall be according to Section 405 of the State of Wisconsin  
25 Standard Specifications for Highway and Structure Construction.

- 26 F. The 8” Concrete Pavement shall be according to Section 415 of the State of  
27 Wisconsin Standard Specifications for Highway and Structure Construction.

- 28 G. The Concrete Riverwalk Trail 4-Inch shall be according to Section 602 of the State  
29 of Wisconsin Standard Specifications for Highway and Structure Construction.

- 30 H. The color of the Curb Ramp Detectable Warning Field shall be determined by Owner  
31 at time of construction and all work shall be according to Section 602 of the State of  
32 Wisconsin Standard Specifications for Highway and Structure Construction.

- 33 I. The Paver Riverwalk Trail Inlay bid item shall include all labor, material, equipment,  
34 and related expense to construct the paver brick inlay details in the concrete  
35 riverwalk trail according to the plan. The paver brick manufacturer, color, type and

1 pattern are shown on the plans. Note that the bid form includes an alternate for this  
2 work as Colored & Stamped Concrete Trail Inlay.

3 01.14 SECTION 32 16 13 CONCRETE CURB AND GUTTER

- 4 A. Prior to the installation of any new curb, concrete, or asphalt, the Engineer shall  
5 inspect all string lines and forming prepared by the Contractor. The Contractor shall  
6 notify the Engineer three days prior to paving activities for coordination purposes.  
7 The Contractor shall be present during the inspection to make adjustments as  
8 necessary to maintain required slopes. After approval of the string line and forming  
9 by the Engineer, the Contractor may proceed with paving activities.
- 10 B. All existing curb that is not proposed to be replaced (as shown within the contract  
11 drawings) or as directed in the field shall remain undisturbed. Any negligent damage  
12 or excessive removal by the contractor (as determined by the Owner or Engineer)  
13 shall be replaced at the Contractor's expense.
- 14 C. Curb ramp detectable warning fields shall be cast iron according to Section 602 of  
15 the State of Wisconsin Standard Specifications for Highway and Structure  
16 Construction and the color shall be selected by Owner at the time of construction.

17 01.15 SECTION 32 91 19.13 TOPSOIL PLACEMENT AND GRADING

- 18 A. If the salvaged topsoil that is required to construct the shoreline restoration and  
19 repair the disturbed areas of the site does not meet the requirements of these  
20 specifications or is not of a sufficient quantity to complete the work, the Contractor  
21 shall obtain additional topsoil from an off-site location that meets the requirements of  
22 the project specifications. This off-site topsoil shall be used at no additional cost to  
23 the Owner.
- 24 B. All topsoil salvaged or imported from off-site, shall be material that has been  
25 shredded or has all clumps of existing turf adequately removed or broken up to the  
26 satisfaction of Engineer and is fertile, friable, natural loam surface soil, reasonably  
27 free of subsoil, clay lumps, brush, weeds and free of roots, stumps, stones larger than  
28 one-half (1/2) inch in any dimension, and other matter harmful to plant growth.
- 29 C. The Contractor shall install and moderately compact the salvaged or imported topsoil  
30 material flush or slightly above (to account for settlement) the adjacent structures.  
31 Any settlement occurring where there is a vertical difference of 1-inch or more  
32 between the disturbed open space area and the adjacent structure(s) shall be re-  
33 topsoiled and re-seeded by the Contractor to the satisfactory of the Owner.
- 34 D. The work relating to topsoiling shall include all fine grading of the topsoil prior to  
35 seeding or planting activities and shall be according to Section 625 of the State of  
36 Wisconsin Standard Specifications for Highway and Structure Construction.

1 E. The cost for Topsoiling-Planting Area or Topsoiling-Sod Area shall include all labor,  
2 material, equipment, utilities, transportation, placement and fine grading, and related  
3 expense to place the topsoil in the adjacent shoreline planting area plus the area to be  
4 sodded according to the plan. These items shall be paid according to the Square Yard  
5 as measured by the Engineer.

6 F. The cost for Topsoiling & Grass Turf Restoration shall include all labor, material,  
7 equipment, utilities, transportation, placement and fine grading, and related expense  
8 to place the topsoil and restore all areas that have been disturbed by the Contractor's  
9 activities as determined by Engineer. Because of the limits of disturbance will  
10 depend to a large degree upon the Contractor's organization and control of the work  
11 zone, this item will be paid by Lump Sum.

12 01.16 SECTION 32 92 19 SEEDING

13 A. The Topsoiling & Grass Turf Restoration bid item shall be according to Section 630  
14 of the State of Wisconsin Standard Specifications for Highway and Structure  
15 Construction with a seed mixture No. 40.

16 SECTION 32 92 23 SODING

17 B. The Sodding bid item shall be according to Section 631 of the State of Wisconsin  
18 Standard Specifications for Highway and Structure Construction with a seed mixture  
19 No. 40.

20 01.17 MISCELLANEOUS-LANDSCAPING & SITE

21 A. The Planting bid items shall include all labor, material, equipment, and related  
22 expense to furnish and install the plants as per plan. All work shall be according to  
23 Section 632 of the State of Wisconsin Standard Specifications for Highway and  
24 Structure Construction.

25 B. The Shoreland Planting Management Plan (2-Yr) bid item shall include all labor,  
26 material, equipment, and related expense to successfully establish and maintain the  
27 specialty plants for a period of two years after the initial planting date. The work  
28 shall be performed by an experienced native/natural landscape restoration consultant  
29 and shall require that at least two annual inspections be performed at the site. One  
30 inspection shall be performed in the spring and the second inspection performed  
31 during the fall of each year (spring 2017-fall 2017 plus spring 2018-fall 2018).  
32 During these site visits the consultant shall inspect each of the plantings to verify that  
33 it is growing properly. If any of the plants are stunted, diseased, dead or determined  
34 to be unhealthy in any way, these plants shall be immediately replaced with a new  
35 plant. After each inspection and resulting work effort, the consultant shall prepare a  
36 letter report to the Owner outlining the status of the plants, identifying any plant  
37 replacements that were made during the site visit, and any other pertinent  
38 information about the nature of the plant growth or site conditions.

- 1 C. The Lannon Stone Wall bid item shall include all labor, material, equipment, and  
2 related expense to furnish and install the wall as per plan. The cost of the wall shall  
3 include the compacted aggregate base, the wash stone backfill, the weep holes and all  
4 related items as detailed on the plans.

5 01.18 MISCELLANEOUS-ELECTRICAL

- 6 A. The work includes labor, material, equipment, utilities, transportation to install a new  
7 electrical service panel, ornamental lights, bases, pedestals, wiring, conduits, etc.,  
8 ready to use and acceptable to the Owner. The Contractor is expected to visit the site  
9 and examine the existing electrical service equipment prior to submitting a bid for  
10 this work. The lighting work shall include all wiring and lighting control equipment  
11 required to properly install a complete working system. This work shall be according  
12 to Section 651, 652, 654, and 655 of the State of Wisconsin Standard Specifications  
13 for Highway and Structure Construction, as applicable.

- 14 B. The Contractor shall furnish and install all incidental items obviously necessary to  
15 make the proposed system complete from the source of supply to the most remote  
16 unit. The intent of the plans and specifications is to obtain a complete lighting and  
17 electrical system; tested, adjusted and ready for operation. Incidental data not usually  
18 shown or specified, but necessary for proper installation and operation, shall be  
19 included as incidentals.

- 20 C. The work shall conform to the latest editions of the National Electrical Code. Any  
21 lighting or electrical permit required by the Village of Grafton for this work shall be  
22 obtained by the Contractor prior to commencing work and shall be incidental to the  
23 work.

- 24 D. Conduit bends, and fittings shall be new schedule 40 PVC conduit minimum 2" in  
25 diameter (or larger as required by Code) and be installed as shown on the plans. All  
26 joints shall be solvent weld joints. All entrance and exit conduits to pole bases and  
27 other structures shall be long radius sweep elbows.

- 28 E. All tests required by the Code shall be completed prior to energizing the circuits.  
29 The Contractor shall be present at the time the circuits are energized. Any failures  
30 detected upon the application of electrical current shall be immediately corrected by  
31 the Contractor.

- 32 F. The Contractor shall check, verify, and coordinate his work with drawings and  
33 specifications prepared for other contracts. All modifications, relocations or  
34 adjustments necessary to complete work or to avoid interference with other trades  
35 shall be included. Information given herein and on drawings is as exact as could be  
36 secured but is not guaranteed. Do not scale drawings for exact dimensions.

- 37 G. The Electrical Breaker Panel 200 Amp 120/240V bid item includes all labor,  
38 material, equipment, utilities, transportation and related expense to replace the

1 existing breaker panel with new equipment. The Contractor is expected to visit the  
2 site and examine the existing electrical service equipment and site configuration  
3 prior to submitting a bid for this work. All existing operable circuits shall be  
4 reconnected to the new equipment plus any new circuits for the work under this  
5 project. The number, size and configuration of the circuit breakers required for this  
6 work shall be determined by the Contractor at the time of construction and approved  
7 by the Owner and Engineer.

8 H. The Lighting Wire in Conduit (Circuit No.) bid items shall include all labor,  
9 material, equipment, utilities, transportation and related expense to install Electrical  
10 Wire Lighting 8 AWG as required in each conduit. The payment quantity is  
11 measured by the lineal foot of conduit (not the lineal feet of wire) and includes all of  
12 the 8 AWG wire required in the conduit for each complete circuit (for example:  
13 Circuit A-line, common & neutral plus Circuit B-line, common & neutral).

14 I. The Lighting Wire in Pole (Complete) bid item shall include all labor, material,  
15 equipment, utilities, transportation and related expense to install Electrical Wire  
16 Lighting 12 AWG as required in each light pole. The payment quantity is measured  
17 by each pole and includes all of the 12 AWG wire required in the pole for each  
18 complete circuit (lighting plus outlet receptacle).

19 J. The Assemble/Install Owner Purchase Light Unit bid item shall include all labor,  
20 equipment and related expense to assemble and install the light pole, arm and  
21 luminaire as purchased directly by Owner.

22 K. The Lighting Circuit Control Equipment bid item shall include all labor, material,  
23 equipment, utilities, transportation and related expense to furnish and install the  
24 equipment required to control each of the two lighting circuits. Each lighting circuit  
25 shall be controlled by a separate controller and photoelectric eye set from dusk to  
26 dawn. The equipment and installed locations shall be recommended by Contractor  
27 and approved by Owner and Engineer prior to ordering and construction.

28 L. The Conduit Rigid Nonmetallic Sch 40 2-Inch bid item shall include all labor,  
29 material, equipment, utilities, transportation, backfill and bedding as per plan, and  
30 related expense to furnish and install the conduit.

31 M. The Owner intends to include two floodlights in the Owner Direct Purchase of the  
32 lighting equipment. These floodlights will be mounted on the top of the pole for  
33 Light No. 4 and No. 5 and used to illuminate an ice skating area on the nearby river.  
34 The height of these two poles will be increased from the normal 15 feet to 20 feet to  
35 accommodate the additional floodlights.

36 N. The Lighting Wire in Conduit (Circuit E) bid item shall include the additional  
37 lighting circuit (separate from Circuit A & B) in the conduit run from the new  
38 electrical panel located in the Bandshell Pavilion to Light No. 4 and Light No. 5.  
39 This additional circuit shall power the two additional flood lights. Electrical Wire

1 Lighting 10 AWG as required shall be used for this additional circuit in each conduit.  
2 The payment quantity is measured by the lineal foot of conduit (not the lineal feet of  
3 wire) and includes all of the electrical wire required in the conduit for each complete  
4 circuit.

5 O. The Lighting Wire in Pole (Complete) bid item shall include the additional 12 AWG  
6 wire in the pole for Light No. 4 and No. 5 to accommodate the additional separate  
7 circuit for the two new floodlights.

8 P. The Assemble/Install Owner Purchase Light Unit bid item shall also include the  
9 assembly and installation of the two floodlights on Light Pole No. 4 and No. 5.

10 Q. The Lighting Circuit Control Equipment bid item shall also include all labor,  
11 material, equipment, utilities, transportation and related expense to furnish and install  
12 a clock type timer to control the floodlight circuit as described previously. The clock  
13 type timer shall be a standard industrial grade digital readout, 120V single phase  
14 timer operating on a 24 hour clock with at least two programmable schedules. No  
15 external battery backup is required. Prior to placing any equipment order, the  
16 contractor shall provide catalog cuts and product specifications to the Owner for  
17 review and written approval.

18  
19  
20  
END OF SECTION

1 SECTION 01 41 26

2  
3 PERMITS

4 PART 1 GENERAL

5 1.01 APPLICABLE PROVISIONS

6 A. Applicable provisions of Division 01 shall govern work of this section.

7 1.02 APPLICABLE PUBLICATIONS (NONE)

8 1.03 DESCRIPTION OF WORK

9 A. The Contractor shall comply in all ways with the requirements of the following  
10 permits:

- 11 1. Wisconsin DNR Chapter 30 Permit for Erosion Control Along The  
12 RiverBank and Grading in Excess of 10,000 Square Feet on the Bank of a  
13 Navigable Waterway (A copy included in the Appendix).  
14 2. All conditions of approval from the Local, County, and State review  
15 agencies.

16 1.04 RELATED WORK ELSEWHERE

17 A. Procurement and Contracting Requirements - Division 00 (All Sections)

18 1.05 SUBMITTALS (NONE)

19 1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS (NONE)

20 PART 2 PRODUCTS AND MATERIALS (N/A)

21 PART 3 CONSTRUCTION METHODS (N/A)

22 PART 4 MEASUREMENT AND PAYMENT (N/A)

23 END OF SECTION

1 SECTION 01 45 00

2  
3 QUALITY CONTROL

4 PART 1 GENERAL

5 1.01 APPLICABLE PROVISIONS

6 A. Applicable provisions of Division 01 shall govern work of this section.

7 1.02 APPLICABLE PUBLICATIONS (NONE)

8 1.03 DESCRIPTION OF WORK

9 A. Provide quality control for all work performed under this contract as described in this  
10 section.

11 1.04 RELATED WORK ELSEWHERE

12 A. Procurement and Contracting Requirements - Division 00 (All Sections)

13 B. Submittals - Division 01

14 C. Material and Equipment - Division 01

15 1.05 SUBMITTALS (NONE)

16 1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS (NONE)

17 1.07 QUALITY ASSURANCE

18 A. Monitor quality control over suppliers, manufacturers, products, services, site  
19 conditions, and workmanship, to produce work of specified quality.

20 B. Comply with manufacturers' instructions, including each step in sequence.

21 C. Should manufacturers' instructions conflict with Contract Documents, request  
22 clarification from Engineer before proceeding.

23 D. Comply with specified standards as minimum quality for the Work except where  
24 more stringent tolerances, codes, or specified requirements indicate higher standards  
25 or more precise workmanship.

26 E. Perform work by persons qualified to produce workmanship of specified quality.

27 F. Secure products in place with positive anchorage devices designed and sized to  
28 withstand stresses, vibration, physical distortion, or disfigurement.

1 1.08 TOLERANCES

- 2 A. Monitor tolerance control of installed products to produce acceptable work. Do not  
3 permit tolerances to accumulate.
- 4 B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict  
5 with Contract Documents, request clarification from Engineer before proceeding.
- 6 C. Adjust products to appropriate dimensions; position before securing products in  
7 place.

8 1.09 REFERENCES

- 9 A. For products or workmanship specified by association, trade, or other consensus  
10 standards, comply with requirements of the standard, except when more rigid  
11 requirements are specified or are required by applicable codes.
- 12 B. Conform to reference standard by date of issue current on date of Contract  
13 Documents, except where a specific date is established by code.
- 14 C. Obtain copies of standards where required by product specification sections.
- 15 D. The contractual relationship, duties, and responsibilities of the parties in Contract nor  
16 those of the Engineer shall not be altered from the Contract Documents by mention  
17 or inference otherwise in any reference document.

18 1.10 MOCK-UP

- 19 A. Tests will be performed under provisions identified in this section and identified in  
20 the respective product specification sections.
- 21 B. Assemble and erect specified items with specified attachment and anchorage devices,  
22 flashings, seals, and finishes.
- 23 C. Accepted mock-ups are representative of the quality required for the work.
- 24 D. Where mock-up has been accepted by Engineer and is specified in product  
25 specification sections to be removed; remove mock-up and clear area when directed  
26 to do so.

27 1.11 INSPECTING AND TESTING LABORATORY SERVICES

- 28 A. Contractor shall be responsible for concrete testing as outlined in Division 03 of  
29 these specifications. For other testing, Owner will appoint, contract, and pay for the  
30 services of an independent firm to perform inspecting and testing.

- 1 B. The independent firm will perform inspections, tests, and other services specified in  
2 individual specification sections and as required by the Engineer or the Owner.
- 3 C. Inspecting, testing, and source quality control may occur on or off the project site.  
4 Perform off-site inspecting or testing as required by the Engineer or the Owner.
- 5 D. Reports will be submitted by the independent firm to the Engineer indicating  
6 observations and results of tests and indicating compliance or non-compliance with  
7 Contract Documents.
- 8 E. Cooperate with independent firm; furnish samples of materials, design mix,  
9 equipment, tools, storage, safe access, and assistance by incidental labor as  
10 requested.
- 11 1. Notify Engineer and independent firm 24 hours prior to expected time for  
12 operations requiring services.
- 13 2. Make arrangements with independent firm and pay for additional samples  
14 and tests required for Contractor's use.
- 15 F. Testing or inspecting does not relieve Contractor from the responsibility to perform  
16 Work to contract requirements.
- 17 G. Retesting required because of non-conformance to specified requirements shall be  
18 performed by the same independent firm on instructions by the Engineer. Payment  
19 for retesting will be charged to the Contractor by deducting inspecting or testing  
20 charges from the Contract Sum/Price.

21 1.12 MANUFACTURERS' FIELD SERVICES AND REPORTS

- 22 A. When specified in individual specification sections, require material or product  
23 suppliers or manufacturers to provide qualified staff personnel to observe site  
24 conditions, conditions of surfaces and installation, quality of workmanship, start-up  
25 of equipment, and test, adjust and balance of equipment as applicable, and to initiate  
26 instructions when necessary.
- 27 B. Report observations and site decisions or instructions given to applicators or  
28 installers that are supplemental or contrary to manufacturers' written instructions.
- 29 C. Submit report within 30 days of observation to Engineer for information.

30 PART 2 PRODUCTS AND MATERIALS (N/A)

31 PART 3 CONSTRUCTION METHODS (N/A)

32 PART 4 MEASUREMENT AND PAYMENT (N/A)

33

34

END OF SECTION

1 SECTION 01 51 00

2  
3 TEMPORARY UTILITIES  
4

5 PART 1 GENERAL

6 1.01 APPLICABLE PROVISIONS

7 A. Applicable provisions of Division 01 shall govern work of this section.

8 1.02 APPLICABLE PUBLICATIONS (NONE)

9 1.03 DESCRIPTION OF WORK

10 A. Contractor shall be responsible to obtain from authorities of each respective utility  
11 the necessary service for water, electricity, telephone, etc., or make arrangements  
12 with the Owner for some or all of these services as specified below.

13 1.04 RELATED WORK ELSEWHERE

14 A. Procurement and Contracting Requirements - Division 00 (All Sections)

15 1.05 SUBMITTALS (NONE)

16 1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS (NONE)

17 PART 2 PRODUCTS AND MATERIALS (N/A)

18 PART 3 CONSTRUCTION METHODS

19 3.01 WATER

20 A. Contractors shall be responsible for his or her own water service. No additional  
21 costs shall be awarded for provision of water service.

22 3.02 ELECTRIC

23 A. Contractor shall be responsible for all work associated with obtaining temporary  
24 electric service. Meter for temporary electric service shall be in Contractor's name,  
25 and Contractor shall be responsible for all electric power bills for the temporary  
26 service.

27 3.03 TELEPHONE

28 A. Contractors shall be responsible for their own telephone service. No additional costs  
29 shall be awarded for provision of telephone service.

1 3.04 NATURAL GAS SERVICE

2 A. Contractors shall be responsible for his or her own natural gas service. No additional  
3 costs shall be awarded for provision of natural gas service.

4 PART 4 MEASUREMENT AND PAYMENT (N/A)

5

6

END OF SECTION

SECTION 01 55 26  
TRAFFIC CONTROL

PART 1 GENERAL

1.01 APPLICABLE PROVISIONS

A. Applicable provisions of Division 01 shall govern work of this section.

1.02 APPLICABLE PUBLICATIONS

A. The following publications of the issues listed below, but referred to thereafter by basic designation only, form a part of this specification to the extent indicated by the reference thereto.

1. Manual on Uniform Traffic Control Devices (MUTCD) for Streets and Highways, current edition.

1.03 DESCRIPTION OF WORK

A. The work covered under this section shall include installing and maintaining traffic control devices to safely and efficiently direct traffic through or around the construction site.

B. The work also includes removing temporary traffic control devices at the completion of the project.

1.04 RELATED WORK ELSEWHERE

A. Procurement and Contracting Requirements - Division 00 (All Sections)

B. Work Restrictions and Provisions – Division 01

C. Submittals – Division 01

1.05 SUBMITTALS

A. If a detailed traffic control plan is not included in the Contract Drawings, the Contractor shall submit a traffic control plan. Information shall be in conformance with requirements of Submittals - Division 01 of these specifications.

1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS (N/A)

1 PART 2 PRODUCTS AND MATERIALS

2 2.01 GENERAL

- 3 A. Traffic control devices and materials shall conform to the MUTCD and applicable  
4 State Department of Transportation specifications.

5 PART 3 CONSTRUCTION METHODS

6 3.01 TRAFFIC CONTROL

- 7 A. The Contractor shall also provide an emergency contact for off-hours (nights and  
8 weekends) in the event that traffic control or construction site barricades become  
9 disturbed or damaged due to weather, vandalism, etc. If 2-hours lapses (from the  
10 time the Owner or field engineer calls the emergency contact to the Contractor's  
11 personnel being onsite), the Owner's staff shall perform any required maintenance or  
12 repair to the traffic control or construction site barricades. All costs incurred by the  
13 Owner for this maintenance and repair shall be the responsibility of the Contractor.
- 14 B. If, in the opinion of the Owner, proper provisions for traffic control are not provided  
15 and maintained, the Owner may restrict construction operations affected by such  
16 defective signs and devices until proper provisions by such defective signs and  
17 devices are established and maintained, or the Owner may take necessary steps to  
18 place them in proper condition and may deduct the cost from the moneys due or to  
19 become due the Contractor.

20 PART 4 MEASUREMENT AND PAYMENT

21 4.01 GENERAL

- 22 A. Traffic control shall be paid for at the bid price in accordance with one of the  
23 following methods, unless indicated otherwise in the Bid Schedule or Special  
24 Procedures - Division 01.
- 25 B. All work specified herein shall be considered in each of the measurement and  
26 payment method(s) stipulated, unless indicated otherwise in the Bid Schedule or  
27 Special Procedures - Division 01.

28 4.02 TRAFFIC CONTROL

- 29 A. Traffic Control, Lump Sum. When so provided, payment for traffic control shall be  
30 made at the contract lump sum price bid.
- 31 B. Traffic Control, Inclusive. When no quantity is provided, traffic control shall be  
32 considered inclusive to payment for contract work related to the associated  
33 construction.

34 END OF SECTION

1 SECTION 01 60 00

2  
3 MATERIAL AND EQUIPMENT

4 PART 1 GENERAL

5 1.01 APPLICABLE PROVISIONS

6 A. Applicable provisions of Division 01 shall govern work of this section.

7 1.02 APPLICABLE PUBLICATIONS (NONE)

8 1.03 DESCRIPTION OF WORK (NONE)

9 1.04 RELATED WORK ELSEWHERE

10 A. Procurement and Contracting Requirements - Division 00 (All Sections)

11 B. Quality Control - Division 01

12 1.05 SUBMITTALS (NONE)

13 1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS (NONE)

14 1.07 REQUIREMENTS

15 A. Do not use materials and equipment removed from existing premises, except as  
16 specifically permitted by the Contract Documents.

17 1.08 TRANSPORTATION AND HANDLING

18 A. Transport and handle Products in accordance with manufacturer's instructions.

19 B. Promptly inspect shipments to ensure that Products comply with requirements,  
20 quantities are correct, and Products are undamaged.

21 C. Provide equipment and personnel to handle Products by methods to prevent soiling,  
22 disfigurement, or damage.

23 1.09 STORAGE AND PROTECTION

24 A. Store and protect Products in accordance with manufacturers' instructions, with seals  
25 and labels intact and legible.

26 B. Store sensitive Products in weathertight, climate controlled enclosures.

27 C. For exterior storage of fabricated Products, place on sloped supports, above ground.

- 1 D. Provide insured off-site storage and protection when site does not permit on-site  
2 storage or protection.
- 3 E. Cover Products subject to deterioration with impervious sheet covering. Provide  
4 ventilation to avoid condensation or potential degradation of Product.
- 5 F. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent  
6 mixing with foreign matter.
- 7 G. Provide equipment and personnel to store Products by methods to prevent soiling,  
8 disfigurement, or damage.
- 9 H. Arrange storage of Products to permit access for inspection. Periodically inspect to  
10 verify Products are undamaged and are maintained in acceptable condition.

11 1.10 OPTIONS

- 12 A. Products Specified by Reference Standards or by Description Only: Any Product  
13 meeting those standards or description.
- 14 B. Products Specified by Naming One or More Manufacturers: Products of  
15 manufacturers named and meeting specifications, no options or substitutions  
16 allowed.
- 17 C. Products Specified by Naming One or More Manufacturers with a Provision for  
18 Substitutions: Submit a request for substitution for any manufacturer not named in  
19 accordance with the following article.

20 1.11 SUBSTITUTIONS

- 21 A. Engineer will consider requests for Substitutions only within 30 days after date  
22 established in Notice to Proceed. Approval or disapproval of a substitution after  
23 bidding is entirely at the Engineer's discretion.
- 24 B. Substitutions may be considered when a Product becomes unavailable through no  
25 fault of the Contractor.
- 26 C. Document each request with complete data substantiating compliance of proposed  
27 Substitution with Contract Documents.
- 28 D. A request constitutes a representation that the Contractor:  
29 1. Has investigated proposed Product and determined that it meets or exceeds  
30 the quality level of the specified Product.  
31 2. Will provide the same warranty for the Substitution as for the specified  
32 Product.  
33 3. Will coordinate installation and make changes to other Work which may be  
34 required for the Work to be complete with no additional cost to Owner.

- 1                   4.       Waives claims for additional costs or time extension which may subsequently  
2                   become apparent.  
3                   5.       Will reimburse Owner and Engineer for review or redesign services  
4                   associated with re-approval by authorities.
- 5           E.       Substitutions will not be considered when they are indicated or implied on Shop  
6           Drawing or Product Data submittals, without separate written request, or when  
7           acceptance will require revision to the Contract Documents.
- 8           F.       Substitution Submittal Procedure:  
9                   1.       Submit one copy of request for Substitution for consideration. Limit each  
10                   request to one proposed Substitution.  
11                   2.       Submit Submittals, Product Data, and certified test results attesting to the  
12                   proposed Product equivalence. Burden of proof is on proposer.  
13                   3.       The Engineer will notify Contractor in writing of decision to accept or reject  
14                   request.

15   PART 2 PRODUCTS AND MATERIALS (N/A)

16   PART 3 CONSTRUCTION METHODS (N/A)

17   PART 4 MEASUREMENT AND PAYMENT (N/A)

18

19

END OF SECTION

1 SECTION 01 77 00

2  
3 CLOSEOUT PROCEDURES

4 PART 1 GENERAL

5 1.01 APPLICABLE PROVISIONS

6 A. Applicable provisions of Division 01 shall govern work of this section.

7 1.02 APPLICABLE PUBLICATIONS (NONE)

8 1.03 DESCRIPTION OF WORK

9 A. The work under this section shall cover: starting of systems; demonstration and  
10 instructions; testing, adjusting and balancing; operation and maintenance data;  
11 protecting installed and completed construction; final cleaning; manuals for materials  
12 and finishes; manual for equipment and systems; spare parts and maintenance  
13 products; product warranties, guarantees and bonds; project closeout procedures; and  
14 maintenance service.

15 B. The Contractor shall assume the responsibility for the protection of all finished  
16 construction until accepted by the Owner. The Contractor shall repair and restore  
17 any and all damage to finished work to the satisfaction of the Engineer.

18 C. The Contractor shall require each trade to clean the premises of accumulations of  
19 surplus materials and rubbish caused by their activities. Burning of rubbish on site  
20 will not be permitted.

21 1.04 RELATED WORK ELSEWHERE

22 A. (ALL SECTIONS)

23 1.05 SUBMITTALS

24 A. State Wage Rates Apply, and the contractor and all sub-contractors shall follow the  
25 state reporting requirements which include filing monthly reports on the state  
26 website, [http://www.dwd.state.wi.us/er/prevaling\\_wage\\_rate/](http://www.dwd.state.wi.us/er/prevaling_wage_rate/).

27 B. The Contractor shall provide the Engineer with a copy of the Disclosure of  
28 Ownership Form ERD-7777, Prime Contractor Affidavit of Compliance With  
29 Prevailing Wage Rate Determination Form ERD-5724, and other forms as applicable  
30 prior to final payment. The forms are contained within this project manual (see the  
31 Table of Contents).

1 1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS

2 A. Provide operation and maintenance manuals covering each item of equipment  
3 furnished. Submit manuals to Engineer prior to “Substantial Completion” in  
4 accordance with Submittals - Division 01 of these specifications, and as specified  
5 herein.

6 B. Submit data bound in 8-1/2 x 11 inch (A4) text pages, three D side ring binders with  
7 durable plastic covers.

8 C. Prepare binder cover with printed title “OPERATION AND MAINTENANCE  
9 INSTRUCTIONS”, title of project, and subject matter of binder when multiple  
10 binders are required.

11 D. Internally subdivide binder contents with permanent page dividers, logically  
12 organized as described below; with tab titling clearly printed under reinforced  
13 laminated plastic tabs.

14 E. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold  
15 larger drawings to size of text pages.

16 F. Contents: Prepare Table of contents for each volume, with each product or system  
17 description identified, typed on white paper, in three parts as follows:

18 1. Part 1: Directory, listing names, addresses, and telephone numbers of  
19 Architect/Engineer, Contractor, Subcontractors, and major equipment  
20 suppliers.

21 2. Part 2: Operation and maintenance instructions, arranged by system and  
22 subdivided by specification section. For each category, identify names,  
23 addresses, and telephone numbers of Subcontractors and supplier. Identify  
24 the following:

- 25 a. Significant design criteria.
- 26 b. List of equipment.
- 27 c. Parts list for each component.
- 28 d. Operating instructions.
- 29 e. Maintenance instructions for equipment and systems.
- 30 f. Maintenance instructions for [special] finishes, including  
31 recommended cleaning methods and materials, and special  
32 precautions identifying detrimental agents.

33 3. Part 3: Project documents and certificates, including the following:

- 34 a. Shop drawings and product data.
- 35 b. Air and water balance reports.
- 36 c. Certificates.
- 37 d. Originals of warranties and bonds.

1 1.07 FINAL CLEANING

- 2 A. Execute final cleaning prior to final project assessment.
- 3 B. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels,  
4 stains and foreign substances.
- 5 C. Clean equipment and fixtures to sanitary condition with cleaning materials  
6 appropriate to surface and material being cleaned.
- 7 D. Clean filters of operating equipment.
- 8 E. Clean debris from roofs, gutters, downspouts, and drainage systems.
- 9 F. Clean site; sweep paved areas, rake clean landscaped surfaces.
- 10 G. Remove waste and surplus materials, rubbish, and construction facilities from site.

11 1.08 STARTING OF SYSTEMS

- 12 A. Coordinate schedule for start-up of various equipment and systems.
- 13 B. Notify Engineer and Owner seven days prior to start-up of each item.
- 14 C. Verify each piece of equipment or system has been checked for proper lubrication,  
15 drive rotation, belt tension, control sequence, and for conditions which may cause  
16 damage.
- 17 D. Verify tests, meter readings, and specified electrical characteristics agree with those  
18 required by equipment or system manufacturer.
- 19 E. Verify wiring and support components for equipment are complete and tested.
- 20 F. Execute start-up under supervision of applicable manufacturer's representative and  
21 Contractors' personnel in accordance with manufacturers' instructions.
- 22 G. When specified in individual specification Sections, require manufacturer to provide  
23 authorized representative to be present at site to inspect, check, and approve  
24 equipment or system installation prior to start-up, and to supervise placing equipment  
25 or system in operation.
- 26 H. Submit a written report in accordance with Submittals-Division 01 that equipment or  
27 system has been properly installed and is functioning correctly.

1 1.09 DEMONSTRATION AND INSTRUCTIONS

- 2 A. Demonstrate operation and maintenance of products to Owner’s personnel two  
3 weeks prior to date of Substantial Completion.
- 4 B. For equipment or systems requiring seasonal operation, perform demonstration for  
5 other season within six months.
- 6 C. Utilize operation and maintenance manuals as basis for instruction. Review contents  
7 of manual with Owner’s personnel in detail to explain all aspects of operation and  
8 maintenance.
- 9 D. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing,  
10 maintenance, and shutdown of each item of equipment at schedule time, at  
11 equipment location.
- 12 E. Prepare and insert additional data in operations and maintenance manuals when need  
13 for additional data becomes apparent during instruction.
- 14 F. Required instruction time for each item of equipment and system is specified in  
15 individual sections.

16 1.10 TESTING, ADJUSTING AND BALANCING

- 17 A. The completed Work in accordance with requirements of the contract documents  
18 when ready in all respects for use by the Owner shall be subjected to a performance  
19 test at operating conditions.
- 20 B. Submit reports to Engineer indicating observations and results of tests and indicating  
21 compliance or non-compliance with requirements of Contract Documents. Make all  
22 adjustments necessary to fulfill requirements and to comply with the instructions and  
23 recommendations of manufacturers, and to comply with all codes and regulations.

24 1.11 PROTECTING INSTALLED CONSTRUCTION

- 25 A. Protect installed Work and provide special protection where specified in individual  
26 specification sections.
- 27 B. Provide temporary and removable protection for installed products. Control activity  
28 in immediate work area to prevent damage.
- 29 C. Provide protective coverings at walls, projections, jambs, sills, and soffits of  
30 openings.
- 31 D. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or  
32 movement of heavy objects, by protecting with durable sheet materials.

1 E. Prohibit traffic or storage upon waterproofed or roofed surfaces. When traffic or  
2 activity is necessary, obtain recommendations for protection from waterproofing or  
3 roofing material manufacturer.

4 F. Prohibit traffic from landscaped areas.

5 1.12 PROJECT RECORD DOCUMENTS

6 A. Maintain on site one set of the following record documents; record actual revisions  
7 to the Work:

- 8 1. Drawings.
- 9 2. Specifications.
- 10 3. Addenda.
- 11 4. Change Orders and other modifications to the Contract.
- 12 5. Reviewed Shop Drawings, Product Data, and Samples.
- 13 6. Manufacturer's instruction for assembly, installation, and adjusting.

14 B. Ensure entries are complete and accurate, enabling future reference by Owner.

15 C. Store record documents separate from documents used for construction.

16 D. Record information concurrent with construction progress, not less than weekly.

17 E. Specifications: Legibly mark and record at each product section description of actual  
18 products installed, including the following:

- 19 1. Manufacturer's name and product model and number.
- 20 2. Product substitutions or alternates utilized.
- 21 3. Changes made by Addenda and modifications.

22 F. Record Drawings [and Shop Drawings]: Legibly mark each item to record actual  
23 construction including:

- 24 1. Measured depths of foundations in relation to finish first floor datum.
- 25 2. Measured horizontal and vertical locations of underground utilities and  
26 appurtenances, referenced to permanent surface improvements.
- 27 3. Measured locations of internal utilities and appurtenances concealed in  
28 construction, referenced to visible and accessible features of the work.
- 29 4. Field changes of dimension and detail.
- 30 5. Details not on original Contract Drawings.

31 G. Submit documents to Engineer prior to claim for final Application for Payment.

32 1.13 MANUAL FOR MATERIALS AND FINISHES

33 A. Submit two copies of preliminary draft or proposed formats and outlines of contents  
34 before start of Work. Engineer will review draft and return one copy with comments.

- 1 B. For equipment, or component parts of equipment put into service during construction  
2 and operated by Owner, submit documents within ten days after acceptance.
- 3 C. Submit one copy of completed volumes 15 days prior to final inspection. Draft copy  
4 be reviewed and returned after final inspection, with Engineer comments. Revise  
5 content of document sets as required prior to final submission.
- 6 D. Submit two sets of revised final volumes in final form within 10 days after final  
7 inspection.
- 8 E. Building Products, Applied Materials, and Finishes: Include product data, with  
9 catalog number, size, composition, and color and texture designations. Include  
10 information for re-ordering custom manufactured products.
- 11 F. Instructions for Care and Maintenance: Include manufacturer's recommendations for  
12 cleaning agents and methods, precautions against detrimental agents and methods,  
13 and recommended schedule for cleaning and maintenance.
- 14 G. Moisture Protection and Weather Exposed Products: Include product data listing  
15 applicable reference standards, chemical composition, and details of installation.  
16 Include recommendations for inspections, maintenance, and repair.
- 17 H. Additional Requirements: As specified in individual product specification sections.
- 18 I. Include listing in Table of Contents for design data, with tabbed fly sheet and space  
19 for insertion of data.

20 1.14 MANUAL FOR EQUIPMENT AND SYSTEMS

- 21 A. Submit two copies of preliminary draft or proposed formats and outlines of contents  
22 before start of Work. Engineer will review draft and return one copy with comments.
- 23 B. For equipment, or component parts of equipment put into service during construction  
24 and operated by Owner, submit documents within ten days after acceptance.
- 25 C. Submit one copy of completed volumes 15 days prior to final inspection. Draft copy  
26 be reviewed and returned after final inspection, with Engineer comments. Revise  
27 content of document sets as required prior to final submission.
- 28 D. Submit two sets of revised final volumes in final form with 10 days after final  
29 inspection.
- 30 E. Each Item of Equipment and Each System: Include description of unit or system,  
31 and component parts. Identify function, normal operating characteristics, and  
32 limiting conditions. Include performance curves, with engineering data and tests,  
33 and complete nomenclature and model number of replaceable parts.

- 1 F. Panelboard Circuit Directories: Provide electrical service characteristics, control,  
2 and communications typed.
- 3 G. Include color-coded wiring diagrams as installed.
- 4 H. Operating Procedures: Include start-up, break-in, and routine normal operating  
5 instructions and sequences. Include regulation, control, stopping, shut-down, and  
6 emergency instructions. Include summer, winter, and special operating instructions.
- 7 I. Maintenance Requirements: Include routine procedures and guide for preventative  
8 maintenance and trouble shooting; disassembly, repair, and reassembly instructions;  
9 and alignment, adjusting, balancing, and checking instructions.
- 10 J. Include servicing and lubrication schedule, and list of lubricants required.
- 11 K. Include manufacturer's printed operation and maintenance instructions.
- 12 L. Include sequence of operation by controls manufacturer.
- 13 M. Include original manufacturer's parts list, illustrations, assembly drawings, and  
14 diagrams required for maintenance.
- 15 N. Include control diagrams by controls manufacturer as installed.
- 16 O. Include Contractor's coordination drawings, with color-coded piping diagrams as  
17 installed.
- 18 P. Include charts of valve tag numbers, with location and function of each valve, keyed  
19 to flow and control diagrams.
- 20 Q. Include list of original manufacturer's spare parts, current prices, and recommended  
21 quantities to be maintained in storage.
- 22 R. Include test and balancing reports as specified in Quality Control – Division 01.
- 23 S. Additional Requirements: As specified in individual product specification sections.
- 24 T. Include listing in Table of Contents for design data, with tabbed dividers and space  
25 for insertion of data.

26 1.15 SPARE PARTS AND MAINTENANCE PRODUCTS

- 27 A. Furnish spare parts, maintenance, and extra products in quantities specified in  
28 individual specification sections.
- 29 B. Deliver to Project site and place in location as directed by Owner; obtain receipt  
30 prior to final payment.

1 1.16 PRODUCT WARRANTIES, GUARANTEES AND BONDS

- 2 A. Obtain warranties, guarantees and bonds executed in duplicate by responsible  
3 subcontractors, suppliers, and manufacturers, within ten days after completion of  
4 applicable item of work.
- 5 B. Execute and assemble transferable warranty documents and bonds from  
6 subcontractors, suppliers, and manufacturers.
- 7 C. Verify documents are in proper form, contain full information, and are notarized.
- 8 D. Co-execute submittals when required.
- 9 E. Include Table of Contents and assemble in three D side ring binder with durable  
10 plastic cover.
- 11 F. Submit prior to final Application for Payment.
- 12 G. Time of Submittals:
  - 13 1. For equipment or component parts of equipment put into service during  
14 construction with Owner's permission, submit documents within ten days  
15 after acceptance.
  - 16 2. Make other submittals within ten days after Date of Substantial Completion,  
17 prior to final Application for Payment.
  - 18 3. For items of Work for which acceptance is delayed beyond Date of  
19 Substantial Completion, submit within ten days after acceptance, listing date  
20 of acceptance as beginning of warranty or bond period.

21 1.17 LOOSE AND DETACHABLE PARTS

- 22 A. The Contractor shall retain all loose and small detachable parts of apparatus and  
23 equipment furnished under this contract, until completion of the work and shall turn  
24 them over to the Owner.

25 1.18 CLOSEOUT PROCEDURES

- 26 A. Submit written certification that Contract Documents have been reviewed, Work has  
27 been inspected, and that Work is complete in accordance with Contract Documents  
28 and ready for Engineer's review.
- 29 B. Provide submittals to Engineer for presentation to Owner required by authorities  
30 having jurisdiction.
- 31 C. Submit final Application for Payment identifying total adjusted Contract Sum,  
32 previous payments, and sum remaining due.

1 D. Owner will occupy all portions of building as specified in Summary of Work –  
2 Division 01.

3 PART 2 PRODUCTS AND MATERIALS (N/A)

4 PART 3 CONSTRUCTION METHODS (N/A)

5 PART 4 MEASUREMENT AND PAYMENT (N/A)

6

7

END OF SECTION

1 SECTION 02 01 00

2  
3 MAINTENANCE OF EXISTING CONDITIONS

4 PART 1 GENERAL

5 1.01 APPLICABLE PROVISIONS

6 A. Applicable provisions of Division 01 shall govern work of this section.

7 1.02 APPLICABLE PUBLICATIONS

8 A. The following publications of the issues listed below, but referred to thereafter by  
9 basic designation only, form a part of this specification to the extent indicated by the  
10 reference thereto.

- 11 1. State of Wisconsin, Department of Transportation, Standard Specifications  
12 for Highway and Structure Construction, Current Edition at time of bid  
13 opening.

14 1.03 DESCRIPTION OF WORK

15 A. The work under this section shall cover all materials, equipment, supervision, and  
16 labor necessary for surface restoration. The various street surfaces disturbed,  
17 damaged, or destroyed during the performance of the work under this contract shall  
18 be restored and maintained as shown, specified, and directed. Included in this  
19 classification are pavement surfaces of all types, pavement bases, shoulders, and  
20 appurtenances as driveways, curb and gutter sections, sidewalks, alleys, and all other  
21 miscellaneous surfaces required but not designated under other sections of these  
22 specifications.

23 B. A schedule of restoration of the pavement surfaces shall be worked out by the  
24 Contractor and approved by the Engineer. The schedule shall be adhered to unless  
25 subsequent changes are approved by the Engineer.

26 1.04 RELATED WORK ELSEWHERE

27 A. Procurement and Contracting Requirements - Division 00 (All Sections)

28 B. Cast-in-Place Concrete - Division 03

29 C. Subgrade Preparation - Division 31

30 D. Trenching and Backfill - Division 31

31 E. Aggregate Base Course - Division 32

32 F. Asphaltic Concrete Pavement - Division 32

1 1.05 SUBMITTALS

- 2 A. Contractor shall submit such product literature and catalog cuts of materials to be  
3 supplied to relate these materials to these specifications. Information shall be in  
4 conformance with requirements of Submittals - Division 01 of these specifications.

5 1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS (NONE)

6 PART 2 PRODUCTS AND MATERIALS

7 2.01 GENERAL

- 8 A. Materials shall comply with the respective sections of Divisions 03, 31, and 32 of  
9 these specifications, as they are applicable, and those of the State of Wisconsin,  
10 Department of Transportation, Standard Specifications to the extent indicated by the  
11 reference thereto.

12 2.02 PAVEMENT SURFACE AND APPURTENANCES

- 13 A. Asphaltic concrete pavement and appurtenances shall conform to the requirements  
14 specified in Asphaltic Concrete Pavement - Division 32 or as specified in Special  
15 Procedures - Division 01.
- 16 B. Concrete pavement and appurtenances shall conform to the requirements specified in  
17 Cast-in-Place Concrete - Division 03 or as specified in Special Procedures -  
18 Division 01.

19 PART 3 CONSTRUCTION METHODS

20 3.01 GENERAL

- 21 A. Workmanship shall comply with the respective sections of Divisions 03, 31, and 32  
22 of these specifications, as they are applicable, and those of the State of Wisconsin,  
23 Department of Transportation, Standard Specifications to the extent indicated by the  
24 reference thereto.

25 3.02 TEMPORARY RESTORATION

- 26 A. Upon completion of backfilling, the pavement surface damaged or destroyed shall be  
27 temporarily restored by the Contractor.
- 28 1. The pavement shall be temporarily restored by placing on a prepared  
29 subgrade a base consisting of crushed gravel or crushed stone. The base shall  
30 have a minimum thickness of 8 inches plus the thickness of the permanent  
31 type of pavement to be replaced, or greater thickness if necessary to conform  
32 to the thickness of the base disturbed or removed, and shall be placed at the  
33 proper line and grade.
- 34 2. Temporary pavement shall be maintained in a suitable and safe condition for  
35 traffic until the permanent pavement is laid.

- 1 B. Type I backfill shall be used under all paved streets, paved roads, driveways,  
2 sidewalks and curb and gutter sections.
- 3 C. Curbs, where possible, shall be temporarily reset in their place as a part of the  
4 temporary restoration. Damaged or destroyed sidewalks shall be temporarily  
5 restored by placing a 3-inch layer of granular base material, or other approved  
6 material.

7 3.03 PERMANENT RESTORATION

- 8 A. Preparation for pavement and appurtenance replacements may proceed after trenches  
9 have been compacted in accordance with Trenching and Backfill - Division 31.  
10 Level and grade, fill, or re-excavate as necessary. Neatly trim any adjacent  
11 permanent pavement by a sawcut joint prior to pavement replacement.
- 12 1. Base material shall be in accordance with Aggregate Base Course -  
13 Division 32 and to a depth of 8 inches or as specified in Special Procedures -  
14 Division 01.
- 15 2. Asphaltic concrete pavement shall be in accordance with Asphaltic Concrete  
16 Pavement - Division 32 and to a depth of 3 inches or as specified in Special  
17 Procedures - Division 01.
- 18 3. Concrete pavement and appurtenances shall be in accordance with Cast-in-  
19 Place Concrete - Division 03 and shall be to a depth of 8 inches or as  
20 specified in Special Procedures - Division 01. Concrete pavement  
21 reinforcement shall be equal to or exceeding that existing.

22 PART 4 MEASUREMENT AND PAYMENT

23 4.01 GENERAL

- 24 A. Maintenance of existing conditions shall be paid for at the bid price in accordance  
25 with one of the following methods, unless indicated otherwise in the Bid Schedule or  
26 Special Procedures - Division 01.
- 27 B. All work specified herein shall be considered in each of the measurement and  
28 payment method(s) stipulated, unless indicated otherwise in the Bid Schedule or  
29 Special Procedures - Division 01.

30 4.02 MAINTENANCE OF EXISTING CONDITIONS

- 31 A. Maintenance of Existing Conditions, Lump Sum. When so provided, payment for  
32 maintenance of existing conditions shall be made at the contract lump sum price bid.
- 33 B. Maintenance of Existing Conditions, Inclusive. When no quantity is provided,  
34 maintenance of existing conditions shall be considered inclusive to payment for work  
35 associated.

36 END OF SECTION

1 SECTION 03 15 00

2  
3 CONCRETE ACCESSORIES

4 PART 1 GENERAL

5 1.01 APPLICABLE PROVISIONS

6 A. Applicable provisions of Division 01 shall govern work of this section.

7 1.02 APPLICABLE PUBLICATIONS

8 A. The following publications of the issues listed below, but referred to thereafter by  
9 basic designation only, form a part of this specification to the extent indicated by the  
10 reference thereto.

11 1. American Society for Testing and Materials (ASTM), Annual Book of  
12 ASTM Standards:

- 13 a. ASTM C171 - Standard Specification for Sheet Materials for Curing  
14 Concrete, Current Edition.
- 15 b. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene  
16 Thermal Insulation, Current Edition.
- 17 c. ASTM C920 - Standard Specification for Elastomeric Joint Sealants,  
18 Current Edition.
- 19 d. ASTM E154 – Standard Test Methods for Water Vapor Retarders  
20 Used in Contact with Earth Under Concrete Slabs, on Walls, or as  
21 Ground Cover, Current Edition.
- 22 e. ASTM E1643-98 - Standard Practice for Installation of Water Vapor  
23 Retarders Used in Contact with Earth or Granular Fill Under  
24 Concrete Slabs.
- 25 f. ASTM E1745 - Standard Specification for Plastic Water Vapor  
26 Retarders Used in Contact with Soil or Granular Fill Under Concrete  
27 Slabs.

28 1.03 DESCRIPTION OF WORK

29 A. The work under this section shall cover furnishing and installing concrete accessories  
30 as shown on the contract drawings and specified herein.

31 1.04 RELATED WORK ELSEWHERE

- 32 A. Procurement and Contracting Requirements - Division 00 (All Sections)
- 33 B. Structural Cast-In-Place Concrete Forming - Division 03
- 34 C. Cast-in-Place Concrete - Division 03

1 1.05 SUBMITTALS (NONE)

2 PART 2 PRODUCTS AND MATERIALS

3 2.01 BOND BREAKER

4 A. Cast-in-Place Concrete Flatwork. Asphalt impregnated felts, 15 pound.

5 B. Cast-in-Place Concrete Formwork. Non-staining liquid product which imparts a  
6 waterproof film to prevent adhesion of concrete and will not leave a paint-impeding  
7 coating on the face of the concrete.

8 2.02 VAPOR BARRIER

9 A. Under Slab Vapor Barrier: 10 mil reinforced polyethylene film for under slab  
10 application. Retarder shall meet or exceed all requirements of ASTM E1745 Classes  
11 A, B and C.

12 B. Seam Tape: High density polyethylene tape with pressure sensitive adhesive,  
13 minimum 4 inches wide.

14 C. Pipe Boots: Construct pipe boots from vapor barrier material and pressure sensitive  
15 tape per manufacturer's instructions.

16 2.03 WATERPROOF SHEET MATERIAL FOR CURING

17 A. Provide one of the following, complying with ASTM C171: waterproof paper,  
18 polyethylene film or polyethylene-coated burlap.

19 B. Use only materials which are resistant to decay when tested in accordance with  
20 ASTM E154, as follows:

21 1. Polyethylene sheet not less than 6 mils thick; or

22 2. Water resistant barrier paper consisting of heavy papers laminated together  
23 with glass fiber reinforcement and overcoated with black polyethylene on  
24 each side.

25 2.04 CONCRETE REPAIR COMPOUND

26 A. Concrete repair compound shall be Sonopatch, Sonneborn Building Products;  
27 Embeco 411 Mortar, Master Builders, or equal.

28 2.05 PIPE SLEEVES, AND ANCHOR BOLTS

29 A. Shall be furnished, installed, and anchored solid in their final location.

1 PART 3 CONSTRUCTION METHODS

2 3.01 INSTALLATION

3 A. Install accessories where shown on contract drawings and as specified herein.

4 B. Place bond breaker at junctures of slabs-on-grade with vertical walls.

5 C. Install under-slab vapor barrier at locations shown on Drawings in accordance with  
6 manufacturer's instructions and ASTM E1643-98. Unroll vapor barrier with the  
7 longest dimension parallel with the direction of the pour. Lap vapor barrier over  
8 footings and seal to foundation walls, unless shown otherwise on Drawings. Overlap  
9 joints 6-inches and seal with manufacturer's tape. Seal all penetrations (including  
10 pipes) with manufacturer's pipe boot. No penetrations of the vapor barrier are  
11 allowed except for reinforcing and permanent utilities. Repair damaged areas by  
12 cutting patches of vapor barrier, overlapping damaged area 6-inches and taping all  
13 four sides with tape.

14

15

END OF SECTION

1 SECTION 03 20 00

2  
3 CONCRETE REINFORCING

4 PART 1 GENERAL

5 1.01 APPLICABLE PROVISIONS

6 A. Applicable provisions of Division 01 shall govern work of this section.

7 1.02 APPLICABLE PUBLICATIONS

8 A. The following publications of the issues listed below, but referred to thereafter by  
9 basic designation only, form a part of this specification to the extent indicated by the  
10 reference thereto.

- 11 1. American Concrete Institute (ACI) Specifications and Standards:
  - 12 a. ACI 315 - Manual of Standard Practice for Detailing Reinforced
  - 13 Concrete Structures, Current Edition.
  - 14 b. ACI 318 - Building Code Requirements for Structural Concrete and
  - 15 Commentary, Current Edition.
- 16 2. American Society for Testing and Materials (ASTM), Annual Book of  
17 ASTM Standards:
  - 18 a. ASTM A82 - Standard Specification for Steel Wire, Plain, for
  - 19 Concrete Reinforcement, Current Edition.
  - 20 b. ASTM A184 - Standard Specification for Welded Deformed Steel
  - 21 Bar Mats for Concrete Reinforcement, Current Edition.
  - 22 c. ASTM A185 - Standard Specification for Steel Welded Wire
  - 23 Reinforced, Plain for Concrete, Current Edition.
  - 24 d. ASTM A615 - Standard Specification for Deformed and Plain
  - 25 Carbon-Steel Bars for Concrete Reinforcement, Current Edition.
- 26 3. American Welding Society (AWS), Specifications and Standards:
  - 27 a. AWS D12.1 - Welding Reinforcing Steel, Metal Inserts, and
  - 28 Connections in Reinforced Concrete Construction, Current Edition.
- 29 4. American Association of State Highway Transportation Officials  
30 (AASHTO), Specifications and Standards:
  - 31 a. AASHTO M182 - Specification for Burlap Cloth Made from Jute or
  - 32 Kenaf, Current Edition
- 33 5. Concrete Reinforcing Steel Institute (CRSI) Specifications and Standards:
  - 34 a. CRSI - Manual of Standard Practice, Current Edition.
  - 35 b. CRSI - Recommended Practice for Placing Reinforcing Bars, Current
  - 36 Edition.
  - 37 c. CRSI - Recommended Practice for Placing Bar Supports,
  - 38 Specifications and Nomenclature, Current Edition.
  - 39 d. CRSI - Recommended Practice for Reinforcing Bar Splices, Current
  - 40 Edition.

1 1.03 DESCRIPTION OF WORK

2 A. The work under this section shall cover furnishing and installing concrete reinforcing  
3 as shown on the contract drawings and as specified herein.

4 1.04 SUBMITTALS (NONE)

5 PART 2 PRODUCTS AND MATERIALS

6 2.01 REINFORCEMENT

7 A. Steel Bar Reinforcement. Main reinforcing and stirrups; ASTM A615, Grade 60.

8 B. Welded Wire Fabric. Welded wire fabric, ASTM A185, 6 x 6 – W2.1/W2.1, unless  
9 otherwise specified or indicated on the contract drawings.

10 C. Steel Tie Wire. Steel tie wire, ASTM A82, plain, cold-drawn, 16 gauge or heavier.

11 D. Supports For Reinforcement. Bolsters, chairs, spacers and other devices for spacing,  
12 supporting and fastening reinforcement in place complying with CRSI Manual of  
13 Standard Practice. For slabs on grade where base material will not support chairs,  
14 use supports with sand plates or horizontal runners to locate mesh properly in slab.  
15 Provide hot-dipped galvanized or plastic-coated accessories in contact with forms for  
16 sight exposed concrete; stainless steel accessories for sandblasted or bushhammered  
17 concrete.

18 PART 3 CONSTRUCTION METHODS

19 3.01 FABRICATION

20 A. Fabricate and place to shapes and dimensions indicated or required to carry out intent  
21 of contract drawings and these specifications.

22 B. Bends for stirrups and ties shall be made around a pin having a diameter not less than  
23 four times the diameter of reinforcing bar. Bends for other bars shall be made around  
24 a pin having a diameter not less than six times diameter of bar, except that for bars  
25 larger than 1 inch, pin shall be not less than eight times diameter of bar.

26 1. Perform cutting and bending in the shop; bend and cut steel cold. Heating of  
27 reinforcement will not be permitted. Do not bend or straighten bars in a  
28 manner that will injure the material.

29 2. Field bending of bars shall not be allowed without the Engineer's approval.

30 C. Tagging shall be with metal, linen, or rope fiber tags filled in with machine or  
31 waterproof ink. Paper tags shall not be allowed.

32 D. Reinforcing bars shall conform accurately to the dimensions shown on the contract  
33 drawings.

1 3.02 PRODUCT DELIVERY, STORAGE AND HANDLING

2 A. For reinforcing steel fabricated on-site, shop from the mill in bundles, limited to one  
3 size and length, tagged with a waterproof tag showing the name of the mill, heat  
4 number, grade and size of the bars and identifying number.

5 B. For reinforcing steel fabricated off-site, deliver in bundles identified as to structure  
6 and shop drawing number. Identify each individual bar with a waterproof tag  
7 showing the grade, size and bar mark from the approved bar schedule.

8 C. Protect reinforcing steel and wire fabric from damage and from dirt, oil grease, other  
9 foreign matter, and rust-causing condition. Do not store reinforcement in direct  
10 contact with the ground.

11 3.03 CLEANING

12 A. Before placing and before pouring concrete, all reinforcement shall be thoroughly  
13 cleaned of all oil, dirt, loose mill scale, loose rust, or foreign matter that will destroy  
14 or reduce bond.

15 3.04 PLACING REINFORCEMENT

16 A. Placement. Metal reinforcement shall be accurately placed in accordance with  
17 approved Submittals and adequately secured in position by concrete or metal chairs  
18 or spacers. Nails shall not be driven into forms to support reinforcement nor shall  
19 wire ties come in contact with forms.

20 B. Splicing. Lap at splices shall be sufficient to transfer stress between bars by bond  
21 and shear.

22 1. Furnish reinforcing bars in full lengths as indicated on the contract drawings  
23 and approved Submittals.

24 2. Do not splice bars unless indicated on the contract drawings or approved by  
25 the Engineer in writing. When authorized, make splices in accordance with  
26 ACI 318; perform welding in accordance with AWS D12.1.

27 3. Splices generally shall be avoided at points of maximum stress. Minimum  
28 splice lap for stressed bars shall be forty times bar diameter.

29 C. Offsets in longitudinal bars at change of cross section shall be placed in region of  
30 lateral support. Slope of inclined portion of offset shall not be more than one in six  
31 and, in tied columns, ties shall be spaced not over 3 inches on centers for a distance  
32 of 1 foot below actual point of offset.

33 D. Embedded Items. The Contractor shall provide for the installation of all items  
34 embedded in the concrete, such as, anchor bolts, dowels, etc., as shown on the  
35 contract drawings or as provided for in other Divisions of these specifications.

36 1. All dowel bars shall be tied securely in place before pouring concrete.



1 SECTION 03 30 00

2  
3 CAST-IN-PLACE CONCRETE

4 PART 1 GENERAL

5 1.01 APPLICABLE PROVISIONS

6 A. Applicable provisions of Division 01 shall govern work of this section.

7 1.02 APPLICABLE PUBLICATIONS

8 A. The following publications of the issues listed below, but referred to thereafter by  
9 basic designation only, form a part of this specification to the extent indicated by the  
10 reference thereto.

11 1. American Concrete Institute (ACI), Annual Book of ACI Standards:

- 12 a. ACI 117/177R - Standard Specification for Tolerances for Concrete  
13 Construction and Materials and Commentary, Current Edition.
- 14 b. ACI 211.1 - Standard Practice for Selecting Proportions for Normal,  
15 Heavyweight, and Mass Concrete, Current Edition.
- 16 c. ACI 209.1R - Report on Factors Affecting Shrinkage and Creep of  
17 Hardened Concrete, Current Edition.
- 18 d. ACI 301 - Specification for Structural Concrete, Current Edition.
- 19 e. ACI 302.1R - Guide for Concrete Floor and Slab Construction,  
20 Current Edition.
- 21 f. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing  
22 Concrete, Current Edition.
- 23 g. ACI 305R - Hot Weather Concreting, Current Edition.
- 24 h. ACI 306.1 (R2002) - Standard Specification for Cold Weather  
25 Concreting, Current Edition.
- 26 i. ACI 308R - Guide to Curing Concrete, Current Edition.
- 27 j. ACI 309R - Guide for Consolidation of Concrete, Current Edition.
- 28 k. ACI 311.4R - Guide for Concrete Inspection, Current Edition.
- 29 l. ACI 318/318R - Building Code Requirements for Structural Concrete  
30 and Commentary, Current Edition.
- 31 m. ACI 530/530.1/530R/530.1R - Building Code Requirements for  
32 Commentary for Masonry Structures and Specification for Masonry  
33 Structures and Related Commentaries, Current Edition.
- 34 n. ACI ASCC-1(05) - The Contractor's Guide to Quality Concrete  
35 Construction, Third Edition.
- 36 o. ACI CP-10/PACK - Craftsman Study Package for ACI Certification  
37 of Concrete Flatwork Technician/Finisher, Current Edition.
- 38 p. ACI MCP06 - ACI Manual of Concrete Practice, Parts 1 through 6,  
39 and Index, 2006 Edition.
- 40 q. ACI SCM-24 - Concrete Repair Basics, Current Edition.
- 41 r. ACI SP4 - Formwork for Concrete, Current Edition.

- 1 s. ACI SP15 - Field Reference Manual: Standard Specifications for  
2 Structural Concrete ACI 301 with Selected ACI Reference, Current  
3 Edition.  
4 t. ACI SP-71 - ASTM Standards in ACI 318, Current Edition.  
5 2. American Society for Testing and Materials (ASTM), Annual Book of  
6 ASTM Standards:  
7 a. ASTM C33 - Standard Specification for Concrete Aggregates,  
8 Current Edition.  
9 b. ASTM C70 - Standard Test Method for Surface Moisture in Fine  
10 Aggregate, Current Edition.  
11 c. ASTM C94 - Standard Specification for Ready-Mixed Concrete,  
12 Current Edition.  
13 d. ASTM C109 - Standard Test Method for Compressive Strength of  
14 Hydraulic Cement Mortars (using 2-inch or [50 mm] Cube  
15 Specimens), Current Edition.  
16 e. ASTM C125 - Standard Terminology Relating to Concrete and  
17 Concrete Aggregates, Current Edition.  
18 f. ASTM C127 - Standard Test Method for Density, Relative Density  
19 (Specific Gravity) and Absorption of Coarse Aggregate, Current  
20 Edition.  
21 g. ASTM C128 - Standard Test Method for Density, Relative Density  
22 (Specific Gravity) and Absorption of Fine Aggregate, Current  
23 Edition.  
24 h. ASTM C131 - Standard Test Method for Resistance to Degradation  
25 of Small-Size Coarse Aggregate by Abrasion and Impact in the Los  
26 Angeles Machine, Current Edition.  
27 i. ASTM C143 - Standard Test Method for Slump of Hydraulic-Cement  
28 Concrete, Current Edition.  
29 j. ASTM C150 - Standard Specification for Portland Cement, Current  
30 Edition.  
31 k. ASTM C171 - Standard Specification for Sheet Materials for Curing  
32 Concrete, Current Edition.  
33 l. ASTM C191 - Standard Test Methods for Time Setting of Hydraulic  
34 Cement by Vicat Needle, Current Edition.  
35 m. ASTM C219 - Standard Terminology Relating to Hydraulic Cement,  
36 Current Edition.  
37 n. ASTM C226 - Standard Specification for Air-Entraining Additions  
38 for Use in the Manufacture of Air-Entraining Hydraulic Cement,  
39 Current Edition.  
40 o. ASTM C233 - Standard Test Method for Air-Entraining Admixtures  
41 in Concrete, Current Edition.  
42 p. ASTM C260 - Standard Specification for Air-Entraining Admixtures  
43 for Concrete, Current Edition.  
44 q. ASTM C311 - Standard Test Methods for Sampling and Testing Fly  
45 Ash or Natural Pozzolans for use as a Mineral Admixture in Portland-  
46 Cement Concrete, Current Edition.

- 1 r. ASTM C309 - Standard Specification for Liquid Membrane-Forming
- 2 Compounds for Curing Concrete, Current Edition.
- 3 s. ASTM C494 - Standard Specification for Chemical Admixtures for
- 4 Concrete, Current Edition.
- 5 t. ASTM C535 - Standard Test Method for Resistance to Degradation
- 6 of Large-Size Coarse Aggregate by Abrasion and Impact in the Los
- 7 Angeles Machine, Current Edition.
- 8 u. ASTM C566 - Standard Test Method for Total Evaporable Moisture
- 9 Content of Aggregate by Drying, Current Edition.
- 10 v. ASTM C595 - Standard Specification for Blended Hydraulic Cement,
- 11 Current Edition.
- 12 w. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or
- 13 Calcined Natural Pozzolan for Use in Concrete, Current Edition.
- 14 x. ASTM C688 - Standard Specification for Functional Additions for
- 15 Use in Hydraulic Cements, Current Edition.
- 16 y. ASTM C989 - Standard Specification for Slag Cement for Use in
- 17 Cement and Mortars, current edition.
- 18 3. Portland Cement Association (PCA) Standards and Specifications:
- 19 a. PCA - Design and Control of Concrete Mixtures, Current Edition.

### 20 1.03 DESCRIPTION OF WORK

- 21 A. The work covered under this section shall cover furnishing all materials, equipment
- 22 and labor required to construct all cast-in-place concrete as shown on the contract
- 23 drawings and as specified.

### 24 1.04 RELATED WORK ELSEWHERE

- 25 A. Procurement and Contracting Requirements - Division 00 (All Sections)
- 26 B. Submittals - Division 01
- 27 C. Concrete Quality Control - Division 01
- 28 D. Structural Cast-in-Place Concrete Forming - Division 03
- 29 E. Concrete Accessories - Division 03
- 30 F. Concrete Reinforcing - Division 03

### 31 1.05 SUBMITTALS

- 32 A. Submit such product literature and catalog cuts of materials to be supplied to relate
- 33 these materials to the specification. Information shall be in conformance with
- 34 requirements of Submittals - Division 01 of these specifications.
- 35 B. Concrete Design Mix

- 1 1. Prior to the start of placing of concrete, submit the design mix for each class  
2 of concrete, indicating that the concrete constituents and proportions will  
3 result in a concrete mix meeting the physical requirements for each class of  
4 concrete specified. Submit with the design mix, laboratory test reports and  
5 manufacturer's certificates attesting the conformance of constituents with  
6 these specifications.
- 7 2. Do not vary the proportions of the constituents or source of material of the  
8 approved mix without submitting corresponding test result documentation to  
9 the Engineer for review and approval.
- 10 3. Design mix shall indicate proportions of cement, aggregate and water, and  
11 names and proportions of admixtures and air-entraining agents.
- 12 4. Provide certification that the design mix complies with all ACI and ASTM  
13 requirements.

14 1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS (NONE)

15 PART 2 PRODUCTS AND MATERIALS

16 2.01 CEMENT

- 17 A. Cement shall be Portland Cement ASTM C150 Type I or IA, except as otherwise  
18 noted or approved. Type III cement shall only be used for Class L concrete, or when  
19 approved by the Engineer.
- 20 B. A singular brand and manufacturer of cement shall be used for the entire work.

21 2.02 FLY ASH

- 22 A. Fly ash shall conform to ASTM C618 Class C.
- 23 B. A singular source of fly ash shall be used for the entire work.

24 2.03 SLAG

- 25 A. Slag shall be ground granulated blast furnace slag conforming to ASTM C989.

26 2.04 AGGREGATE

- 27 A. Aggregate shall consist of clean, hard durable sand, gravel, crushed gravel or crushed  
28 rock.
- 29 B. Aggregate shall conform to the requirements of ASTM C33. Fine and coarse  
30 aggregate shall meet ASTM C33 grading requirements. Coarse aggregates shall be  
31 graded in accordance with ASTM gradations as follows:
  - 32 1. 3/4 inch maximum coarse aggregate - ASTM No. 67
  - 33 2. 1-1/2 inch maximum coarse aggregate - ASTM No. 467

- 1 C. Maximum aggregate size shall be as defined in the Concrete Schedule, or where not  
2 defined in the Concrete Schedule, as defined by dimensional constraints for cast-in-  
3 place concrete as follows.
- 4 1. Not larger than one-fifth of the narrowest dimension between sides of the  
5 forms;
  - 6 2. Not larger than one-third the thickness of the slab;
  - 7 3. Not larger than three-fourths of the minimum clear spacing between  
8 individual reinforcing bars or wire, bundles of bars, or prestressing tendons  
9 or ducts.

10 2.05 MIXING WATER

- 11 A. Mixing water shall be natural or treated water, clean and free from injurious amount  
12 of oil, acid, alkali, chlorides and sulfates, other common salts, organic matter or other  
13 deleterious substances.
- 14 B. Mixing water shall yield cement paste complying with the requirements ASTM C109  
15 and ASTM C191.

16 2.06 ADMIXTURES

- 17 A. All admixtures are subject to the written approval of the Engineer and shall be used  
18 in strict accordance with the manufacturer's recommendations.
- 19 1. Air-Entraining Admixture
    - 20 a. All concrete exposed to weather and freeze-thaw cycles shall be air-  
21 entrained, unless otherwise specified.
    - 22 b. Air-Entraining admixture shall conform to ASTM C260.
    - 23 c. Air-Entrainment shall be as indicated for each class as in the  
24 Concrete Schedule.
  - 25 2. Water-Reducing, Set-Controlling Admixtures
    - 26 a. Water-Reducing, Set-Controlling admixtures shall conform to ASTM  
27 C494, Type A for water-reducing, Type C for accelerating, Type D  
28 for water-reducing and retarding, and Type E for water-reducing and  
29 accelerating.
- 30 B. Admixtures containing calcium chloride or soluble chloride shall not be used.

31 2.07 CURING AND SEALING COMPOUND - INTERIOR

- 32 A. Membrane-forming curing compound shall meet the moisture retention requirements  
33 of ASTM C309, Type 1. Kure-N-Seal, Sonneborn Division of BASF; Sealtight Seal  
34 Cure-309, W.R. Meadows, Inc.; Eucocure, Euclid Chemical Co.; or equal.
- 35 B. Shall be compatible with surface finish.

1 2.08 CURING COMPOUND - EXTERIOR

2 A. Curing compound shall comply with ASTM C309, Type 2; resin, white pigmented.

3 PART 3 CONSTRUCTION METHODS

4 3.01 COORDINATION

5 A. Examine the drawings and specifications for work of other sections or other  
6 contractors and coordinate such work with the requirements of this Section; make  
7 provisions for installation of such items as sleeves, pipes, conduits, inserts and  
8 hangers in a manner that will not impair or weaken concrete construction.

9 3.02 READI-MIX CONCRETE

10 A. Acceptability and Use. Readmix concrete shall be designed on the basis of  
11 strength, durability, impermeability, and exposure condition, as required for the  
12 intended use of the structure by methods specified in ACI 211.1 and ACI 318. All  
13 readmix concrete shall comply with the water-cement ratio for each specific class  
14 of concrete as specified in the Concrete Schedule. Concrete design mix, complete  
15 with sample test results shall be submitted to the Engineer for approval prior to  
16 placing any concrete.

17 1. Failure to Meet Strength Requirements. Failure to meet strength  
18 requirements shall be as defined in Concrete Quality Control- Division 01 of  
19 these specifications.

20 2. Watertight Concrete. All concrete exposed to earth or water shall be  
21 watertight, shall have a water-cement ratio as specified, and shall be air-  
22 entrained as specified in the Concrete Schedule.

23 a. Construct keyways as indicated on the contract drawings.

24 b. Provide damp-proofing membrane as indicated on the contract  
25 drawings.

26 3. Waterproof Concrete. All concrete for water retaining structures shall be  
27 waterproof, shall have a water-cement ratio as specified, and shall be air-  
28 entrained as specified in the Concrete Schedule.

29 a. Construct keyways and waterstops as indicated on the contract  
30 drawings.

31 B. Mix Proportioning. Mix proportioning shall be the responsibility of the Contractor  
32 and shall be submitted for review and approval by the Engineer, in accordance with  
33 these specifications.

34 1. Select proportions for concrete to obtain the quality requirements for the  
35 class of concrete as specified in the Concrete Schedule. Contractor, at their  
36 expense, shall have an approved independent laboratory prepare design  
37 mixes for each specified concrete class.

38 2. Slump. Slump for class of concrete shall be as specified in the Concrete  
39 Schedule. The Contractor shall at their expense, make field slump tests in

1 accordance with ASTM C143 and Concrete Quality Control-Division 01 of  
2 these specifications.

3 3. Adjustment to Concrete Mixes. Design mix adjustments may be requested  
4 by the Contractor when characteristics of materials, conditions, weather, test  
5 results, or other circumstances warrant. Laboratory test data for revised  
6 design mixes and strength results shall be submitted and approved before  
7 using in the work. No change in contract price will be allowed for these  
8 changes.

9 4. Addition of Water to the Batch. Addition of water to the batch delivered to  
10 the site shall be in strict accordance with ASTM C94. This shall be the  
11 Contractor's responsibility and by their direction, following consultation with  
12 the Engineer.

13 a. Addition of water to the batch shall be one time only. Total gallons  
14 of water added to the batch shall be recorded on the load ticket,  
15 which shall be supplied to the Engineer prior to that delivery truck  
16 leaving the site. If water is permitted to be added to mixed concrete  
17 upon arrival at the job, an additional mixing of 30 revolutions of the  
18 drum shall be required.

19 b. Contractor shall adjust the water-cement ratio of the batch to the  
20 corresponding value based on the addition of water to the batch and  
21 shall submit this information to the Engineer with adjusted strength  
22 data for the final batch proportion.

23 c. At no time shall the addition of water cause the water-cement ratio  
24 specified in the concrete class schedule to be exceeded.

### 25 3.03 GENERAL

26 A. Unless otherwise specified, conform to ACI 304, 305, and 306 for concrete  
27 installation requirements such as preparation, mixing, conveying, depositing, curing,  
28 and cold and hot weather requirements; consolidate concrete in accordance with ACI  
29 309.

30 B. Concrete not placed within 90 minutes or 300 revolutions, whichever occurs first,  
31 after the first mixing of the cement and aggregates will be rejected.

32 C. Contractor shall indicate on record set of Drawings at site, for review prior to  
33 installation, a pouring program for concrete work showing unit of operation, method  
34 of pouring, installation of construction/control joints, expansion joints and all  
35 necessary work.

36 D. Proper grade marker or stakes shall be used by Contractor to establish grades for  
37 ramps, platforms, sidewalks, slopes to drains, inlets, etc.

38 E. Trenches, forms, conveying equipment shall be prepared to receive concrete in  
39 accordance with ACI 304.

- 1 F. Place concrete footings upon undistributed clean surfaces, free from frost, ice, mud  
2 and water; when foundation is on dry soil or pervious material, lay waterproof  
3 sheathing paper over earth surfaces to receive concrete.
- 4 G. Rock surfaces upon which concrete is to be placed, make level, clean, free from all  
5 objectionable coatings, water, mud, debris, loose semi-detached or unsound  
6 fragments; level surfaces to receive sand cushion placed to minimum thickness of  
7 2 inches.
- 8 H. Immediately after placement, protect concrete from premature drying, excessively  
9 hot or cold temperature and mechanical injury; maintain with minimum moisture loss  
10 and relatively constant temperature for the period necessary for hydration of the  
11 cement and hardening of the concrete.
- 12 I. All freshly cast concrete shall be protected from damaging effects of the elements  
13 freezing, rapid drop in temperature and loss of moisture and from future construction  
14 operations.

15 3.04 PREPARATION OF EQUIPMENT AND PLACE OF DEPOSIT

- 16 A. Before placement, clean equipment for mixing and transporting the concrete; remove  
17 debris and ice from all surfaces upon which concrete is placed; clean reinforcement  
18 of dirt, loose rust, and mill scale, or other coatings.
- 19 B. Remove water from all areas before depositing concrete; before depositing new  
20 concrete on or against concrete that has set, thoroughly roughen; clean existing  
21 surfaces of laitance, foreign matter or loose particles; retighten forms; slush existing  
22 surfaces with neat cement grout coat; place new concrete before grout has attained  
23 initial set; give horizontal construction joints grout brush coat of cement, fine  
24 aggregate, in same proportions as concrete to be placed.
- 25 C. Thoroughly wet the stone base on which slabs are to be placed where no vapor  
26 barrier is indicated.
- 27 D. Check compaction of fill and proper grade for slabs-on-grade. Check screeds and  
28 exercise care to prevent disturbing screeds during placement. Provide for  
29 construction joints in slabs-on-grade at 20 feet maximum in each direction unless  
30 shown otherwise on the contract drawings. Place expansion joint material at  
31 junctures of slabs-on-grade with vertical walls and as otherwise shown.
- 32 E. Remove debris, excess form oil, and water from formwork; avoid washing newly  
33 deposited concrete.

34 3.05 MIXING

- 35 A. Ready-mixed concrete shall be mixed and delivered in accordance with ASTM C94  
36 and ACI 304. The production facilities shall comply with the requirements of the

1 National Ready Mixed Concrete Association Certification Plan as regards materials  
2 storage and handling, batching equipment, central mixer, truck mixers, agitators,  
3 non-agitating units, ticketing system, etc.

4 B. Do not over-mix; do not use concrete which is retained in mixers so long as to  
5 require additional water in excess of design mix water to permit satisfactory placing;  
6 retempering of mix is not permitted.

7 C. Concrete shall be delivered to the site of the work and the mixed concrete discharged  
8 completely within 1-1/2 hours after water has been added to cement. In hot weather,  
9 or under conditions contributing to quick stiffening of concrete, this time may be  
10 reduced by the Engineer.

11 D. Concrete delivered shall arrive at the site having a temperature not less than  
12 50 Degrees F nor greater than 85 Degrees F, unless otherwise permitted by the  
13 Engineer.

#### 14 3.06 CONVEYING

15 A. Convey concrete from the mixer to the final deposit by methods that will prevent  
16 segregation or loss of materials.

17 B. Use of aluminum conveyances is not permitted.

#### 18 3.07 CONCRETE PLACEMENT

19 A. Place concrete, including drops greater than 60 inches using recommended practices  
20 in accordance with ACI 304 and ACI 318. Once pouring operation commences, it  
21 shall be carried out as a continuous operation until a section is completed.

22 B. Deposit concrete as nearly as practical in its final position to avoid segregation due to  
23 rehandling or flowing; do not use vibrators to move concrete horizontally within the  
24 forms.

25 C. Do not use retempered concrete or concrete contaminated by foreign material.

26 D. Plan and conduct concrete placement to insure that the concrete is kept plastic and  
27 that the concrete is free of cold joints.

28 E. Where there is a time delay greater than 45-minutes between adjacent concrete  
29 placement, a bulkhead construction joint, complete with waterstops where required,  
30 must be installed.

31 F. Do not commence placing when the sun, heat, wind or limitations of facilities  
32 provided prevent proper finishing or curing.

33 G. Discontinue concreting when the descending natural air temperature falls lower than  
34 40 Degrees Fahrenheit unless preparations are made and in place to heat or insulate

1 concrete in accordance with the cold weather concreting requirements of this  
2 specification.

3 H. Concrete for walls shall be deposited in approximately horizontal layers not to  
4 exceed 18 inches in height to avoid segregation due to rehandling and flowing.

5 I. Concrete shall not be placed or poured in water. Water level shall be removed or  
6 lowered in a manner approved by Engineer. Excess water shall not be permitted.  
7 Powdering a mixture of cement to absorb excess water shall not be permitted.

8 J. Concrete shall be placed before initial set has occurred. Placing should be carried on  
9 in such manner that the concrete in the form is still plastic and can be integrated with  
10 fresh concrete.

11 K. Contractor shall notify Engineer of concrete pouring schedule one day in advance of  
12 pour to allow for inspection of reinforcing and forms.

13 L. Bottom dump buckets may be used for transporting mixed concrete to the desired  
14 location. Particular care shall be taken to avoid jarring or bumping as this may cause  
15 segregation.

16 M. Where chutes are used to transport concrete, they shall be of metal or wood with  
17 metal lining and should have a slope not exceeding 1 vertical to 2 horizontal and not  
18 less than 1 vertical to 3 horizontal so that the concrete will travel fast enough to keep  
19 the chute clean but slow enough to avoid segregation of materials. The end of each  
20 chute shall be provided with a baffle to help prevent segregation, or the concrete  
21 should be discharged through a tremie or elephant trunk directly into the form.

22 N. Elephant trunks and/or tremies shall be used in walls and columns to prevent free fall  
23 of the concrete and to allow the concrete to be placed through the cage of reinforcing  
24 steel.

25 O. Pumping equipment shall be of suitable type, without Y-sections, and with adequate  
26 pumping capacity. Loss of slump in pumping shall not exceed 1-1/2 inches.

### 27 3.08 CONSOLIDATION

28 A. Each concrete layer placed shall be compacted by mechanical internal vibrating  
29 equipment supplemented by hand spading, rodding, or tamping.

30 B. The period of concrete vibration shall not be less than two seconds nor more than  
31 five seconds at any one point.

32 C. Consolidate concrete thoroughly as it is placed in order to secure a dense mass; work  
33 concrete well around the reinforcement and embedded items and into the corners of  
34 the forms.

- 1 D. Use internal vibrators inserted vertically over the entire area of the placement; form  
2 vibrators not permitted; internal vibrators shall maintain a minimum of 5000  
3 impulses when submerged in concrete.
- 4 E. Vibrate until voids are eliminated, coarse aggregate is suspended in mortar, and  
5 entrapped air bubbles begin to rise to the surface; concrete should move back into the  
6 space vacated by the vibrator; vibration duration shall be limited only to the time  
7 necessary to produce consolidation without causing segregation.
- 8 F. Space vibrator insertions such that the area visibly affected by the vibrator overlaps  
9 the adjacent just-vibrated area by a few inches.
- 10 G. Penetrate at least 6 inches into previously placed layers in order to bond between  
11 layers and avoid cold joints.
- 12 H. Take care not to over-vibrate air entrained concrete; place vibrator to eliminate  
13 honeycombing but avoid excess vibrating that bleeds all entrapped air from the mix.
- 14 I. Do not use vibrators to transport concrete.

15 3.09 JOINTS AND KEYWAYS

- 16 A. Construct expansion, control, and isolation joints and keyways only where indicated  
17 on the drawings or at additional locations approved by the Engineer (and as shown  
18 on the Standard Details).
- 19 B. Where the placing of concrete is discontinued, clean off laitance and other  
20 objectionable material to a sufficient depth to expose sound concrete as soon as  
21 concrete is firm enough to retain its form; smooth the top surface of concrete  
22 adjacent to the forms with a trowel to minimize visible joints on exposed faces.
- 23 C. Immediately upon completion of the work of placing concrete, remove  
24 accumulations splashed upon the reinforcement and the surfaces of the forms;  
25 perform this removal before concrete takes its initial set; clean reinforcing steel  
26 carefully to prevent damage to the concrete steel bond.
- 27 D. Do not halt work within 18 inches of the top of any face.
- 28 E. For bonded horizontal joint construction, roughen the surface and expose the  
29 aggregate; clean the surface thoroughly by wet sandblasting, by cutting with high-  
30 pressure water jet or by other approved methods; perform cleaning after the concrete  
31 has hardened to prevent raveling of the surface below the desired depth.
- 32 F. Before bonding concrete is placed, clean the surface of loose or soft particles or other  
33 objectionable materials and keep wet for a minimum period of 12 hours.
- 34 G. Cover the cleaned and saturated surface with a coating of neat cement grout and  
35 deposit new concrete before the grout has attained its initial set.

1 3.10 CURING

2 A. Concrete shall be wet cured by immersion of moisture-retaining covers in  
3 conformance with ACI 308 or shall receive curing compound in accordance with  
4 ACI 309.

5 B. Water curing is the preferred method of protection for curing concrete other than  
6 under hot weather conditions; cover exposed surfaces with a saturated material  
7 (burlap or cotton mats) and keep wet continuously with a soil soaker hose for 7  
8 curing days for all concrete except high early strength concrete; leave covering in  
9 place, without wetting, for an additional 3 days.

10 C. A curing day is defined as 24-hour day when the concrete surfaces are kept moist and  
11 the uniform temperature of the concrete mass is between 55 Degrees Fahrenheit and  
12 75 Degrees Fahrenheit.

13 D. Curing shall start as soon as free surface water disappears after finishing. Where  
14 forms are not removed immediately, curing shall be accomplished in a manner  
15 acceptable to the Engineer.

16 E. Curing compounds may not be used on surfaces that are to receive additional  
17 concrete, paint or tile.

18 F. Curing and sealing compound shall not be applied to steel reinforcing anchors, water  
19 stops, construction joints, or surfaces to be bonded to other concrete.

20 G. When using a curing compound, keep surfaces moist after the forms are removed,  
21 and the form tie holes repaired; after the surfaces are finished, apply the curing  
22 compound according to the manufacturer's recommendations; remove forms only as  
23 required to advance repair of tie holes and minor defects.

24 H. Slabs: Immediately following slab finishing, apply liquid membrane-forming curing  
25 compound or begin water curing before the surface becomes dry.

26 I. Vertical Surfaces: When the forms are removed entirely, spray the surface with  
27 water and allow it to reach a uniformly damp appearance with no free water on the  
28 surface; apply curing compound or begin water curing.

29 J. For curing concrete under hot weather conditions, see Hot Weather Requirements in  
30 this section.

31 K. For curing concrete under cold weather conditions, see Cold Weather Requirements  
32 in this section.

33 3.11 CONCRETE WALL FINISHES

34 A. Complete screeding and darbying of top of walls before excess moisture or bleeding  
35 water is present on the surface.

- 1 B. Do not begin subsequent finishing operations until surface water has disappeared.
- 2 C. Refer to Concrete Schedule, included in this specification section, for finish type at  
3 each location, defined as follows:
- 4 1. Rough Form Finish: (Type W1)
- 5 a. No form facing materials specified.
- 6 b. Patch tie holes and defects.
- 7 c. Chip off fins 1/4 inch or more in height.
- 8 2. Smooth Form Finish: (Type W2)
- 9 a. Use a form facing material that will produce a smooth, hard, uniform  
10 texture on the concrete.
- 11 b. Keep seams to a practical minimum.
- 12 c. Patch tie holes and defects.
- 13 d. Remove all fins.
- 14 3. Smooth Rubbed Finish: (Type W3)
- 15 a. Produce a Smooth Form Finish.
- 16 b. Wet surface and rub with a Carborundum brick until uniform color  
17 and texture are produced.
- 18 c. Perform rubbing no later than 24 hours after forms are removed.
- 19 d. Do not use any cement grout other than the paste drawn from the  
20 concrete itself by rubbing.
- 21 e. Thoroughly wash the surface with water.
- 22 4. Smooth Troweled Finish: (Type W4)
- 23 a. Produce a Smooth Rubbed Finish.
- 24 b. After wet-rubbing, finish with a steel trowel to increase compaction  
25 of fines and to provide maximum density.
- 26 5. Smooth Finish (Grout Cleaned): (Type W5)
- 27 a. Use for architectural surfaces exposed to general view, unless other  
28 indicated.
- 29 b. Mix 1 part portland cement and 1-1/2 parts fine sand with sufficient  
30 water to produce grout having consistency of thick paint; use white  
31 portland cement in combination with normal portland cement to  
32 achieve uniform surface color after drying.
- 33 c. Wet surface of concrete and uniformly apply grout with brush or  
34 spray gun completely filling air bubbles; surface with a wood float  
35 scouring wall vigorously.
- 36 d. Allow grout to partially set for one to two hours, depending on  
37 weather conditions; in hot dry weather, keep damp, using fine fog  
38 spray.
- 39 e. When grout has hardened sufficiently to be scraped from wall with  
40 edge of steel trowel without removing grout from small air holes, cut  
41 off all grout that can be removed with trowel.
- 42 f. Allow surface to dry thoroughly then rub vigorously with dry burlap  
43 to completely remove dried grout; there shall be no visible film or  
44 grout remaining after this rubbing.
- 45 g. The entire cleaning operation for any area must be completed the day  
46 it is started; no grout shall be left on overnight, and sufficient time

1 shall be allowed for grout to dry after it has been cut with trowel so it  
2 can be wiped off clean with burlap.

- 3 h. After entire surface has been grout cleaned, wipe off any slightly dark  
4 spots or streaks with fine abrasive hone.

5 3.12 CONCRETE SLAB FINISHING

6 A. Complete screeding and darbying slabs before excess moisture or bleeding water is  
7 present on the surface.

8 B. Do not begin subsequent finishing operations until surface water has disappeared and  
9 the concrete will sustain foot pressure with only approximately 1/4 inch indentation.

10 C. Refer to Concrete Schedule, included in this specification section, for finish type at  
11 each location, defined as follows:

12 1. Smooth Float Finish: (Type S1)

13 a. Consolidate concrete with a power-driven disc-type float or a  
14 combination floating-troweling machine with metal float shoes  
15 attached.

16 b. Machines which have a water attachment for wetting the concrete  
17 during the finishing operation are prohibited.

18 c. Check and level surface plane to a tolerance not exceeding 1/4 inch in  
19 10 feet when tested with a 10-foot straightedge. Cut down high spots  
20 and fill low spots; immediately after re-leveling, refloat surface to a  
21 uniform, smooth, granular texture.

22 d. Where slab drainage is indicated, take care to maintain accurate  
23 slopes for drainage.

24 2. Steel Troweled Finish: (Type S2)

25 a. Produce a Smooth Float Finish.

26 b. After float finishing, steel trowel surface as specified in Concrete  
27 Schedule to increase the compaction of fines and to provide  
28 maximum density and wear resistance.

29 c. Steel Troweled Finish: Screed and bull float or darby. Give  
30 preliminary float finish, true, even and free from depressions; float  
31 surface with hand or machine floats; compact surface with not less  
32 than 2 thorough and complete steel troweling operations.

33 d. Tolerance on finished steel troweled floors in no instance shall  
34 exceed 1/8 inch in 10'-0" on surface; where floor drains occur, slope  
35 floors to drains.

36 e. Buffing: After concrete floors have been properly cured, buff  
37 thoroughly to remove soluble salt incrustation or other foreign  
38 substances.

39 3. Integral Finishes: (Type S3)

40 a. Use for slabs where some material other than concrete will be the  
41 final wearing surface.



1 3.17 CONCRETE FILL FOR COMPOSITE FLOOR DECK

2 A. Fill over composite floor deck shall be lightweight aggregate concrete; no admixtures  
3 containing chloride salts or other deleterious materials shall be used; lightweight  
4 concrete shall not exceed 100 pcf weight.

5 3.18 PERIMETER INSULATION

6 A. Install perimeter insulation at building foundation wall and under floor slab as shown  
7 on the contract drawings.

8 3.19 HOT WEATHER REQUIREMENTS

9 A. Comply with ACI 305R unless otherwise specified herein below.

10 B. Hot weather conditions are deemed to exist when the temperature in the forms is  
11 75 Degrees Fahrenheit or above, or a combination of high air temperature, low  
12 relative humidity and wind velocity impair the quality of fresh or hardened concrete;  
13 take protective measures for mixing, transporting and placing concrete in accordance  
14 with ACI 305R.

15 C. The temperature of the concrete at the place of discharge may not exceed 85 Degrees  
16 Fahrenheit.

17 1. If ice is used to lower temperature, place crushed, shaved or chipped ice  
18 directly into the mixer as part or all of the mixing water; mix until ice is  
19 completely melted.

20 2. Record the concrete temperature at the time of discharge.

21 D. Do not add water that will cause the proportions to exceed the maximum water-  
22 cement ratio shown in Table I.

23 1. Notify the Engineer before adding any water to the concrete mix.

24 2. Record the amount of water added to the concrete at the jobsite.

25 E. Discharge concrete within 45 minutes or 100 revolutions, whichever occurs first,  
26 after the first mixing of cement and aggregates.

27 F. Placing and Curing:

28 1. Place concrete promptly upon arrival.

29 2. Provide at least one standby vibrator for each 3 vibrators in use.

30 3. Protect concrete from direct sunlight; keep forms covered and moist by  
31 means of water sprinkling or the application of continuously wetted burlap or  
32 cotton mats for a minimum of 24 hours. Windbreaks and/or sunshades shall  
33 be provided as directed by the Engineer.

34 4. When forms are removed, provide wet cover to the newly exposed surfaces  
35 to avoid exposure to hot sun and wind.

36 5. Continue specified water curing methods for 10 days; leave covering in place  
37 4 additional days; do not permit alternate wetting and drying cycles.

- 1           6.     For slabs on grade, beam and deck concrete, and other horizontal placements  
2           protect the surface between finishing operations using one or more of the  
3           following methods:  
4           a.     Careful use of a fog nozzle.  
5           b.     Spreading and removing polyethylene sheeting between finishing  
6           operations.  
7           c.     Application of mono-molecular film after the strike-off.
- 8           G.     During extremes in weather, floor slabs shall not be cast unless the slab is protected  
9           by a roof and other suitable protective measures are provided. After curing has been  
10          completed, the floor shall be exposed to the air for 48 hours prior to allowing traffic  
11          on the floors.

### 12   3.20   COLD WEATHER REQUIREMENTS

- 13          A.     Comply with ACI 306.1 (R2002) unless otherwise specified herein below.
- 14          B.     Cold weather is defined any time when the daily temperature is 40 Degrees  
15          Fahrenheit or lower during placement and the protection period. If at any time  
16          during the progress of the work, the temperature drops below 40 Degrees F., the  
17          Contractor shall make suitable provisions to protect the concrete by use of insulation  
18          materials such as blankets, mats, etc., and equipment for providing artificial heat.
- 19          C.     Combustion type temporary heating devices shall be vented outside of any temporary  
20          enclosure and building envelope. Combustion gases shall not be allowed in any  
21          temporary enclosure and building envelope.
- 22          D.     Protect concrete surfaces from freezing for at least 24 hours after placement.
- 23          E.     All surfaces in contact with newly-placed concrete including formwork,  
24          reinforcement and subgrade must be above 35 Degrees Fahrenheit.
- 25          F.     Use preparation methods capable of producing concrete with a temperature not more  
26          than 85 Degrees Fahrenheit, and not less than 55 Degrees Fahrenheit, at the time of  
27          placement.
- 28          G.     Do not heat concrete ingredients to a temperature higher than that necessary to keep  
29          the temperature of the mixed concrete, as placed, within the specified temperatures.  
30          (Do not heat water in excess of 140 Degrees Fahrenheit.)
- 31          H.     Concrete shall have a temperature of not less than 55 Degrees Fahrenheit when  
32          placed; mix concrete at a temperature between:  
33                  1.     60 Degrees Fahrenheit and 70 Degrees Fahrenheit when outside air  
34                  temperature is above 30 Degrees Fahrenheit.  
35                  2.     65 Degrees Fahrenheit and 75 Degrees Fahrenheit when outside air  
36                  temperature is between 0 Degrees Fahrenheit and 30 Degrees Fahrenheit.

- 1                    3.     70 Degrees Fahrenheit and 80 Degrees Fahrenheit when outside air  
2                                temperature is below 0 Degrees Fahrenheit.
- 3                    I.     Follow concrete placement with tarpaulins or other readily movable coverings, so  
4                                only a few feet of concrete is exposed to the outside air at any time.
- 5                    J.     Maintain the temperature and moisture conditions specified in all parts of the newly  
6                                placed concrete by covering, insulating, housing or heating; arrange for protection  
7                                methods in advance of placement.
- 8                    K.     Maintain concrete at a temperature of not less than 55 Degrees Fahrenheit nor more  
9                                than 70 Degrees Fahrenheit for a period of 3 days after placement.
- 10                   L.     A thermometer accurate to plus or minus 2 Degrees F shall be placed under the  
11                               curing blanket. Additional insulation shall be supplied as required to maintain the  
12                               temperature above 55 Degrees F.
- 13                   M.     After the curing period, the temperature of the exposed surface shall not be permitted  
14                               to drop faster than 30 Degrees F in 24 hours.
- 15                   N.     Do not remove forms during the initial protection period.
- 16                   O.     Protect insulation against wetting that will impair its insulating value using moisture-  
17                               proof cover material; keep insulation in close contact with concrete.
- 18                   P.     Construct enclosure to withstand wind and snow loads and be reasonably airtight;  
19                               provide sufficient space between the concrete and enclosure to permit free circulation  
20                               of heated air.
- 21                   Q.     Use vented heaters; do not permit heaters to heat or dry concrete locally. Unvented  
22                               salamanders or other heaters which produce carbon dioxide as by-products shall not  
23                               be permitted within enclosures or inside buildings. If heaters are used, precautions  
24                               shall be taken to prevent drying of the slab through the use of water jackets or other  
25                               suitable methods.
- 26                   R.     Maintain relative humidity above 40% within heated enclosures before construction  
27                               supports are removed.
- 28                   S.     Monitor temperature to insure concrete is kept within specified limits recording time  
29                               and concrete temperature every 8 hours.
- 30                   T.     Assure concrete has developed necessary strength before removing forms; provide  
31                               additional test cylinders with the same protection as the structure they represent to  
32                               verify concrete strength before construction supports are removed.
- 33                   U.     If water curing is used, terminate at least 12-hours before end of temperature  
34                               protection period. Permit concrete to dry.

- 1 V. After the required protection period gradually reduce the concrete temperature within  
2 an enclosure or insulation at a rate not to exceed 20 Degrees Fahrenheit per day until  
3 the outside temperature has been reached.
- 4 W. Apply membrane forming curing compound to concrete surfaces during the first  
5 period of above-freezing temperatures after forms are stripped and before air  
6 temperature rises to 50 Degrees Fahrenheit; apply membrane forming curing  
7 compound to slabs as soon as finishing operations are completed, except where live  
8 steam curing is used.

9 3.21 DELIVERY TICKETS

- 10 A. With each load of concrete delivered to the job there shall be furnished by the  
11 ready-mixed concrete producer duplicate delivery tickets, one for the Contractor and  
12 one for the Engineer. Delivery tickets shall provide the following information:
- 13 1. Date and serial number of ticket;
  - 14 2. Name of ready-mixed concrete plant;
  - 15 3. Job location;
  - 16 4. Contractor;
  - 17 5. Type and brand name of cement;
  - 18 6. Mix number or specified cement content in bags per cubic yard of concrete;
  - 19 7. Truck number;
  - 20 8. Time dispatched stamped by a time clock;
  - 21 9. Amount of concrete in load in cubic yards;
  - 22 10. Admixtures in concrete, if any;
  - 23 11. Maximum size of aggregate;
  - 24 12. Water added at job, if any;
  - 25 13. Slump of concrete ordered
- 26

**TABLE 1**  
**CONCRETE CLASS SCHEDULE**

Parameter Value	Compressive Strength (PSI) 28-Day	Water-Cement Ratio Maximum	Air Content Range (%) Minimum-Maximum	Slump Range (Inches) Minimum-Maximum	Coarse Aggregate (Inches) Maximum
Class A	4,000	0.5	1 to 2	2 to 4	3/4
Class B	4,000	0.5	1 to 2	2 to 4	1-1/2
Class C	4,000	0.5	5 to 7	2 to 4	3/4
Class D	4,000	0.5	4 to 6	2 to 4	1-1/2
Class E (Interior)	3,000	0.5	1 to 2	2 to 4	3/4
Class F (Exterior)	3,000	0.5	5 to 7	2 to 4	1-1/2
Class G	2,000	0.67	1 to 2	4 to 6	1-1/2
Class H	5,000	0.45	1 to 2	2 to 4	3/4
Class I	5,000	0.45	1 to 2	2 to 4	1-1/2
Class J	5,000	0.45	5 to 7	2 to 4	3/4
Class K (Exterior)	5,000	0.45	4 to 6	2 to 4	1-1/2
Class L	3,000 psi @24 hours	0.40	5 to 7 4 to 6	2 to 4 2 to 4	3/4 1-1/2

**TABLE 2  
CONCRETE SCHEDULE  
USES AND PROPERTIES**

Use	Finish	Class and Considerations
<b>Structural (not including water-retaining structures)</b>		
Foundations and footings, (non-exposed)	W1	Class A
	W1	Class B
Exposed foundations	S2 Top, W5 Sides	Class C
	S2 Top, W5 Sides	Class D
Buried walls and footing walls, (Interior)	W1	Class A
	W1	Class B
Buried walls and footing walls, (Exterior)	W1	Class C
	W1	Class D
Exposed walls	S2 Top, W5 Sides	Class C
	S2 Top, W5 Sides	Class D
Slabs and floors, (Exterior)	S2 or S4	Class C
	S2 or S4	Class D
Slabs and floors, (Interior)	S2 or S4	Class A
	S2 or S4	Class B
Beams, joists, bond beams, spandrels and lintels	W5	Class A
Topping for precast decking, (Interior)	S2 or S4, Top W5 Sides	Class E
Topping for precast decking, (Exterior)	S2 or S4, Top W5 Sides	Class F
Equipment pads and bases	S2 Top, W5 Sides	Class E (Interior)
	S2 Top, W5 Sides	Class F (Exterior)
Curbing, sidewalk, endwalls, staircases, driveways and ramps	S4 Top, W5 Sides	Class C
	S4 Top, W5 Sides	Class D
Manhole bases and benches	Special Construction	Class E
Pavement base, cradles and inlet walls	Special Construction	Class E
		Class F
Mass and fill	None	Class G
Traffic areas requiring early access or use	Special Construction	Class L
<b>Water Retaining Structures</b>		
Slabs and bases (Interior)	S2	Class H
	S2	Class I
Slabs and bases (Exterior)	S2	Class J
	S2	Class K
Buried walls, (Interior)	W1	Class H
	W1	Class I
Buried walls,	W1	Class J

1	(Exterior)	W1	Class K
2	Exposed walls	S2 Top, W5 Sides	Class J
3		S2 Top, W5 Sides	Class K
4	Fillets	S2 Top, W5 Sides	Class E
5		S2 Top, W5 Sides	Class F
6	<b>Severe Exposure (Chemical Resistant)</b>		
7	Slabs and bases	S2	Class H
8	(Interior)	S2	Class I
9	Slabs and bases	S2	Class J
10	(Exterior)	S2	Class K
11	Buried walls,	W1	Class H
12	(Interior)	W1	Class I
13	Buried walls,	W1	Class J
14	(Exterior)	W1	Class K
15	Exposed walls	S2 Top, W5 Sides	Class J
16		S2 Top, W5 Sides	Class K
17	Fillets	S2 Top, W5 Sides	Class E
18		S2 Top, W5 Sides	Class F

19 PART 4 MEASUREMENT AND PAYMENT

20 4.01 GENERAL

- 21 A. Cast-in-place concrete shall be paid for at the bid price in accordance with one of the  
22 following methods, unless indicated otherwise in the Bid Schedule or Special  
23 Procedures - Division 01.
- 24 B. All work specified herein shall be considered in each of the measurement and  
25 payment method(s) stipulated, unless indicated otherwise in the Bid Schedule or  
26 Special Procedures - Division 01.

27 4.02 CAST-IN-PLACE CONCRETE

- 28 A. Cast-in-Place Concrete, Lump Sum. When so provided, payment for cast-in-place  
29 concrete shall be made at the contract lump sum price bid or as specified in Special  
30 Procedures - Division 01.
- 31 B. Cast-in-Place Concrete, Inclusive. When no quantity is provided, cast-in-place  
32 concrete shall be considered inclusive to payment for work associated with the  
33 related structure, utility, or improvement.

34  
35 END OF SECTION

1 SECTION 03 30 01

2  
3 CONCRETE QUALITY CONTROL

4 PART 1 GENERAL

5 1.01 APPLICABLE PROVISIONS

6 A. Applicable provisions of Division 01 shall govern work of this section.

7 1.02 APPLICABLE PUBLICATIONS

8 A. The following publications of the issues listed below, but referred to thereafter by  
9 basic designation only, form a part of this specification to the extent indicated by the  
10 reference thereto.

- 11 1. American Concrete Institute (ACI), Annual Book of ACI Standards:
- 12 a. ACI 117/177R - Specification for Tolerances for Concrete
  - 13 Construction and Materials and Commentary, Current Edition.
  - 14 b. ACI 301 - Specifications for Structural Concrete, Current Edition.
  - 15 c. ACI 302.1R - Guide for Concrete Floor and Slab Construction,
  - 16 Current Edition.
  - 17 d. ACI 305R - Hot Weather Concreting, Current Edition.
  - 18 e. ACI 306.1 (R2002) - Standard Specification for Cold Weather
  - 19 Concreting, Current Edition.
  - 20 f. ACI 311.4R - Guide for Concrete Inspection, Current Edition.
  - 21 g. ACI 318/318R - Building Code Requirements for Structural Concrete
  - 22 and Commentary, Current Edition.
  - 23 h. ACI MCP06 - ACI Manual of Concrete Practice, Parts 1 through 6,
  - 24 and Index, 2006 Edition.
  - 25 i. ACI SCM-24 - Concrete Repair Basics, Current Edition.
  - 26 j. ACI SP-4 - Formwork for Concrete, Current Edition.
  - 27 k. ACI SP-15 - Field Reference Manual: Standard Specifications for
  - 28 Structural Concrete ACI 301 with Selected ACI Reference, Current
  - 29 Edition.
  - 30 l. ACI SP-71 - ASTM Standards in 318, Current Edition.
- 31 2. American Society for Testing and Materials (ASTM), Annual Book of
- 32 ASTM Standards:
- 33 a. ASTM C31 - Standard Practice for Making and Curing Concrete Test
  - 34 Specimens in the Field, Current Edition.
  - 35 b. ASTM C39 - Standard Test Method for Compressive Strength of
  - 36 Cylindrical Concrete Specimens, Current Edition.
  - 37 c. ASTM C42 - Standard Test Method for Obtaining and Testing
  - 38 Drilled Cores and Sawed Beams of Concrete, Current Edition.
  - 39 d. ASTM C143 - Standard Test Method for Slump of Hydraulic-Cement
  - 40 Concrete, Current Edition.

- 1 e. ASTM C172 - Standard Practice for Sampling Freshly Mixed
- 2 Concrete, Current Edition.
- 3 f. ASTM C173 - Standard Test Method for Air Content of Freshly
- 4 Mixed Concrete by the Volumetric Method, Current Edition.
- 5 g. ASTM C186 - Standard Test Method for Heat of Hydration of
- 6 Hydraulic Cement, Current Edition.
- 7 h. ASTM C470 - Standard Specification for Molds for Forming
- 8 Concrete Test Cylinders Vertically, Current Edition.
- 9 i. ASTM E329 - Standard Specification for Agencies Engaged in
- 10 Construction Inspection and/or Testing, Current Edition.

11 1.03 DESCRIPTION OF WORK

- 12 A. The work under this section shall cover sampling and testing of concrete to
- 13 determine the materials conformance and work conformance to the requirements
- 14 specified for cast-in-place concrete.

15 PART 2 PRODUCTS AND MATERIALS (N/A)

16 PART 3 CONSTRUCTION METHODS

17 3.01 TESTING FOR ACCEPTANCE

- 18 A. Samples of concrete shall be delivered to a location on the site where material
- 19 conformance tests can be performed.
  - 20 1. Samples of concrete shall be obtained in accordance with ASTM C172.
  - 21 2. Test specimens shall be stored without being disturbed for the first 24 hours.
  - 22 3. Contractor's Sampling and Testing. The Contractor, or independent testing
  - 23 laboratory engaged and paid for by the Contractor, as approved by the
  - 24 Engineer, shall conduct tests on the proposed concrete mixture to determine
  - 25 the slump, entrained air content, compressive strength, or other appropriate
  - 26 tests to determine conformance with these specifications. The Contractor
  - 27 shall supply the standard equipment and molds necessary, and the Contractor
  - 28 shall transport the test specimens to the testing laboratory.
- 29 B. Slump and Air Content Tests
  - 30 1. Slump tests shall be made in accordance with ASTM C143. Air content tests
  - 31 shall be made in accordance with ASTM 173 or ASTM C231. Slump tests
  - 32 and air tests shall always be performed from the same batch from which
  - 33 strength tests are performed.
  - 34 2. If the measured slump or air content falls outside the limits specified, a check
  - 35 test shall be made immediately on another portion of the same sample. In the
  - 36 event of a second failure, the concrete shall be considered to have failed to
  - 37 meet the requirements of the specifications and shall not be used in the work.

1 C. Strength Tests (Contractor's Sampling and Testing for Acceptance). Results from  
2 tests conducted by the Contractor shall be considered evidence of compliance of  
3 Contractor's materials used in the work, when strength is used as the basis for  
4 acceptance.

5 1. Cylinders for strength tests shall be made in accordance with ASTM C31.  
6 During the first 24 hours all test specimens shall be covered and kept at air  
7 temperatures between 60 Degrees Fahrenheit and 80 Degrees Fahrenheit in  
8 facilities provided on the job site by the Contractor. At the end of 24 hours,  
9 specimens will be carefully transported by the Contractor to the testing  
10 laboratory, where molds shall be removed, and cylinders shall be cured in a  
11 moist condition at 73.4 Degrees Fahrenheit  $\pm$ 3.0 Degrees Fahrenheit until  
12 time of test.

13 2. A strength test for any class of concrete shall consist of four standard  
14 cylinders made from a composite sample secured from a single load of  
15 concrete in accordance with ASTM C172, with one cylinder tested at 7 days,  
16 two at 28 days, and the fourth used as a spare. The test results at 28 days  
17 shall be the average of the strength of two specimens determined in  
18 accordance with ASTM C39, except that if one specimen in a test shows  
19 manifest evidence of improper sampling, molding or testing, it shall be  
20 disregarded and the spare cylinder shall be tested.

### 21 3.02 SELECTION OF TESTING LABORATORY

22 A. An independent testing laboratory to perform Concrete Quality Control shall meet  
23 the requirements of ASTM E329. The laboratory shall be selected by the Contractor  
24 as approved by the Engineer.

### 25 3.03 TEST REPORTS

26 A. Test reports will be directly distributed by the laboratory as follows: The original to  
27 the Contractor; two copies to the Engineer; one copy to the Owner.

### 28 3.04 TESTING REQUIREMENTS

29 A. The Contractor shall be required to perform one test for footings, one test for  
30 foundation walls, and one test for floor slabs. Each test shall consist of four (4)  
31 cylinders; one (1) to be tested at seven (7) days, two (2) to be tested at twenty-eight  
32 (28) days, and one (1) to be a spare.

33 B. Compliance testing shall be performed on every single load, or portion thereof,  
34 where water addition to the single load, or portion thereof, takes place on site.

1 3.05 CONDITIONS OF COMPLIANCE AND NON-COMPLIANCE

2 A. Compliance of Contractor's Materials Used in the Work.

- 3 1. To conform to the requirements of this specification, every 28-day test  
4 representing each mix must be equal to or greater than the specified  
5 minimum strength without exception. If a specimen shows manifest  
6 evidence of improper sampling, molding, or testing, it will be disregarded.  
7 Note, however, that the anticipated strength for all mixes is appreciably  
8 above the specified minimum strength due to quality required by the water-  
9 cement ratio specified.

10 B. Non-Compliance of Contractor's Materials Used in the Work

- 11 1. When strength is used as the basis for acceptance, should individual tests of  
12 the Contractor's specimens produce strengths less than 90% of the specified  
13 strength ( $f'c$ ), tests of cores drilled from the area in question may be required  
14 in accordance with ASTM C42. Three cores shall be taken for each cylinder  
15 test less than 90% of the specified strength ( $f'c$ ). If the concrete in the  
16 structure will be dry under service conditions, the cores shall be air dried  
17 (temperature 60 to 80°F, relative humidity less than 60 percent) for seven (7)  
18 days before test and shall be tested dry. If the concrete in the structure will  
19 be more than superficially wet under service conditions, the cores shall be  
20 immersed in water for at least 48 hours and tested wet.
- 21 2. Concrete represented by the core tests will be considered structurally  
22 adequate and meet the requirements of this specification if the average of the  
23 three cores is equal to at least 95 percent of the specified strength ( $f'c$ ) and if  
24 no single core is less than 90 percent of  $f'c$ . To check testing accuracy,  
25 locations represented by erratic core strengths may be retested. If these  
26 strength acceptance criteria are not met by the core tests, the Engineer shall  
27 order appropriate action at no additional cost to the Owner.

28  
29  
END OF SECTION

1 SECTION 05 50 00

2  
3 METAL FABRICATIONS

4 PART 1 GENERAL

5 1.01 SECTION INCLUDES

- 6 A. Shop fabricated metal items.
- 7 B. Shop finishing.
- 8 C. Decorative gable end frames and signage attachment.

9 1.02 REFERENCES

- 10 A. American National Standards Institute (ANSI):
- 11 1. ANSI A14.3 - Ladders, Fixed, Safety Requirements.
- 12 B. American Society of Testing and Materials (ASTM) International:
- 13 1. ASTM A36/A36M - Standard Specification for Carbon Structural Steel.
- 14 2. ASTM A53 - Standard Specification for Pipe, Steel, Black and Hot-Dipped,
- 15 Zinc-Coated, Welded and Seamless.
- 16 3. ASTM A123 - Standard Specification for Zinc (Hot-Dip Galvanized)
- 17 Coatings on Iron and Steel Products.
- 18 4. ASTM A307 - Standard Specification for Carbon Steel Bolts and Studs,
- 19 60,000 PSI Tensile Strength.
- 20 5. ASTM A325 - Standard Specification for Structural Bolts, Steel, Heat
- 21 Treated, 120/105 ksi Minimum Tensile Strength.
- 22 6. ASTM A325 - Standard Specification for Structural Bolts, Steel, Heat
- 23 Treated, 120/105 ksi Minimum Tensile Strength.
- 24 7. ASTM A500 - Standard Specification for Cold-Formed Welded and
- 25 Seamless Carbon Steel Structural Tubing in Round and Shapes.
- 26 8. ASTM A501 - Standard Specification for Hot-Formed Welded and Seamless
- 27 Carbon Steel Structural Tubing.
- 28 9. ASTM B177 - Standard Specification for Chromium Electroplating.
- 29 C. American Welding Society (AWS):
- 30 1. AWS A2.4 - Symbols for Welding, Brazing, and Nondestructive
- 31 Examination.
- 32 2. AWS D1.1 - Structural Welding Codes.
- 33 D. Steel Structures Painting Council (SSPC):
- 34 1. SSPC - Painting Manual.

1 1.03 SUBMITTALS

2 A. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing,  
3 anchorage, size and type of fasteners, and accessories. Include erection drawings,  
4 elevations, and details where applicable. Indicate welded constructions using  
5 standard AWS A2.0 welding symbols. Indicate net weld lengths.

6 1.04 QUALIFICATIONS

7 A. Fabricator: Company specializing in performing the work of this Section with  
8 minimum three (3) years documented experience.

9 B. Erector: Company specializing in performing the work of this Section with  
10 minimum three (3) years documented experience.

11 C. Design under direct supervision of a Professional Structural Engineer experienced in  
12 design of this work and licensed in the state of the project location.

13 1.05 DELIVERY, STORAGE, AND HANDLING

14 A. Accept metal fabrications on site in labeled shipments. Inspect for damage.

15 B. Protect metal fabrications from damage by exposure to weather.

16 1.06 QUALITY ASSURANCE

17 A. Fabricate structural steel members in accordance with AISC Codes of Standards  
18 Practice.

19 1.07 FIELD MEASUREMENTS

20 A. Verify that field measurements are as indicated on Shop Drawings.

21 PART 2 PRODUCTS

22 2.01 MATERIALS

23 A. W-Shapes: ASTM A992,  $F_y = 50$  psi.

24 B. Steel Tubing: ASTM A500, Grade B,  $F_y = 46$  ksi.

25 C. Plates, Angles, Studs and Dowels: ASTM A36,  $F_y = 36$  ksi.

26 D. Pipe: ASTM A53, Grade B Schedule 40.

27 E. Fasteners: Expansion anchors.

- 1 F. Bolts, Nuts, and Washers: ASTM A325 galvanized to ASTM A153/A153M for  
2 galvanized components.
- 3 G. Anchor Bolts: ASTM A307
- 4 H. Welding Materials: AWS D1.1; type required for materials being welded.
- 5 I. Shop and Touch-Up Primer: SSPC-15, Type 1, red oxide.
- 6 J. Touch-up Primer for Galvanized Surfaces: SSPC-20, Type I - Inorganic.

7 2.02 COMPONENTS

- 8 A. Following is list of principal items only. Refer to drawings for items not specifically  
9 scheduled.
- 10 B. Lintels: As detailed; prime paint descaled mill finish.
- 11 C. Anchor Bolts: Unfinished.

12 2.03 FABRICATION

- 13 A. Fit and shop assemble in largest practical sections, for delivery to site.
- 14 B. Fabricate items with joints tightly fitted and secured.
- 15 C. Continuously seal joined members by continuous welds.
- 16 D. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed  
17 joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
- 18 E. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively  
19 located; consistent with design of component, except where specifically noted  
20 otherwise.
- 21 F. Supply components required for anchorage of fabrications. Fabricate anchors and  
22 related components of same material and finish as fabrication, except where  
23 specifically noted otherwise.

24 2.04 FACTORY APPLIED FINISHES

- 25 A. Prepare surfaces to be primed in accordance with SSPC SP 6 to 1.0 to 1.5 blast  
26 profile.
- 27 B. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.
- 28 C. Do not prime surfaces in direct contact with concrete or where field welding is  
29 required.

1 D. Prime paint items with one coat except where galvanizing is specified.

2 2.05 FABRICATION TOLERANCES

3 A. Squareness: 1/8 inch maximum difference in diagonal measurements.

4 B. Maximum Offset Between Faces: 1/16 inch.

5 C. Maximum Misalignment of Adjacent Members: 1/16 inch.

6 D. Maximum Bow: 1/8 inch in 48 inches.

7 E. Maximum Deviation from Plane: 1/16 inch in 48 inches.

8 PART 3 EXECUTION

9 3.01 EXAMINATION

10 A. Verify that field conditions are acceptable and are ready to receive work.

11 3.02 PREPARATION

12 A. Clean and strip primed Steel items to bare metal where site welding is required.

13 B. Supply items required to be cast into concrete or embedded in masonry with setting  
14 templates to appropriate sections.

15 3.03 INSTALLATION

16 A. Install items plumb and level, accurately fitted, free from distortion or defects.

17 B. Make provisions for erection stresses. Install temporary bracing to maintain  
18 alignment, until permanent bracing and attachments are installed.

19 C. Field weld components indicated on shop drawings. Remove paint and primer at  
20 locations of field welds.

21 D. Perform field welding in accordance with AWS D1.1.

22 E. Obtain approval of Architect/Engineer prior to site cutting or making adjustments not  
23 scheduled.

24

25

END OF SECTION

SECTION 05 52 00

HANDRAILS AND RAILINGS

PART 1 GENERAL

1.01 APPLICABLE PROVISIONS

A. Applicable provisions of Division 01 shall govern the work of this section.

1.02 APPLICABLE PUBLICATIONS

A. The following publications of the issues listed below, but referred to thereafter by basic designation only, form a part of this specification to the extent indicated by the reference thereto.

1. The Aluminum Association (AA), Specifications and Standards:
  - a. AA Sections 6 and 7 - Aluminum Construction Manual, Specifications for Aluminum Structures, Current Edition.
2. American Society for Testing and Materials (ASTM), Annual Book of ASTM Standards:
  - a. ASTM B136 - Standard Method for Measurement of Stain Resistance of Anodic Coatings on Aluminum, Current Edition.
  - b. ASTM B137 - Standard Test Method for Measurement of Coating Mass Per Unit Area on Anodically Coated Aluminum, Current Edition.
  - c. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate, Current Edition.
  - d. ASTM B210 - Standard Specification for Aluminum and Aluminum-Alloy Drawn Seamless Tubes, Current Edition.
  - e. ASTM B211 - Standard Specification for Aluminum and Aluminum-Alloy Bar, Rod, and Wire, Current Edition.
  - f. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes, Current Edition.
  - g. ASTM B308 - Standard Specification for Aluminum-Alloy 6061-T6 Standard Structural Profiles, Current Edition.
  - h. ASTM B429 - Standard Specification for Aluminum-Alloy Extruded Structural Pipe and Tube, Current Edition.
  - i. ASTM B457 - Standard Test Method for Measurement of Impedance of Anodic Coatings on Aluminum, Current Edition.
  - j. ASTM B580 - Standard Specification for Anodic Oxide Coatings on Aluminum, Current Edition.
3. Code of Federal Regulations (CFR), Title 29, Chapter XVII - Occupational Safety and Health Administration (OSHA), Department of Labor, Part 1926 Regulations, Current Edition.

1 1.03 DESCRIPTION OF WORK

2 A. The work under this section shall cover furnishing and installing all handrails and  
3 toe plates at all locations shown on contract drawings and specified herein.

4 1.04 RELATED WORK ELSEWHERE

5 A. Procurement and Contracting Requirements - Division 00 (All Sections)

6 B. Submittals - Division 01

7 C. Metal Fastenings - Division 05

8 D. Metal Fabrications - Division 05

9 1.05 SUBMITTALS

10 A. Contractor shall submit such shop drawings and/or catalog cuts required for the  
11 construction and installation of the materials and all components. These drawings  
12 shall be accurate in every detail and shall contain all information necessary to  
13 relate the materials to the specifications. Submittals shall include test data  
14 showing railings comply with OSHA requirements.

15 B. Submittals shall indicate the intended materials arrangement, dimensions, major  
16 support requirements, plot area and all intricate or detailed construction  
17 requirements. Information shall be in conformance with requirements of  
18 Submittals - Division 01 of these specifications.

19 1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS (NONE)

20 PART 2 PRODUCTS AND MATERIALS

21 2.01 MATERIALS

22 A. Handrails and railings shall be 1-1/2 inch round, 6063 anodized aluminum alloy,  
23 Schedule 40 pipe size. Use only materials which are smooth and free of surface  
24 blemishes including pitting, seam marks, roller marks, rolled trade names and  
25 roughness. Remove such blemishes by grinding or by welding and grinding.

26 B. Post members shall be one continuous piece and spaced not more than 6 feet on  
27 center, or per manufacturer recommendations.

28 C. Handrail and connection shall be designed to resist a 200 pound load applied at  
29 any point on the handrail system per OSHA requirements.

1 PART 3 CONSTRUCTION METHODS

2 3.01 QUALITY ASSURANCE

- 3 A. Take field measurements prior to preparation of shop drawings and fabrication,  
4 where possible, without delay to job progress. Allow for trimming and fitting  
5 wherever taking field measurements before fabrications.
- 6 B. Furnish inserts and anchoring devices which must be set in concrete or built into  
7 masonry for installation of miscellaneous metal work. Provide setting drawings,  
8 templates, instructions, and directions for installation of anchorage devices.  
9 Coordinate delivery with other work to avoid delay. See Concrete - Division 03  
10 and Masonry - Division 4 of these specifications for installation of inserts and  
11 anchorage devices.
- 12 C. Preassemble items in shop to greatest extent possible to minimize field splicing  
13 and assembly. Disassemble units only as necessary for shipping and handling  
14 limitations. Clearly mark units for reassembly and installation.

15 3.02 FABRICATION

- 16 A. Where details are not shown, top of top rail shall be 42 inches above floor or  
17 36 inches above stair treads measured vertically at the stair riser line.
- 18 B. Fit and shop assemble components in largest practical sizes, for delivery to site.
- 19 C. Fabricate components with joints tightly fitted and secured.
- 20 D. Supply components required for anchorage of fabrications. Fabricate anchors and  
21 related components of same material and finish as fabrication, except where  
22 specifically noted otherwise.
- 23 E. Railings shall have mechanical connections consisting of internal plugs with  
24 stainless steel screws or rivets. Railings shall be mechanically fastened to the  
25 building structure.
- 26 F. Continuously seal joined pieces by continuous welds.
- 27 G. Form exposed work true to line and level with accurate angles and surfaces and  
28 straight, true edges. Ease exposed edges to a radius of approximately 1/32 inch,  
29 unless otherwise shown on the contract drawings. Form bent-metal corners to the  
30 smallest radius possible without causing grain separation of otherwise impairing  
31 the work. Grind exposed joints flush and smooth with adjacent finish surface.  
32 Make exposed joints butt tight, flush, and hairline.
- 33 H. Accurately form components, to each other and to building structure.

1 I. Toe boards to be attached to railings with stainless steel bolts. Joints shall be  
2 provided as necessary to allow for expansion and contraction of toe board.

3 J. Fabrication of structural aluminum shall meet the requirements of Sections 6 and  
4 7 of the Aluminum Construction Manual, "Specifications for Aluminum  
5 Structures", The Aluminum Association.

6 3.03 INSTALLATION

7 A. Perform cutting, welding and fitting required for installation. Set the work  
8 accurately in location, alignment and elevation, plumb, level, true and free of  
9 rack. Fit exposed connections accurately together to form tight hairline joints.

10 B. Do not weld, cut or abrade the surfaces of units which have been coated or  
11 finished after fabrication, and are intended for field connections.

12 C. Adjust railings prior to securing in place to ensure proper matching at butting  
13 joints and correct alignment throughout their length.

14 D. Space posts not more than 6 feet on centers, unless otherwise shown on the  
15 contract drawings. Plumb posts in each direction. Secure posts and rail ends to  
16 building construction as shown on drawings.

17 E. Expansion joints shall be installed at 24 feet maximum centers.

18  
19

END OF SECTION

1 SECTION 31 05 19.13

2 GEOSYNTHETICS FOR EARTHWORK

3 PART 1 GENERAL

4 1.01 APPLICABLE PROVISIONS

- 5 A. Applicable provisions of Division 01 shall govern work of this section.

6 1.02 APPLICABLE PUBLICATIONS

- 7 A. The following publications of the issues listed below, but referred to thereafter by  
8 basic designation only, form a part of this specification to the extent indicated by the  
9 reference thereto.
- 10 1. American Society for Testing and Materials (ASTM), Annual Book of  
11 ASTM Standards, Current Edition.
  - 12 2. State of Wisconsin, Department of Transportation, Standard Specifications  
13 for Highway and Structure Construction, Current Edition at time of bid  
14 opening.

15 1.03 DESCRIPTION OF WORK

- 16 A. The work under this section shall cover furnishing and installing geotextile fabrics  
17 for subgrade separation and stabilization, and under riprap in accordance with the  
18 contract drawings and specified herein, and in accordance with Section 645 of the  
19 State of Wisconsin, Department of Transportation, Standard Specifications.

20 1.04 RELATED WORK ELSEWHERE

- 21 A. Procurement and Contracting Requirements - Division 00 (All Sections)
- 22 B. Submittals - Division 01
- 23 C. Subgrade Preparation - Division 31
- 24 D. Riprap - Division 31

25 1.05 SUBMITTALS

- 26 A. Contractor shall submit such product literature and catalog cuts of materials to be  
27 supplied to relate these materials to the specifications. Information shall be in  
28 conformance with requirements of Submittals - Division 01 of these specifications.
- 29 B. The Contractor shall furnish to the Engineer at least ten days prior to use in the work  
30 a manufacturer's Certified Report of Test or Analysis that the geotextile fabric  
31 delivered for use conforms to this specification. The delivered geotextile fabric shall  
32 bear markings to clearly identify it with the applicable test report furnished to the  
33 Engineer.

1 1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS (NONE)

2 PART 2 PRODUCTS AND MATERIALS

3 2.01 GENERAL

4 A. The geotextile fabric shall consist of either woven or nonwoven polyester,  
5 polypropylene, stabilized nylon, polyethylene or polyvinylidene chloride. All fabric  
6 shall have the minimum strength values in the weakest principal direction.  
7 Nonwoven fabric may be needle punched, heat bonded, resin bonded, or  
8 combinations thereof.

9 B. The geotextile fabric shall be insect, rodent, mildew, and rot resistant.

10 C. The geotextile fabric shall be furnished in a wrapping which will protect the fabric  
11 from ultraviolet radiation and from abrasion due to shipping and hauling. The  
12 geotextile is to be kept dry until installed.

13 D. The geotextile fabric rolls shall be clearly marked showing the type of fabric.

14 E. Samples of fabric for testing may be obtained from the job site as specified herein or  
15 as determined by the Engineer.

16 F. If sewn seams are used, the Contractor shall furnish a field sewn seam sample  
17 produced from the geotextile fabric and thread and with the equipment to be used on  
18 the project, prior to its incorporation into the work.

19 G. All numerical values specified below represent minimum/maximum average roll  
20 values (i.e., the average of minimum test results on any roll in a lot should meet or  
21 exceed the minimum specified values).

22 2.02 GEOTEXTILE FABRIC, TYPE SAS (SUBGRADE AGGREGATE SEPARATION)

23 A. The fabric shall comply with the following physical properties:

24 Test	Method	Value
25 Grab Tensile Strength, lbs	ASTM D 4632	170 min.
26 Apparent Opening Size, 27 U.S. Standard Sieve	ASTM D 4751	70 max.
28 Permittivity, SEC <sup>-1</sup>	ASTM D 4491	0.35 min.

29 B. Acceptable materials are Geotex 701, LINQ 150EX, Mirafi 180N, Polytex 600, and  
30 Trevira Spunbond 1125, or equal.

1 2.03 GEOTEXTILE FABRIC, TYPE R (RIPRAP)

2 A. The fabric shall comply with the following physical properties:

3	<u>Test</u>	<u>Method</u>	<u>Value</u>
4	Grab Tensile Strength, lbs	ASTM D 4632	200 min.
5	CBR Puncture Strength	ASTM D 6241	500 min.
6	Apparent Breaking		
7	Elongation, Percent	ASTM D 4632	20 min.
8	Apparent Opening Size,		
9	U.S. Standard Sieve	ASTM D 4751	30 max.
10	Permittivity, SEC <sup>-1</sup>	ASTM D 4491	0.40 min.

11 B. Acceptable materials are Geotex 801, LINQ 180EX, Mirafi 180N, and Trevira  
12 Spunbond 1125, or equal.

13 2.04 GEOTEXTILE FABRIC, TYPE HR (HEAVY RIPRAP)

14 A. The fabric shall comply with the following physical properties:

15	<u>Test</u>	<u>Method</u>	<u>Value</u>
16	Grab Tensile Strength, lbs	ASTM D 4632	300 min.
17	CBR Puncture Strength	ASTM D 6241	800 min.
18	Apparent Breaking		
19	Elongation, Percent	ASTM D 4632	20 min.
20	Apparent Opening Size,		
21	U.S. Standard Sieve	ASTM D 4751	30 max.
22	Permittivity, SEC <sup>-1</sup>	ASTM D 4491	0.40 min.

23 B. Acceptable materials are Geotex 1201, LINQ 275EX, Mirafi 1120N, Mirafi HP370,  
24 and Trevira Spunbond 1145, or equal.

25 2.05 GEOTEXTILE FABRIC, TYPE RSF (RECIRCULATING SAND FILTER)

26 A. The filter fabric shall be of preferentially orientated isostatic polypropylene. Fabric  
27 shall be nonwoven and may be needle punched, heat bonded, resin bonded or  
28 combination thereof. Fabric shall have the following characteristics:

	<u>Test Property</u>	<u>Test Method</u>	<u>Value Minimum Requirements<sup>1</sup></u>
1			
2			
3			
4	Nominal Weight (oz/yd <sup>2</sup> )	ASTM D5261	8.0
5	Grab Tensile (lbs)	ASTM D4632	205
6	Grab Elongation At Break (%)	ASTM D4632	50
7	Puncture Resistance (lbs)	ASTM D4833	95
8	Trapezoidal Tear (lbs)	ASTM D4533	85
9	Mullen Burst (psi)	ASTM D3786	300
10	Water Flow Rate (gpm/ft <sup>2</sup> )	ASTM D4491	130
11	Permittivity (sec <sup>-1</sup> )	ASTM D4491	1.6
12	Permeability kv (cm/sec)	ASTM D4491	0.4
13	A.O.S. <sup>2</sup> (sieve size)	ASTM D4751	120-80
14	UV Resistance (500 hrs) <sup>3</sup>	ASTM D4355	>85
15	pH Resistance		2-13

16 B. Acceptable manufacturer of filter fabric materials are Phillips 66, Polyfelt, Mirafi,  
17 Du Pont, Webtec, or equal.

## 18 PART 3 CONSTRUCTION METHODS

### 19 3.01 GENERAL

20 A. Installation procedures shall be in accordance with manufacturer's recommendations  
21 and as specified herein.

22 B. Sewing. All factory and field seams shall be sewn with a thread having the same or  
23 greater durability as the material in the fabric. A 401 stitch conforming to Federal  
24 Standard No. 751a shall be used for all seams. All seams shall develop a tensile  
25 strength equal to or greater than 60 percent of the specified grab tensile strength of  
26 the fabric, unless otherwise specified.

### 27 3.02 GEOTEXTILE FABRIC, TYPE SAS

28 A. Prior to the placement of the geotextile fabric, the subgrade shall be smoothed,  
29 shaped and compacted to the required grade, section, and density. After the fabric  
30 has been placed on the subgrade area, no traffic or construction equipment will be  
31 permitted to travel directly on the fabric.

32 B. The fabric shall be rolled out on the roadway and pulled taut manually to remove  
33 wrinkles. Separate pieces of fabric shall be joined by overlapping or sewing. The  
34 fabric in the overlapped joints shall be placed with a minimum overlap of 18 inches.

<sup>1</sup> Values in weaker principal direction. All minimum values represent minimum average roll values (i.e., test results from any sampled roll in a lot, tested in accordance with ASTM D 4759 shall meet or exceed the minimum values listed).

<sup>2</sup> Small sieve size number represents the maximum average roll value.

<sup>3</sup> UV resistance testing is based on results from independent conformance testing.

- 1 C. Weight or pins may be required to prevent lifting of the fabric by wind.
- 2 D. After placement, the fabric shall be exposed no longer than 48 hours prior to  
3 covering.
- 4 E. The base course material shall be placed over the fabric by back dumping with trucks  
5 and leveling with a crawler dozer. Construction equipment shall be such that ruts do  
6 not exceed 3 inches in depth. All ruts shall be filled with additional material. The  
7 smoothing of ruts without adding additional material will not be permitted.  
8 Damaged areas shall be covered with a patch of fabric using a 36 inch overlap in all  
9 directions.

10 3.03 GEOTEXTILE FABRIC, TYPE R

- 11 A. The area shall be graded smooth and all stones, roots, sticks, or other foreign material  
12 which would interfere with the fabric being completely in contact with the soil shall  
13 be removed prior to placing the fabric.
- 14 B. The fabric shall be placed loosely and laid parallel to the direction of the water  
15 movement. Pinning or stapling may be required to hold the geotextile in place.  
16 Separate pieces of fabric shall be joined by overlapping or sewing. The fabric in the  
17 overlapped joints shall be placed with a minimum overlap of 24 inches in the  
18 direction of the flow.
- 19 C. After placement, the fabric shall be exposed no longer than 48 hours prior to  
20 covering.
- 21 D. Damaged areas shall be covered with a patch of fabric using a 36 inch overlap in all  
22 directions.
- 23 E. Placement of riprap shall be from the base of the slope upward. Height of free fall of  
24 riprap shall be determined by the Engineer but in no case shall this height exceed 12  
25 inches.

26 3.04 GEOTEXTILE FABRIC, TYPE HR

- 27 A. The construction methods for Type HR fabric shall conform to the requirements of  
28 Subsection 3.03, except that the height of freefall of riprap shall not exceed 6 inches.

29 3.05 GEOTEXTILE FABRIC, TYPE RSF (RECIRCULATING SAND FILTER)

- 30 A. The fabric shall be placed directly upon the sand filter liner.
- 31 B. After placement, the liner shall be exposed no longer than 48 hours prior to covering.
- 32 C. Damaged areas shall be covered with a patch of fabric using a 36 inch overlap in all  
33 directions.

1 PART 4 MEASUREMENT AND PAYMENT

2 4.01 GENERAL

3 A. Geosynthetics for earthworks shall be paid for at the bid price in accordance with one  
4 of the following methods, unless indicated otherwise in the Bid Schedule or Special  
5 Procedures - Division 01.

6 B. All work specified herein shall be considered in each of the measurement and  
7 payment method(s) stipulated, unless indicated otherwise in the Bid Schedule or  
8 Special Procedures - Division 01.

9 4.02 GEOTEXTILE FABRIC

10 A. Geotextile Fabric, Square Yards. The measurement for geotextile fabric of the  
11 specified type shall be by the square yard of surface area upon which the geotextile  
12 fabric has been placed. Payment shall be made at the contract unit price bid per  
13 square yard of geotextile fabric of the specified type installed, as measured.  
14

15 END OF SECTION

1 SECTION 31 22 00

2  
3 GRADING

4 PART 1 GENERAL

5 1.01 APPLICABLE PROVISIONS

6 A. Applicable provisions of Division 01 shall govern work of this section.

7 1.02 APPLICABLE PUBLICATIONS

8 A. The following publications of the issues listed below, but referred to thereafter by  
9 basic designation only, form a part of this specification to the extent indicated by the  
10 reference thereto.

- 11 1. State of Wisconsin, Department of Transportation, Standard Specifications  
12 for Highway and Structure Construction, Current Edition at time of bid  
13 opening.

14 1.03 DESCRIPTION OF WORK

15 A. The work covered under this section shall consist of furnishing all material,  
16 equipment, and labor required to execute the grading for this project.

17 1.04 RELATED WORK ELSEWHERE

18 A. Procurement and Contracting Requirements - Division 00 (All Sections)

19 B. Structural Excavation for Structures - Division 31

20 C. Trenching and Backfilling - Division 31

21 D. Erosion and Sedimentation Controls - Division 31

22 E. Topsoil Placement and Grading - Division 32

23 F. Seeding - Division 32

24 G. Sodding - Division 32

25 1.05 SUBMITTALS (NONE)

26 1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS (NONE)

1 PART 2 CONSTRUCTION METHODS

2 2.01 PROTECTION OF EXISTING UTILITIES

3 A. Locate existing underground utilities in the areas of work before starting grading  
4 operations and provide adequate means of protection during earthwork operations.  
5 Should uncharted or incorrectly charted piping or other utilities be encountered  
6 during grading, consult the Engineer immediately for directions as to procedure.  
7 Cooperate with the Owner, and public and private utility companies in keeping their  
8 respective services and facilities in operation.

9 B. Repair damaged utilities to the satisfaction of the utility owner.

10 2.02 PRESERVATION OF TREES AND SHRUBS

11 A. Trees and shrubs to be preserved shall be thoroughly protected from scarring or other  
12 injury during grading operations. Excavation operations shall not disturb the original  
13 ground around trees within a distance of one foot or twice the diameter of the tree,  
14 whichever is greater. Exposed roots resulting from excavation shall be cut cleanly  
15 and covered with humus-bearing soil.

16 B. When necessary or required by the Contract Documents, trees or shrubs around  
17 which embankment is placed shall be protected by tree wells built in accordance with  
18 detailed drawings or as laid out in the field by the Owner or Engineer.

19 2.03 GRADING

20 A. General. All areas within the project limits shall be graded to the finished grades,  
21 lines and details less an allowance for topsoil and/or sod depth, pavement, base and  
22 structures.

23 B. Construction Methods. Grading shall be performed in accordance with Sections 205,  
24 206, 207, and 208, of the State of Wisconsin, Department of Transportation Standard  
25 Specifications. If borrow is needed to provide the grades and elevations required, a  
26 borrow area will be selected by the Owner. The borrow area shall be restored to  
27 smooth lines, topsoiled with a minimum of 6 inches of salvaged topsoil and seeded.

28 C. Tolerance. Finish earth grades shall be in reasonably close conformity with the lines,  
29 grades and thickness shown on the contract drawings or established by the Engineer  
30 with particular concern for drainage and appearance. Finish earth grades along  
31 buildings or structures, under and adjacent to pavements and in drainageways shall  
32 be within 0.10 foot of those staked or shown on the contract drawings. Grades in all  
33 other areas shall be within 0.50 foot unless drainage considerations require more  
34 accuracy.

1 2.04 DRAINAGE

- 2 A. During construction, ditches and channels shall be drained by keeping the excavation  
3 areas and embankment sloped to the approximate section of the final earth grade. If  
4 existing surface drainage must be interrupted, temporary drainage shall be provided.
- 5 B. Construction in and adjacent to flowing streams shall be performed to avoid washing,  
6 sloughing or deposition of materials into the channel which may obstruct or impair  
7 stream flow, or which may result in contamination and/or silting of the stream.
- 8 C. Precautions shall be taken to preserve, protect, and continue service of all existing  
9 tile drains, sewers, and other subsurface utilities; repair any damage to drains,  
10 sewers, and utilities.

11 PART 3 MEASUREMENT AND PAYMENT

12 3.01 GENERAL

- 13 A. Grading shall be paid for at the bid price in accordance with one of the following  
14 methods, unless indicated otherwise in the Bid Schedule or Special Procedures -  
15 Division 01.
- 16 B. All work specified herein shall be considered in each of the measurement and  
17 payment method(s) stipulated, unless indicated otherwise in the Bid Schedule or  
18 Special Procedures - Division 01.

19 3.02 GRADING

- 20 A. Grading, Square Yards. When so provided, payment for grading shall be made at the  
21 contract square yard price bid.
- 22 B. Grading, Lump Sum. When so provided, payment for grading shall be made at the  
23 contract lump sum price bid.
- 24 C. Grading, Inclusive. When no quantity is provided, grading shall be in inclusive to  
25 payment for work associated with related utility or infrastructure improvement.  
26

27 END OF SECTION

1 SECTION 31 23 13

2  
3 SUBGRADE PREPARATION

4 PART 1 GENERAL

5 1.01 APPLICABLE PROVISIONS

6 A. Applicable provisions of Division 01 shall govern work of this section.

7 1.02 APPLICABLE PUBLICATIONS

8 A. The following publications of the issues listed below, but referred to thereafter by  
9 basic designation only, form a part of this specification to the extent indicated by the  
10 reference thereto.

- 11 1. State of Wisconsin, Department of Transportation, Standard Specifications  
12 for Highway and Structure Construction, Current Edition at time of bid  
13 opening.

14 1.03 DESCRIPTION OF WORK

15 A. The work under this section shall cover furnishing all material, equipment, and labor  
16 required to execute the earthwork for this project in accordance with Sections 201  
17 through 214 of the State of Wisconsin, Department of Transportation Standard  
18 Specifications.

19 1.04 RELATED WORK ELSEWHERE

20 A. Procurement and Contracting Requirements - Division 00 (All Sections)

21 B. Erosion and Sedimentation Controls - Division 31

22 C. Aggregate Base Course - Division 32

23 D. Topsoil Placement and Grading - Division 32

24 E. Seeding - Division 32

25 F. Sodding - Division 32

26 1.05 SUBMITTALS (NONE)

27 1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS (NONE)

28 PART 2 PRODUCTS AND MATERIALS (N/A)

1 PART 3 CONSTRUCTION METHODS

2 3.01 PRESERVATION OF TREES AND SHRUBS

3 A. Trees and shrubs to be preserved shall be thoroughly protected from scarring or other  
4 injury during grading operations. Excavation operations shall not disturb the original  
5 ground around trees within a distance of one foot or twice the diameter of the tree,  
6 whichever is greater. Exposed roots resulting from excavation shall be cut cleanly  
7 and covered with humus-bearing soil.

8 B. When necessary or required by the Contract Documents, trees or shrubs around  
9 which embankment is placed shall be protected by tree wells built in accordance with  
10 Detailed Drawings or as laid out in the field by the Owner or Engineer.

11 3.02 UNCLASSIFIED EXCAVATION AND GRADING

12 A. Excavation to subgrade shall be performed to provide a finished subgrade prepared  
13 for the application of crushed aggregate, curb and gutter, sidewalks and topsoil as  
14 shown on the typical section.

15 B. Also included is the removal and disposal of existing stumps, trees, miscellaneous  
16 structures and rubble as shown on the contract drawings and any other obstructions  
17 encountered which interfere with the proposed construction. Stumps shown on  
18 contract drawings to be removed from terraces or backslopes shall be shredded to a  
19 minimum of 6 inches below finish subgrade or otherwise removed by the Contractor.

20 C. Driveways shall be graded to a 10:1 maximum slope to match proposed construction.

21 D. The Contractor shall adjust all valve boxes, manhole frames, and other utility  
22 appurtenances to within 1 inch of the final grade as shown on the contract drawings  
23 or as staked in the field by the Engineer.

24 3.03 FILLING

25 A. All suitable excavated material shall be used for roadway construction, and at other  
26 places shown on the drawings.

27 B. Fill shall be spread in successive uniform horizontal layers not exceeding 9 inches in  
28 depth over entire area before compaction. Each layer shall be worked to break down  
29 clods over 6 inches in size and to secure uniform moisture content. Where filling in  
30 9 inch layers is not feasible, as in the case of filling in water or over steep slopes,  
31 construct fill in one layer to the minimum elevation at which equipment can be  
32 operated. Above this elevation, the fill shall be constructed in layers of the specified  
33 depth.

- 1 C. Compact each layer of fill material to the following percentage of maximum dry  
2 density per modified proctor (ASTM D1557).  
3 1. 91 percent for fine grained soils (more than 50 percent passing the No. 200  
4 sieve).  
5 2. 93 percent for coarse-grained soils (less than 50 percent passing the No. 200  
6 sieve).

7 3.04 PREPARATION OF SUBGRADE

- 8 A. The preparation of the subgrade shall consist of bringing the area to be paved to a  
9 subgrade conforming to the required grade and cross section, of uniform density,  
10 ready to receive the base course. This is to be accomplished by excavating or  
11 backfilling as needed, shaping, watering as required, or permitting to dry to proper  
12 consistency, and rolling the entire area with an approved self-propelled roller  
13 weighing not less than 8 tons. Shaping and rolling shall be continued until the  
14 subgrade has been properly prepared and shows that no further compaction of any  
15 practical benefit would result from continued compaction. The subgrade shall be  
16 tested as to cross section, crown, and elevation. After being properly prepared, it  
17 shall be so maintained until the base course is constructed. A completed subgrade  
18 shall be maintained sufficiently in advance of the base course operations to permit  
19 proper control. Any part of the subgrade area not accessible to a roller shall be  
20 thoroughly compacted by hand or mechanical compaction in a manner acceptable to  
21 the Engineer. This work shall be in accordance with Section 211 of the State of  
22 Wisconsin, Department of Transportation Standard Specifications.

23 3.05 UNSTABLE SUBBASE/EXCAVATION BELOW SUBGRADE (EBS)

- 24 A. Deposits of frost-heave material, unstable soils, topsoil containing considerable  
25 amounts of organic matter, or other undesirable foundation material shall be removed  
26 from the area within the roadbed depths as shown on the drawings or as directed by  
27 the Engineer and shall be replaced as directed by the Engineer in the field.
- 28 B. Contractor shall notify the Engineer of any questionable material. The work shall be  
29 performed in accordance with Section 205 of the State of Wisconsin, Department of  
30 Transportation, Standard Specifications.

31 3.06 DRAINAGE

- 32 A. During construction, ditches and channels shall be drained at all times by keeping the  
33 excavation areas and embankments sloped to the approximate section of the final  
34 earth grade. If existing surface drainage must be interrupted, temporary drainage  
35 shall be provided.
- 36 B. Construction in and adjacent to flowing streams shall be performed to avoid washing,  
37 sloughing or deposition of materials into the channel which may obstruct or impair  
38 stream flow, or which may result in contamination and/or silting of the stream.

- 1 C. Precautions shall be taken to preserve, protect, and continue service of all existing  
2 tile drains, sewers, and other subsurface utilities; repair any damage to drains, sewers  
3 and utilities.

4 3.07 TESTING

- 5 A. A testing laboratory will perform compaction and density tests at locations  
6 determined by the Owner's Authorized Representative. Where tests indicate that the  
7 subgrade does not conform to the compaction density specified, the subgrade shall be  
8 replaced or re-worked until it does conform.

9 PART 4 MEASUREMENT AND PAYMENT

10 4.01 GENERAL

- 11 A. Subgrade preparation shall be paid for at the bid price in accordance with one of the  
12 following methods, unless indicated otherwise in the Bid Schedule or Special  
13 Procedures - Division 01.
- 14 B. All work specified herein shall be considered in each of the measurement and  
15 payment method(s) stipulated, unless indicated otherwise in the Bid Schedule or  
16 Special Procedures - Division 01.

17 4.02 UNCLASSIFIED EXCAVATION

- 18 A. Unclassified Excavation, Cubic Yards. The measurement and payment for this item  
19 shall be per cubic yard. Measurement shall be taken in the field by cross sections  
20 before excavation and after topsoiling is placed, where required. Payment shall be  
21 made at the contract unit price bid per cubic yard of unclassified excavation.
- 22 B. Unclassified Excavation, Lump Sum. Payment for subgrade preparation shall be  
23 made at the contract lump sum price bid for unclassified excavation.

24 4.03 UNSTABLE SUBBASE/EXCAVATION BELOW SUBGRADE

- 25 A. Excavation Below Subgrade, Cubic Yards. The measurement and payment for this  
26 item shall be per cubic yard. Measurement shall be taken in the field by cross  
27 sections before any excavation below subgrade takes place and after a stable subbase  
28 is reached. Payment shall be made at the contract unit price bid per cubic yard of  
29 excavation below subgrade.

30  
31  
END OF SECTION

1 SECTION 31 23 19

2  
3 DEWATERING

4 PART 1 GENERAL

5 1.01 APPLICABLE PROVISIONS

6 A. Applicable provisions of Division 01 shall govern the work of this section.

7 1.02 APPLICABLE PUBLICATIONS

8 A. The following publications of the issues listed below, but referred to thereafter by  
9 basic designation only, form a part of this specification to the extent indicated by the  
10 reference thereto.

- 11 1. Wisconsin Administrative Code (WAC), Department of Natural Resources  
12 Environmental Protection Regulations, Current Edition.

13 1.03 DESCRIPTION OF WORK

14 A. The work under this section shall cover furnishing all materials and labor to keep all  
15 excavations free of water during the preparation of the subgrade, to keep all concrete  
16 and masonry work free of water through the time period specified herein, and to keep  
17 the excavation free of water during backfilling.

18 1.04 RELATED WORK ELSEWHERE

19 A. Procurement and Contracting Requirements - Division 00 (All Sections)

20 B. Temporary Utilities - Division 01

21 C. Structural Excavation for Structures - Division 31

22 D. Trenching and Backfilling - Division 31

23 E. Erosion and Sedimentation Controls - Division 31

24 1.05 SUBMITTALS (NONE)

25 1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS (NONE)

26 1.07 PERMITS AND APPROVALS

27 A. The Contractor shall obtain a High Capacity Well Permit from the Wisconsin  
28 Department of Natural Resources for all wells installed or operated for pumping  
29 groundwater to lower the water table, for which the single or aggregate well capacity  
30 may be 70 gallons per minute (gpm) or greater. The Contractor shall submit the  
31 High Capacity Dewatering Well Application (Form 3300-258) to the Wisconsin

1 Department of Natural Resources, Private Water Supply Section, P.O Box 7921,  
2 Madison, WI 53707, along with any necessary permit fees, and obtain said permit  
3 prior to the construction or operation of said high capacity well(s).

4 B. The Contractor shall be responsible for all equipment, labor, materials and supplies  
5 required to comply with the requirements of the High Capacity Well Permit, if  
6 necessary, at no additional cost to the Owner.

7 C. The Contractor shall apply for and obtain a General Discharge Permit for Pit and  
8 Trench Dewatering Wastewater, Wisconsin Pollution Discharge Elimination System  
9 (WPDES) Permit No WI-0049344-2. See Section 00 31 32 – Available Project  
10 Information in this Project Manual for a copy of the application and of the General  
11 Discharge Permit.

12 D. The Contractor shall be responsible for all requirements of the General Discharge  
13 Permit for Pit and Trench Dewatering, including monitoring, metering, sampling,  
14 testing, and reporting, and shall also be responsible for compliance with all discharge  
15 limits contained in the General Discharge Permit.

16 E. The Contractor shall be responsible for all equipment, labor, materials and supplies  
17 required to comply with the requirements of the General Discharge Permit for Pit and  
18 Trench Dewatering, at no additional cost to the Owner.

## 19 PART 2 PRODUCTS AND MATERIALS

### 20 2.01 GENERAL

21 A. The Contractor shall furnish dewatering sumps, wells, discharge pipe, and pumping  
22 equipment as may be required to adequately dewater the work.

### 23 2.02 PUMPING EQUIPMENT

24 A. Pumping equipment shall be capable of running continuously except for conditions  
25 which may be approved by the Engineer.

### 26 2.03 WELLS

27 A. For the purposes of compliance, the provisions of chapter NR 812 apply to all new  
28 and existing drill holes to be utilized for the purpose of dewatering and the  
29 following:

- 30 1. Wells governed under chapter NR 141 do not apply, unless they are high  
31 capacity wells, and shall not be used for the purpose of dewatering.

1 PART 3 CONSTRUCTION METHODS

2 3.01 WATER LEVELS

3 A. At all times during the excavation period and until its completion and acceptance at  
4 final inspection, ample means and equipment shall be provided with which to remove  
5 promptly, and dispose of properly, all water entering any excavation or other parts of  
6 the work. The excavation shall be kept dry and groundwater levels shall be kept low  
7 enough to prevent a quicksand condition from ruining the excavation bottom.

8 B. Water levels shall be maintained at a level below all open excavations for structures  
9 and below the level of concrete until the concrete has been in place for 14 days or  
10 until test cylinders show the concrete strength to be at least 3,000 pounds per square  
11 inch or until high-early-strength concrete has been in place for 6 days or until test  
12 cylinders show the strength of the concrete to be at least 3,000 pounds per square  
13 inch. Water levels will be allowed to rise on structures prior to the concrete attaining  
14 its strength provided that water levels are raised uniformly on each side of walls. At  
15 no time shall water be allowed to rise on a structure within 12 hours of the final  
16 concrete placement.

17 C. Concrete immersed in water for the required period of time shall be an acceptable  
18 alternative for the concrete curing specified in Cast-in-Place Concrete - Division 03  
19 of these specifications.

20 D. Water levels shall be maintained at a minimum level of 6 inches below the invert  
21 elevation of a pipe during placement.

22 3.02 WELLS

23 A. For the purposes of construction and installation, and abandonment, the provisions of  
24 chapter NR 812 apply to all drillholes and wells.

25 B. For the purpose of operation for wells used for dewatering, these operations shall be  
26 in accordance with the requirements of these specifications, the Engineer and all  
27 local, municipal, and state codes, rules and regulations.

28 3.03 DISCHARGE LINE

29 A. Discharge line shall be at a location approved by the Engineer.

30 3.04 DISPOSAL OF WATER

31 A. All water discharged from work sites shall be disposed of in such a manner to  
32 minimize erosion and sedimentation. Water must be discharged to a hard surface  
33 such as metal sheeting, wood sheeting, concrete, etc., so that erosion at the discharge  
34 point is eliminated.

- 1 B. Temporary and permanent erosion and sedimentation control measures shall be  
2 performed by the Contractor during construction to control water pollution, erosion  
3 and siltation, through the use of intercepting embankments, berms, dikes, dams,  
4 settling basins, sodding, planting and other erosion control devices or methods.
- 5 C. No water shall be discharged to sanitary sewers.
- 6 D. No water containing settleable solids shall be discharged into storm sewers.

7 3.05 SAMPLING AND MONITORING

- 8 A. Sampling and monitoring shall be performed by the Contractor in accordance with  
9 WPDES permit requirements. The cover letter accompanying the permit shall  
10 specify which parameters shall be monitored to assure compliance with water quality  
11 standards or treatment technology based standards.
- 12 B. Samples representative of the discharge shall be collected after treatment and prior to  
13 discharge to the environment. When treatment efficiency reporting is required, the  
14 influent sample shall be collected before the water passes through the treatment unit.

15 PART 4 MEASUREMENT AND PAYMENT

16 4.01 GENERAL

- 17 A. Dewatering shall be paid for at the bid price in accordance with one of the following  
18 methods, unless indicated otherwise in the Bid Schedule or Special Procedures -  
19 Division 01.
- 20 B. All work specified herein shall be considered in each of the measurement and  
21 payment method(s) stipulated, unless indicated otherwise in the Bid Schedule or  
22 Special Procedures - Division 01.

23 4.02 DEWATERING

- 24 A. Dewatering, Lump Sum. When so provided, payment for dewatering shall be made  
25 at the contract lump sum price bid.
- 26 B. Dewatering, Inclusive. When no quantity is provided, dewatering shall be  
27 considered inclusive to payment for work associated with the related utility or  
28 construction.

29  
30  
END OF SECTION

1 SECTION 31 23 23.14

2  
3 GRANULAR FILL

4 PART 1 GENERAL

5 1.01 APPLICABLE PROVISIONS

6 A. Applicable provisions of Division 01 shall govern work of this section.

7 1.02 APPLICABLE PUBLICATIONS

8 A. The following publications of the issues listed below, but referred to thereafter by  
9 basic designation only, form a part of this specification to the extent indicated by the  
10 reference thereto.

- 11 1. State of Wisconsin, Department of Transportation, Standard Specifications  
12 for Highway and Structure Construction, Current Edition at time of bid  
13 opening.  
14 2. American Society for Testing and Materials (ASTM), Annual Book of  
15 ASTM Standards, Current Edition.

16 1.03 DESCRIPTION OF WORK

17 A. The work covered under this section shall consist of furnishing all material,  
18 equipment, and labor required to execute the filling, compaction, and testing of all  
19 subgrade excavations for this project.

20 1.04 RELATED WORK ELSEWHERE

21 A. Procurement and Contracting Requirements - Division 00 (All Sections)

22 B. Subgrade Preparation - Division 31

23 1.05 SUBMITTALS (NONE)

24 1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS (NONE)

25 PART 2 PRODUCTS AND MATERIALS

26 2.01 GRANULAR FILL

27 A. All granular subbase and granular fill materials shall conform to Section 209 of the  
28 State of Wisconsin, Department of Transportation, Standard Specifications.

1 PART 3 CONSTRUCTION METHODS

2 3.01 COMPACTION

- 3 A. Granular fill materials shall be mechanically compacted in 6 inch to 8 inch lifts to  
4 93 percent maximum dry density per modified proctor (ASTM-D1557).

5 PART 4 MEASUREMENT AND PAYMENT

6 4.01 GENERAL

- 7 A. Granular fill shall be paid for at the bid price in accordance with one of the following  
8 methods, unless indicated otherwise in the Bid Schedule or Special Procedures -  
9 Division 01.

- 10 B. All work specified herein shall be considered in each of the measurement and  
11 payment method(s) stipulated, unless indicated otherwise in the Bid Schedule or  
12 Special Procedures - Division 01.

13 4.02 GRANULAR FILL

- 14 A. Granular Fill, Cubic Yards. The measurement for granular fill shall be by the cubic  
15 yard truck volume or as specified in Special Procedures - Division 01. Payment shall  
16 be made at the contract unit price bid per cubic yard of granular fill installed, as  
17 measured or as specified in Special Procedures - Division 01.

- 18 B. Granular Fill, Ton. The measurement for granular fill shall be by the ton or as  
19 specified in Special Procedures - Division 01. Weight tickets from approved truck  
20 scales shall be provided. Payment shall be made at the contract unit price bid per ton  
21 of granular fill installed, as measured or as specified in Special Procedures -  
22 Division 01.

23  
24

END OF SECTION

1 SECTION 31 23 33

2  
3 TRENCHING AND BACKFILLING

4 PART 1 GENERAL

5 1.01 APPLICABLE PROVISIONS

6 A. Applicable provisions of Division 01 shall govern work of this section.

7 1.02 APPLICABLE PUBLICATIONS

8 A. The following publications of the issues listed below, but referred to thereafter by  
9 basic designation only, form a part of this specification to the extent indicated by the  
10 reference thereto.

- 11 1. American Society for Testing and Materials (ASTM), Annual Book of  
12 ASTM Standards, Current Edition.
- 13 2. Code of Federal Regulations (CFR), Title 29, Chapter XVII - Occupational  
14 Safety and Health Administration (OSHA), Department of Labor, Part 1926  
15 Regulations, Current Edition.
- 16 3. Wisconsin Administrative Code (WAC), Department of Natural Resources,  
17 Environmental Protection, Regulations, Current Edition.
- 18 4. State of Wisconsin, Department of Transportation, Standard Specifications  
19 for Highway and Structure Construction, Current Edition at time of bid  
20 opening.

21 1.03 DESCRIPTION OF WORK

22 A. The work under this section shall include all excavating, trenching, and backfilling  
23 for utilities as indicated from the contract drawings and as specified herein.

24 1.04 RELATED WORK ELSEWHERE

- 25 A. Procurement and Contracting Requirements - Division 00 (All Sections)
- 26 B. Dewatering - Division 31
- 27 C. Rock Excavation – Division 31
- 28 D. Structural Excavation for Structures - Division 31
- 29 E. Erosion and Sedimentation Controls - Division 31
- 30 F. Utility Horizontal Directional Drilling – Division 33

31 1.05 SUBMITTALS (NONE)

1 1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS (NONE)

2 PART 2 PRODUCTS AND MATERIALS

3 2.01 INSITU BACKFILL MATERIAL

4 A. Previously excavated soil free of organic debris, clay balls, and aggregate larger than  
5 1-1/2 inches as approved by the Engineer.

6 2.02 IMPORTED GRANULAR BACKFILL (TRUCKED BACKFILL) MATERIAL

7 A. Imported granular fill (trucked backfill) shall be sand conforming to State of  
8 Wisconsin, Department of Transportation, Standard Specifications Subsection  
9 209.2.2, Grade No. 1 Granular Backfill or well-graded sand and gravel conforming  
10 to Subsection 305.2.2.1 of said State Standard Specification 1-1/4 inch dense graded  
11 base with not more than eight percent (8 percent) by weight passing a No. 200 sieve.

12 2.03 FLOWABLE BACKFILL

13 A. A cubic yard of flowable backfill shall consist of 1,350 pounds of sand, 775 pounds  
14 of #1 stone, 1,150 pounds of #2 stone, and 25 gallons of water. All weights are damp  
15 weights and no additional water will be allowed.

16 PART 3 CONSTRUCTION METHODS

17 3.01 SURFACE OBSTRUCTIONS

18 A. Structures, sidewalk, driveways, curb and gutter, trees, shrubs, lawns, signs, fences,  
19 utilities, survey monuments, pavements, culverts and other appurtenances which are  
20 adjacent to the right-of-way or work easements, shall be carefully protected against  
21 damage. In the event of damage or inadvertent injury or removal of these surface  
22 features by failure of the Contractor to exercise reasonable precautions or proper  
23 construction techniques, he shall bear the full cost and responsibility for resulting  
24 damages and shall replace or repair such damage as early as possible. No allowance  
25 for extra payment or time lost will be allowed for such interferences that the  
26 Contractor could have suspected or anticipated during pre-bid site inspection and  
27 interpretation of the bidding documents.

28 B. Clearing, grubbing, and removal of all pavements, sidewalks, curbs, signs, poles,  
29 fences, etc., shall be done only as necessary for the completion of the work. Brush,  
30 trees, shrubs, concrete, rubble, and other removals, which are not intended to be  
31 replaced, shall be disposed of by the Contractor off the work site.

32 C. Obstructions, which are intended to be reset, shall be stored and protected by the  
33 Contractor. Fences, signs, mailboxes, trees, shrubs, structures, and similar features

1 requiring removal, shall be restored to their original position except where permanent  
2 removal is indicated.

- 3 D. Monuments for land surveys encountered in the path of work shall be carefully  
4 protected from movement. Should removal be necessary, the Contractor shall notify  
5 the Engineer in advance. The Contractor will be held responsible for re-establishing  
6 monuments lost due to his negligence or failure to notify the Engineer at least  
7 24 hours in advance of disturbing.

8 3.02 SUBSURFACE OBSTRUCTIONS

- 9 A. The approximate location and size of sewers, drains, culverts, gas mains, water  
10 mains, survey monuments, electric and telephone conduits and other underground  
11 structures shown on the drawings are based on records available to the Owner or  
12 surface markings indicating their existence.

- 13 B. The Contractor shall use caution in excavating and trenching so that the exact  
14 location of underground structures, both known and unknown, may be determined;  
15 he shall be held responsible for the repair of such structures when broken or  
16 otherwise damaged during construction.

- 17 C. The Contractor shall make arrangements with the utility companies for any  
18 relocation of interfering utilities. No extra cost due to unexpected delays or  
19 coordination work shall be incurred on the Owner except for authorized utility  
20 alterations performed by the Contractor as provided below.

- 21 D. When the Engineer permits the Contractor to make a change to avoid a utility  
22 relocation, the Engineer shall determine whether the change constitutes extra work as  
23 defined in the General Conditions.

- 24 E. Any underground utilities or other structures, which the Contractor wishes to have  
25 moved to facilitate construction, shall be arranged with the owner of such structures.  
26 The Contractor shall pay all costs of the accommodation.

- 27 F. In the event that there is any question as to whether any of the above enumerated  
28 obstructions, underground utilities or other structures cross or pass through the space  
29 occupied by the completed structures of this contract, the Engineer's decision shall  
30 be binding upon the Owner and the Contractor.

- 31 G. During the construction of the pipe lines, it may be necessary to cross under certain  
32 sewers, drains, culverts, water lines, gas lines, electric conduits and other  
33 underground structures. Where necessary, the flow in drains or culverts shall be  
34 diverted so that the excavation is kept dry during the progress of the construction  
35 work. Every effort shall be made to prevent damage to such underground structures.

1           Wherever such structures are disturbed or broken, they shall be restored to good  
2           condition at no additional cost to the Owner.

- 3           H.     The Contractor shall use sand or gravel backfill beneath said structures. This backfill  
4           shall be deposited and thoroughly compacted by mechanical means in layers not to  
5           exceed 6 inches in depth.

### 6   3.03   EXCAVATION

- 7           A.     General. All excavation of every description and of whatever substances  
8           encountered shall be performed to the depths indicated or as otherwise specified.

- 9           1.     During excavation, material suitable for backfilling shall be piled in an  
10           orderly manner a sufficient distance from the banks of the trench to avoid  
11           overloading and to prevent slides or cave-ins. All excavated materials not  
12           required or suitable for backfill shall be removed and wasted as specified.  
13           Grading shall be done as may be necessary to prevent surface water from  
14           flowing into trenches or other excavations and any water accumulated therein  
15           shall be removed by pumping or by other approved methods.  
16           2.     Sheeting and shoring shall be placed as may be necessary for the protection  
17           of the work and for the safety of personnel. Unless otherwise indicated,  
18           excavation shall be by open cut.

- 19          B.     Trench Excavation. Trenches shall be of the necessary width for proper laying of  
20          pipe and shall conform to WAC requirements. The banks of pipe trenches shall  
21          conform to OSHA requirements and the Contractor is responsible for all safety  
22          requirements of said codes.

- 23          1.     Care shall be taken not to overexcavate. The bottom of the trenches shall be  
24          accurately graded to provide uniform bearing and support for each section of  
25          the pipe. Bell holes and depressions for joints shall be dug after the trench  
26          bottom has been graded, and in order that the pipe rest on the prepared  
27          bottom for as nearly its full length as practicable, bell holes and depressions  
28          shall be only of such length, depth, and width as required for properly  
29          making the particular type of joint. Stones shall be removed as necessary to  
30          avoid point bearing.  
31          2.     Except as hereinafter specified for wet or other unstable material, overdepths  
32          shall be backfilled as and with materials specified for, backfilling the lower  
33          portion of trenches. Whenever wet or otherwise unstable material that is  
34          incapable of properly supporting the pipe is encountered in the bottom of the  
35          trench, such material shall be overexcavated to a depth to allow for  
36          construction of a stable pipe bedding. The trench shall be backfilled to the  
37          proper grade with suitable approved materials.  
38          3.     Trench Width. The width of the trench at and below the top of the pipe shall  
39          be such that the clear space between the barrel of the pipe and the trench wall  
40          shall not be less than 6 inches nor exceed 8 inches on either side of the pipe,  
41          unless otherwise approved by the Engineer in writing. The width of the

trench above that level shall be as wide as necessary for sheeting and bracing and the proper performance of the work.

4. Excavation for Appurtenances. Excavation for manholes and similar structures shall be sufficient to leave at least 12 inches clear space between the outer surface of structure and the bank or timber that may be used to hold and protect the banks. Any overdepth excavation below such appurtenances that has not been directed will be considered unauthorized and shall be refilled with sand, gravel, or concrete, as directed, at no additional cost to the Owner.
5. Embedment. Embedment for utilities shall be as specified in the respective utility specification section.

C. Protection and Removal of Utility Lines. The Contractor shall notify all affected utility companies at least three consecutive working days preceding his construction operations to coordinate his work regarding poles, wires, valve boxes and other surface obstructions and to determine the location of gas, water main, power, light, telephone or telegraph conduit or service connection thereto or any other subsurface structure that crosses or passes through the space occupied by any of the proposed improvements. The Contractor shall make advance arrangements with the utility companies for any relocation of interfering utilities so as not to delay construction.

D. Interruptions of Services. Interruptions of utility services to existing buildings or facilities which become necessary either directly or indirectly due to work required under this contract shall be coordinated with the Owner through the Engineer. If the down time for connections is limited by them as to duration and time (weekend, nights or holidays), the Contractor shall perform the work during the designated period at no additional cost to the Owner.

### 3.04 BACKFILLING

A. Types of Backfill. Backfill for sanitary sewers, water mains, storm sewers, culverts, and drainpipes is the material placed between the bedding and the ground surface. Debris, frozen material, organic matter, unstable material, or stones greater than 8 inches in diameter shall not be suitable for backfill. Large clods and stones not exceeding 8 inches in diameter, when allowed for use as backfill, shall not be placed within two feet of the top of the pipe. Backfill shall be of the following types:

1. Type I Backfill:

- a. Type I backfill shall be used where shown on the contract drawings or stated in Special Procedures - Division 01, and unless directed otherwise shall extend from the top of the embedment to the underside of surface restoration.
- b. Type I backfill shall be used under and around all existing underground structures, tunnels, conduits, and pipes crossing the excavation. Such backfill shall extend underneath and on all sides to a structure, tunnel, conduit or pipe.

1 c. Type I backfill shall be selected fill material consisting of granular  
2 subbase course, base course or approved existing sand. The backfill  
3 material shall be mechanically compacted in 6-inch layers, from a  
4 distance of one foot above the pipe to the surface. The degree of  
5 compaction shall be to 95 percent maximum dry density per modified  
6 proctor (ASTM D1557).

7 2. Type II Backfill:

8 a. Type II backfill shall be used where shown on the contract drawings  
9 or stated in Special Procedures - Division 01.

10 b. Type II backfill shall be suitable excavated material, or other  
11 approved material, placed in uniform layers and mechanically  
12 compacted. The following compaction percentages based on the  
13 maximum dry density per modified proctor (ASTM D1557) for the  
14 materials are required:

15 1) For fine grained soils (more than 50 percent passing the  
16 No. 200 sieve).

17 Zone III: From bottom of surface restoration to 3 feet  
18 below - 91 percent

19 Zone II: From bottom of Zone III to top of the  
20 embedment - 88 percent

21 Zone I: Specified as embedment

22 2) For coarse grained soils (less than 50 percent passing the  
23 No. 200 sieve).

24 Zone III: From bottom of surface restoration to 3 feet  
25 below - 93 percent

26 Zone II: From bottom of Zone III to top of the  
27 embedment - 90 percent

28 Zone I: Specified as embedment

29 3. Type III Backfill:

30 a. Type III backfill shall be used in all areas where shown on the Plans  
31 or stated in Special Procedures - Division 01. Backfill material shall  
32 be suitable excavated material placed, from top of embedment to the  
33 bottom of surface restoration, in 12 to 18 inch layers and consolidated  
34 by jetting, spading, tamping, or puddling, to the approval of the  
35 Engineer, to insure complete filling of the trench.

36 4. Type IV Backfill:

37 a. Utilize Type III Backfill with the following jetting: at least a  
38 1-1/2 inch jetting hose, equipped with a regulating valve which  
39 permits the hydrant valve to be fully open during use, with a  
40 minimum 1-1/2 inch diameter pipe nozzle at least 6 feet long shall be  
41 used. During the flooding operation, the nozzle shall be inserted as  
42 deeply into the backfill as is possible without damaging the sewers,  
43 water mains, or foundations. The insertions shall be made at intervals  
44 of 5 feet or less and maintained until the backfill is saturated.

1 Depressions caused by flooding shall be backfilled until there is no  
2 further settlement.

3 5. Flowable Backfill:

- 4 a. The materials shall be placed in a clean cement mixer truck and  
5 thoroughly mixed. Just prior to placement, the mixer shall be run at  
6 mixing speed for one full minute to insure an even mixture. The  
7 mixture shall be deposited in the trench directly from the mixer truck.  
8 Copies of the load tickets shall be provided to the Engineer.

- 9 B. After Settlement. Should after settlement occur, succeeding any of the above  
10 backfilling methods, the Contractor shall scarify the surface of the fill material and  
11 place additional fill material in the same manner as herein described so that the  
12 surface elevation conforms to that shown on the Plans. No additional compensation  
13 shall be allowed for repairing filled areas where after-settlement occurs.

- 14 C. Backfill Placement. The excavated space around and above underground structures,  
15 tunnels, conduits and pipes not filled with embedment material and where select fill  
16 backfill is not shown or specified may be backfilled by machine.

- 17 D. Backfilling work shall be done in such a way as to prevent dropping of material  
18 directly on top of any conduit or pipe through any great vertical distance. In no case  
19 shall backfilling material from a bucket be allowed to fall directly on a structure or  
20 pipe and in all cases, the bucket shall be lowered so that the shock of falling earth  
21 will not cause damage.

- 22 E. Lumps shall be broken up and if there are any stones, pieces of crushed rock or  
23 lumps, which cannot be readily broken up, they shall be distributed throughout the  
24 mass so that all interstices are solidly filled with fine material. Stones, lumps and  
25 clods shall also be placed to maintain a 2 foot minimum separation distance from the  
26 top of the pipe or structure. No frozen material shall be used for backfilling.

27 PART 4 MEASUREMENT AND PAYMENT

28 4.01 GENERAL

- 29 A. Trenching and Backfilling for utilities shall be paid for at the bid price in accordance  
30 with one of the following methods, unless indicated otherwise in the Bid Schedule or  
31 Special Procedures - Division 01.

- 32 B. All work specified herein shall be considered in each of the measurement and  
33 payment method(s) stipulated, unless indicated otherwise in the Bid Schedule or  
34 Special Procedures - Division 01.

1 4.02 TRENCHING AND BACKFILLING

2 A. Trenching and Backfilling, Inclusive. When no quantity is provided, trenching and  
3 backfilling shall be included in the payment for contract work related to the  
4 associated utility.

5 4.03 IMPORTED GRANULAR BACKFILL (TRUCKED BACKFILL)

6 A. Imported Granular Backfill (Trucked Backfill), Cubic Yard. Measurement for  
7 imported granular backfill (trucked backfill) shall be per cubic yard, as in truck  
8 volume. Payment shall be made at the contract unit price bid for imported granular  
9 backfill (trucked backfill), as measured.

10 B. Imported Granular Backfill (Trucked Backfill), Ton. Measurement for imported  
11 granular backfill (trucked backfill) shall be per ton, as trucked in weight. Payment  
12 shall be made at the contract unit price bid for imported granular backfill (trucked  
13 backfill) as measured.

14 C. Imported Granular Backfill (Trucked Backfill), Inclusive. When no quantity is  
15 provided, imported granular backfill (trucked backfill) shall be included in the  
16 payment for contract work related to the associated utility.

17 4.04 FLOWABLE BACKFILL

18 A. Flowable Backfill. Measurement for flowable backfill shall be per cubic yard, as in  
19 truck volume. Payment shall be made at the contract unit price bid for flowable  
20 backfill, as measured.

21  
22

END OF SECTION

SECTION 31 25 00

EROSION AND SEDIMENTATION CONTROLS

PART 1 GENERAL

1.01 APPLICABLE PROVISIONS

A. Applicable provisions of Division 01 shall govern work of this section.

1.02 APPLICABLE PUBLICATIONS

A. The following publications of the issues listed below, but referred to thereafter by basic designation only, form a part of this specification to the extent indicated by the reference thereto.

1. State of Wisconsin, Department of Natural Resources (WDNR), Conservation Practice Standards, Current Edition.
2. State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction, Current Edition at time of bid opening.

1.03 DESCRIPTION OF WORK

A. The work under this section shall cover providing the necessary materials, equipment and labor to control erosion and sedimentation controls by the methods specified herein. If no specific quantities are shown on the contract drawings, the Contractor shall use whatever quantities are necessary to prevent sediment transport off the job site, into permanent manmade storm water conveyances or management facilities or to Waters of the State.

B. The Contractor will be required to provide erosion control as per the current edition of the applicable State of Wisconsin, Department of Natural Resources (WDNR), Conservation Practice Standards. Copies of these standards can be obtained by contacting the following:

State of Wisconsin Department of Natural Resources  
Non-Point Source and Land Management Section  
101 South Webster Street, P.O. Box 7921  
Madison, WI 53707-7921

or by visiting the following website:

[http://dnr.wi.gov/topic/stormwater/standards/const\\_standards.html](http://dnr.wi.gov/topic/stormwater/standards/const_standards.html)

1 C. The Engineer has prepared an erosion control plan for this project. The intent of this  
2 plan is to identify erosion control provisions for the construction site that comply  
3 with local, state, and federal regulations. The Contractor shall submit for approval  
4 by the appropriate regulatory agency any changes to the Erosion Control Plan, prior  
5 to beginning any construction on the project which may cause erosion in the portion  
6 of the site where the change to the Erosion Control Plan is proposed.

7 1.04 RELATED WORK ELSEWHERE

8 A. Procurement and Contracting Requirements - Division 00 (All Sections)

9 B. Clearing and Grubbing - Division 31

10 C. Grading - Division 31

11 D. Subgrade Preparation - Division 31

12 E. Structural Excavation for Structures - Division 31

13 F. Trenching and Backfilling - Division 31

14 G. Riprap - Division 31

15 1.05 SUBMITTALS (NONE)

16 1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS (NONE)

17 PART 2 PRODUCTS AND MATERIALS

18 2.01 TOPSOIL

19 A. Topsoil shall be fertile, friable, natural loam surface soil, reasonably free of subsoil,  
20 clay lumps, brush, weeds and free of roots, stumps, stones larger than 2 inches in any  
21 dimension, and other matter harmful to plant growth. Topsoil to supplement  
22 insufficient topsoil on the site shall originate from local sources, but not from bogs or  
23 marshes.

24 2.02 LIME

25 A. Lime used for soil amendment shall be agricultural grade limestone ground  
26 sufficiently fine so that 80 percent passes a No. 8 sieve. Lime shall contain  
27 80 percent calcium carbonate equivalent. Moisture shall not exceed 10 percent.

1 2.03 FERTILIZER

2 A. Fertilizer used in conjunction with seeding shall be dry, free-flowing granular  
3 fertilizer suitable for application by agricultural fertilizer spreaders or blower  
4 equipment, or non-volatile liquid commercial fertilizer, having an analysis of  
5 20-10-10 (Nitrogen-Phosphoric Acid-Potash), or equal, unless use of phosphorus  
6 based fertilizers are banned by the community where the work is to be completed. In  
7 such communities, an analysis of 20-0-10, or equal, shall be used. Fertilizer having  
8 other analysis shall be applied at a rate to achieve at least the individual following  
9 amounts of nutrient per unit area:

<u>Nutrient</u>	<u>Application Rate</u> (Per Acre)	<u>Application Rate</u> (Per 1000 Sq. Ft.)
Nitrogen (N)	100 pounds	2.3 pounds
Phosphoric Acid (P <sub>2</sub> O <sub>5</sub> )	50 pounds	1.2 pounds
Potash (K <sub>2</sub> O)	50 pounds	1.2 pounds

17 2.04 SEEDING FOR CONSTRUCTION SITE EROSION CONTROL

18 A. Seeding for Construction Sites shall conform with Wisconsin DNR Conservation  
19 Practice Standard 1059.

20 B. Seed mixtures shall conform to one of the following:

- 21 1. WisDOT, 2003. State of Wisconsin Standard Specifications For Highway  
22 and Structure Construction. Section 630, Seeding.
- 23 2. United States Department of Agriculture – Natural Resource Conservation  
24 Service Field Office Technical Guide Section IV, Standard 342, Critical Area  
25 Planting.
- 26 3. UWEX Publication A3434 Lawn and Establishment & Renovation.

27 C. All seed shall conform to the requirements of the Wisconsin Statutes and of the  
28 Administrative Code Chapter ATCP 20.01 regarding noxious weed seed content and  
29 labeling.

30 D. Seed mixtures that contain potentially invasive species or species that may be  
31 harmful to native plant communities shall be avoided.

32 E. Seed shall not be used later than one year after the test date that appears on the label.

33 F. Seed shall be tested for purity, germination and noxious weed seed content and shall  
34 meet the minimum purity and germination requirements as prescribed in the current  
35 edition of Rules for Testing Seed, published by the Association of Official Seed  
36 Analysts.

1 2.05 MULCH FOR CONSTRUCTION SITES

- 2 A. Mulching for construction sites shall conform with Wisconsin DNR Conservation  
3 Practice Standard 1058.
- 4 B. Mulch shall consist of natural biodegradable material such as plant residue  
5 (including but not limited to straw, hay, wood chips, bark and wood cellulose fiber),  
6 or other equivalent materials of sufficient dimension (depth or thickness) and  
7 durability to achieve the intended effect for the required time period.
- 8 C. Mulch shall be environmentally harmless to wildlife and plants. Materials such as  
9 gravel, plastic, fabric, sawdust, municipal solid waste, solid waste byproducts,  
10 shredded paper, and non-biodegradable products shall not be used.
- 11 D. Mulch shall be free of diseased plant residue (i.e., oak wilt), noxious weed seeds,  
12 harmful chemical residues, heavy metals, hydrocarbons and other known  
13 environmental toxicants.
- 14 E. Marsh hay shall not be used as mulch in lowland areas but may be used on upland  
15 sites to prevent the spread of invasive, nonnative species (i.e., reed canary grass)  
16 commonly found in marsh hay.
- 17 F. Straw and hay mulch that will be crimped shall have a minimum fiber length of  
18 6 inches.
- 19 G. Wood chips or wood bark shall only be used for sites that are not seeded.

20 2.06 EROSION MAT

- 21 A. Non-Channel Erosion Mat products shall conform with Wisconsin DNR  
22 Conservation Practice Standard 1052.
- 23 B. Channel Erosion Mat products shall conform with Wisconsin DNR Conservation  
24 Practice Standard 1053.
- 25 C. Erosion mat shall conform to the requirements of the State of Wisconsin, Department  
26 of Transportation, Product Acceptability List (PAL) for Erosion Control  
27 Revegetative Mat (ECRM) and Turf-Reinforcement Mat (TRM).
- 28 D. For mats that utilize netting, the netting shall be bonded to the parent material to  
29 prevent separation of the net for the life of the product.
- 30 E. For urban class mats the following material requirements shall be adhered to:  
31 1. Only 100% organic biodegradable netted products are allowed, including  
32 parent material, stitching, and netting.  
33 2. The netting shall be stitched with biodegradable thread/yarn to prevent  
34 separation of the net from parent material.

3. All materials and additive components used to manufacture the anchoring devices shall be completely biodegradable as determined by ASTM D 5338.
4. Mats with photodegradable netting shall not be installed after September 1st.
5. Steel wire pins or staples shall not be used in lawns.

## 2.07 SEEDING AND SODDING

- A. Seeding and sodding shall conform to Seeding - Division 32 and Sodding - Division 32.

## 2.08 STRAW BALE EROSION BARRIERS

- A. Straw Bale (Sediment Bale Barriers) shall conform with Wisconsin DNR Conservation Practice Standard 1055.
- B. Bales used for erosion control shall be either hay or straw, shall have rectangular surfaces, and shall be tightly bound with twine, not wire. The material in the bales shall be reasonably free of grain, weed seed and mold, and shall be dry and suitable for the purpose intended.
- C. The minimum cross sectional area for wood stakes shall be 2.0 by 2.0 inches nominal.
- D. The minimum diameter of steel (rebar) stakes shall be one-half inch.

## 2.09 SEDIMENT CONTROL FENCE (SILT FENCE)

- A. Silt Fence shall conform with Wisconsin DNR Conservation Practice Standard 1056.
- B. Silt fence shall be in accordance with Section 628.2.6 of the State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction.
- C. Wood Posts:
  1. Wood Posts used to support the fabric shall be at least 2 inch x 2 inch in cross-section and shall be a minimum of 12 inches longer than the height of the silt fence. Posts shall be made from kiln-dried hickory or Oak.
  2. Staples used to attach silt fence to wood posts shall be at least 0.5-inches in length.
- D. Steel Supports:
  1. Steel posts shall be at least 5 feet long with a strength of 1.33 pounds per foot and shall have projections for the attachment of fasteners.
  2. The silt fence fabric shall be attached in at least three places on the upslope side with 50 pound plastic tie straps or wire fasteners.
- E. Silt fence shall have a support cord.

1 F. The Contractor shall furnish upon request a manufacturer's Certificate of  
2 Compliance that the geotextile fabric as furnished meets the above requirements.

3 G. Silt Fence shall be installed in accordance with Wisconsin DNR Conservation  
4 Practice Standard 1056.

5 2.10 STONE DITCH CHECKS

6 A. Stone Ditch Checks shall be installed in accordance with Wisconsin DNR  
7 Conservation Practice Standard 1062.

8 2.11 RIPRAP

9 A. Riprap shall be established in accordance with Riprap - Division 31 of this  
10 specification.

11 2.12 LAND APPLICATION OF POLYACRYLAMIDE

12 A. Land Application of Polyacrylamide shall be performed in accordance with  
13 Wisconsin DNR Conservation Practice Standard 1050.

14 2.13 STONE TRACKING PAD

15 A. Stone Tracking Pads shall be established in accordance with Wisconsin DNR  
16 Conservation Practice Standard 1057.

17 B. The aggregate for tracking pads shall be 3 to 6 inch clear or washed stone. All  
18 material to be retained on a 3-inch sieve.

19 2.14 VEGETATIVE BUFFERS

20 A. Vegetative Buffers for Construction shall be established in accordance with  
21 Wisconsin DNR Conservation Practice Standard 1054.

22 B. Prior to land disturbance the perimeter of vegetative buffers shall be flagged or  
23 fenced to prevent equipment from creating ruts, compacting the soil and to prevent  
24 damage to existing vegetation.

25 C. Trees should not be cut down to establish a vegetative buffer. Other erosion control  
26 measures are preferred.

27 2.15 TEMPORARY SEDIMENT TRAPS

28 A. Temporary Sediment Traps shall conform with Wisconsin DNR Conservation  
29 Practice Standard 1063.

1 B. The stone outlet of a Sediment Trap shall consist of a stone section of embankment  
2 located at the discharge point. Stone shall consist of angular well graded 3 to 6 inch  
3 clear washed stone.

4 C. If filter fabric is indicated for the up-slope side of the stone outlet, a monofilament  
5 type fabric shall be used (such as WisDOT Type FF or equivalent).

6 2.16 TEMPORARY CONSTRUCTION SITE DIVERSION

7 A. Temporary Construction Site Diversions shall conform to Wisconsin DNR  
8 Conservation Practice Standard 1066.

9 2.17 DUST CONTROL

10 A. Dust Control measures shall be implemented in accordance with Wisconsin DNR  
11 Conservation Practice Standard 1068.

12 B. Asphalt and petroleum based products shall not be used for dust control.

13 C. Mulch or seed and mulch may be applied to protect exposed soil from wind erosion  
14 according to the provisions of WDNR Conservation Practice Standard 1058  
15 Mulching for Construction Sites and 1059 Seeding for Construction Site Erosion  
16 Control.

17 D. Polymers may be used for dust control according to the provisions of WDNR  
18 Conservation Practice Standard 1050 Erosion Control Land Application of Polymers.

19 E. Tackifiers and Soil Stabilizers Type A – Products must be selected from the  
20 WisDOT Erosion Control PAL.

21 F. Solid board fences, snow fences, burlap fences, crate walls, bales of hay and similar  
22 material may be used to control air currents and blown soil.

23 2.18 CONSTRUCTION SITE DE-WATERING

24 A. Construction Site Dewatering activities shall be conducted in accordance with  
25 Wisconsin DNR Conservation Practice Standard 1061.

26 2.19 STORM DRAIN INLET PROTECTION

27 A. Storm Drain Inlet Protection shall conform Wisconsin DNR Conservation Practice  
28 Standard 1060.

29 B. All fabrics used as part of an inlet protection device must be selected from the list of  
30 approved fabrics certified for inlet protection, Geotextile Fabric, Type FF in the  
31 current edition of the WisDOT Product Acceptability List (PAL).

- 1 C. Inlet Protection Barriers include, but are not limited to, straw bales, sandbags, other  
2 material filled bags and socks, and stone weepers.
- 3 D. Manufactured bags, when used, shall conform to the standards below:  
4 1. Minimum Size 14 x 26 inches  
5 2. Grab Tensile strength of fabric, ASTM D-4632 = 95 lb. min.  
6 3. UV stability, ASTM D-4355 = 70 % min.  
7 4. Fabric shall be sewn together with double stitching.
- 8 E. Straw Bale installation shall conform to the criteria outlined in the WDNR  
9 Conservation Practice Standard (1055) Sediment Bale Barrier (Non-Channel).
- 10 F. Stone weeper installation shall conform to the criteria in WDNR Conservation  
11 Practice Standard (1063) Sediment Trap.

12 2.20 DITCH CHECK (CHANNEL)

- 13 A. Ditch Checks for erosion and sediment control in drainage ditches and channels shall  
14 conform Wisconsin DNR Conservation Practice Standard 1062.
- 15 B. Stone ditch checks shall be constructed of a well-graded angular stone, a D50 of  
16 3 inch or greater, sometimes referred to as breaker run or shot rock.
- 17 C. Manufactured products listed in WisDOT's PAL are also acceptable for temporary  
18 ditch checks.
- 19 D. Silt fence and single rows of straw bales are not permitted.

20 2.21 LAND APPLICATION OF ANIONIC POLYACRYLAMIDE (POLYMERS, PAM).

- 21 A. Land Application of Anionic Polyacrylamide (PAM) shall conform Wisconsin DNR  
22 Conservation Practice Standard 1050.
- 23 B. Anionic PAM mixtures shall be environmentally benign, harmless to fish, aquatic  
24 organisms, wildlife, and plants. Anionic PAM mixtures shall be non-combustible.
- 25 C. Cationic PAM shall not be used at any level. Anionic PAM mixtures shall have  
26  $\leq 0.05\%$  free acrylamide monomer by weight as established by the Food and Drug  
27 Administration (FDA) and the Environmental Protection Agency (EPA).
- 28 D. The manufacturer or supplier shall provide a product expiration date for anionic  
29 PAM mixtures based on product expiration date of PAM in pure form. PAM shall  
30 not be used if the expiration date will be reached prior to establishment of vegetation  
31 in areas where PAM is to be used.
- 32 E. Contractor shall store and mix polymer in accordance with manufacturer or supplier  
33 written instructions.

1 PART 3 CONSTRUCTION METHODS

2 3.01 EROSION CONTROL REQUIREMENTS

3 A. The erosion control requirements specified in the project Storm Water Management  
4 Plan shall be adhered to at all times.

5 B. Temporary and permanent erosion control measures shall be performed by the  
6 Contractor. The Contractor shall control water pollution, erosion, and siltation  
7 through the use of intercepting embankments, berms, dikes, dams, settling basins,  
8 slope paving, ditch checks, riprap, mulches, erosion mats, seeding, sodding, plantings  
9 and other erosion control devices or methods.

10 C. The Contractor shall submit for approval his plan of operations for accomplishing  
11 temporary and permanent erosion control work relating to grubbing, grading, paving  
12 and other work which might create erosion.

13 D. The area of erosive land exposed to the elements by grubbing, excavation, borrow  
14 and fill operations at any one time shall be minimized to the maximum extent  
15 practicable and the duration of such exposure prior to final trimming, finishing and  
16 seeding or application of temporary erosion control measures shall be as short as  
17 practicable. Construction in and adjacent to rivers, streams, lakes, or other  
18 waterways shall be performed in such a manner as to avoid washing, sloughing or  
19 deposition of materials into such waterways which would obstruct or impair the flow  
20 thereof thus endangering the roadway or stream banks, or which would result in  
21 undue or avoidable contamination, pollution or siltation of such waterways.

22 E. The Owner or Designated Representative shall have full authority to suspend or limit  
23 grading and other operations pending adequate performance of such permanent  
24 erosion control measures as finish grading, topsoiling, mulching, matting and seeding  
25 and any temporary erosion control measures ordered by the Engineer.

26 F. Grubbing and grading operations shall be performed in proper sequence with other  
27 work to minimize erosion. Intercepting ditches or dikes shall be constructed as soon  
28 as practical after clearing and grubbing operations are completed and prior to or  
29 during the operations of excavating the cuts. Where erosion is likely to be a  
30 problem, the permanent erosion control measures shall follow immediately after the  
31 grading operations if conditions permit, unless the Engineer shall authorize  
32 temporary erosion control measures.

- 1 G. Water pumped from the site shall be treated by temporary sedimentations basins, grit  
2 chambers, sand filters, upslope chambers, hydro-cyclones, swirl concentrators, or  
3 other appropriate controls designed and used to remove total suspended solids (TSS)  
4 to 40 mg/l or less for the highest dewatering pumping rate. If the water is  
5 demonstrated to contain less than 40 mg/l TSS during dewatering operations, then no  
6 control is needed before discharge. Water may not be discharged in a manner that  
7 causes erosion of the site or receiving channels. Construction Site Dewatering  
8 activities shall be conducted in accordance with Wisconsin DNR Conservation  
9 Practice Standard 1061.
- 10 H. The Contractor shall take all possible precautions to prevent sediment from being  
11 tracked onto public or private roadways. Any sediment reaching a public or private  
12 road shall be removed by street cleaning (not flushing) before the end of each  
13 workday.
- 14 I. All storm drain or culvert inlets shall be protected with appropriate erosion control  
15 practices as identified in the appropriate Conservation Practice Standard.  
16 Channelized runoff from adjacent areas passing through the site shall be diverted  
17 around disturbed areas, if practical. Otherwise, the channel shall be protected. Sheet  
18 flow runoff from adjacent areas greater than 10,000 square feet in area shall also be  
19 diverted around disturbed areas unless shown to have resultant runoff velocities of  
20 less than 0.5 ft/sec across the disturbed area for one-year design storms having a  
21 duration of from 0.5 to 24 hours. Diverted runoff shall be conveyed in a manner that  
22 will not erode the conveyance and receiving channels.
- 23 J. All disturbed ground left inactive for seven (7) or more days shall be stabilized by  
24 seeding or sodding (only prior to October 15) or by mulching or covering, or other  
25 equivalent control measure.
- 26 K. For sites with more than 10 acres disturbed at one time, or if a channel originates in  
27 the disturbed area, one or more Temporary Sediment Traps shall be constructed in  
28 accordance with Wisconsin DNR Conservation Practice Standard 1063. The basin  
29 discharge rate shall also be sufficiently low as to not cause erosion along the  
30 discharge channel or the receiving water.
- 31 L. For sites with less than 10 acres disturbed at one time, sediment control fences, hay  
32 bales, or equivalent control measures shall be placed along all sideslope and  
33 downslope sides of the site. If a channel or area of concentrated runoff passes  
34 through the site, sediment control fences shall be placed along the channel edges to  
35 reduce sediment reaching the channel.
- 36 M. Any soil or dirt storage piles containing more than ten cubic yards of material should  
37 not be located with a downslope drainage length of less than 25 feet to a roadway or  
38 drainage channel. If remaining for more than seven (7) days, they shall be stabilized  
39 by mulching, vegetative cover, tarps, or other means. Erosion from piles which will  
40 be in existence for less than seven (7) days shall be controlled by placing hay bales

1 or sediment control fence barriers around the pile. In-street utility repair or  
 2 construction soil; or dirt storage piles located closer than 25 feet to a roadway or  
 3 drainage channel must be covered with tarps or a suitable alternative control must be  
 4 used if exposed for more than seven (7) days, and storm drain or culvert inlets must  
 5 be protected with straw bales or other appropriate filtering barriers (CPS 1060).

6 3.02 TEMPORARY SEEDING

7 A. Seeding for Construction Sites shall be installed and maintained in accordance with  
 8 Wisconsin DNR Conservation Practice Standard 1059.

9 B. Temporary Seeding (Cover Crop) - Areas needing protection during periods when  
 10 permanent seeding is not applied shall be seeded with annual species for temporary  
 11 protection. See table below for seeding rates of commonly used species. The residue  
 12 from this crop may either be incorporated into the soil during seedbed preparation at  
 13 the next permanent seeding period or left on the soil surface and the planting made as  
 14 a no-till seeding.

<u>Species</u>	<u>Lbs/Acre</u>	<u>Percent Purity</u>
Oats	131 <sup>1</sup>	98
Cereal Rye	131 <sup>2</sup>	97
Winter wheat	131 <sup>2</sup>	95
Annual Ryegrass	80 <sup>2</sup>	97

15  
 16  
 17  
 18  
 19  
 20  
 21  
 22 <sup>1</sup> Spring and summer seeding  
 23 <sup>2</sup> Fall seeding

24 C. Permanent Seeding - Rates shall be based on pounds or ounces of Pure Live Seed  
 25 (PLS) per acre. If a nurse crop is used in conjunction with permanent seeding, the  
 26 nurse crop shall not hinder establishment of the permanent vegetation. A nurse crop  
 27 shall be applied at 50% its temporary seeding rate when applied with permanent  
 28 seed.

29 D. Inoculation - Legume seed shall be inoculated in accordance with the manufacturer's  
 30 recommendations. Inoculants shall not be mixed with liquid fertilizer.

31 E. Sowing  
 32 1. Seed grasses and legumes no more than 1/4 inch deep. Distribute seed  
 33 uniformly. Mixtures with low seeding rates require special care in sowing to  
 34 achieve proper seed distribution.  
 35 2. Seed may be broadcast, drilled, or hydroseeded as appropriate for the site.  
 36 3. Seed when soil temperatures remain consistently above 53°F. Dormant seed  
 37 when the soil temperature is consistently below 53°F (typically  
 38 November 1st until snow cover). Seed shall not be applied on top of snow.

1 F. Turf seedlings must not be mowed until the stand is at least 6 inches tall. Do not  
2 mow closer than 3 inches during the first year of establishment.

3 G. Alternate plans must be submitted for approval.

### 4 3.03 APPLICATION OF STRAW OR HAY MULCH

5 A. Mulching for Construction Sites shall be installed and maintained in accordance with  
6 Wisconsin DNR Conservation Practice Standard 1058.

7 B. Application Rate:

8 1. Mulch shall cover a minimum of 80% of the soil surface for unseeded areas.  
9 For seeded areas, mulch shall be placed loose and open enough to allow  
10 some sunlight to penetrate and air to circulate but still cover a minimum of  
11 70% of the soil surface.

12 2. Mulch shall be applied at a uniform rate of 1½ to 2 tons per acre for sites that  
13 are seeded, and 2 to 3 tons per acre for sites that are not seeded. This  
14 application results in a layer of ½ to 1½ inches thick for seeded sites, and 1½  
15 to 3 inches thick for sites not seeded.

16 3. Wood chips or wood bark shall be applied at a rate of 6 to 9 tons per acre to  
17 achieve a minimum of 80% ground cover. This application should result in a  
18 layer of wood chips or wood bark ½ to 1½ inches thick.

19 C. In areas where mulch is to be placed over seed, mulch shall be placed within 24  
20 hours of seeding.

21 D. Mulch Anchoring Methods - Anchoring of mulch shall be based on the type of mulch  
22 applied, site conditions, and accomplished by one of the following techniques:

23 1. Crimping: Immediately after spreading, the mulch shall be anchored by a  
24 mulch crimper or equivalent device consisting of a series of dull flat discs  
25 with notched edges spaced approximately 8 inches apart. The mulch shall be  
26 impressed in the soil to a depth of 1 to 3 inches.

27 2. Polypropylene Plastic, or Biodegradable Netting: Apply plastic netting over  
28 mulch application and staple according to manufacturer's recommendations.

29 3. Tackifier: Tackifier shall be sprayed in conjunction with mulch or  
30 immediately after the mulch has been placed. Tackifiers must be selected  
31 from those that meet the WisDOT Erosion Control Product Acceptability List  
32 (PAL). Asphalt based products shall not be applied.

33 a. The tackifiers shall be applied at the following minimum application  
34 rates per acre:

35 1) Latex-Base: mix 15 gallons of adhesive (or the  
36 manufacturer's recommended rate which ever is greater) and  
37 a minimum of 250 pounds of recycled newsprint (pulp) as a  
38 tracer with 375 gallons of water.

39 2) Guar Gum: mix 50 pounds of dry adhesive (or the  
40 manufacturer's recommended rate which ever is greater) and

1 a minimum of 250 pounds of recycled newsprint (pulp) as  
2 tracer with 1,300 gallons of water.

- 3 3) Other Tackifiers: (Hydrophilic Polymers) mix 100 pounds of  
4 dry adhesive (or the manufacturer's recommended rate which  
5 ever is greater) and a minimum of 250 pounds of recycled  
6 newsprint (pulp) as a tracer with 1,300 gallons of water.

7 3.04 PLACING EROSION MAT

- 8 A. Installation instructions shall be supplied by the manufacturer. The Contractor shall  
9 install the mat in accordance with the manufacturer's recommendations and in  
10 accordance with Section 628.2 of the State of Wisconsin, Department of  
11 Transportation, Standard Specifications for Highway and Structure Construction, and  
12 the State of Wisconsin, Department of Transportation general requirements for  
13 erosion mat except as may be modified herein.
- 14 B. Erosion control revegetative mats shall be installed after all topsoiling, fertilizing,  
15 liming and seeding is complete.
- 16 C. The mat shall be in firm and intimate contact with the soil. It shall be installed and  
17 anchored per the manufacturer's recommendation.
- 18 D. The mat shall be unrolled and draped loosely, without stretching, so that continuous  
19 ground contact is maintained. In ditches, mat shall be unrolled and applied parallel  
20 to the direction of drainage. On slopes, mat shall be applied parallel to the slope  
21 direction.
- 22 E. Turf-reinforcement mat shall be installed in conjunction with the topsoiling operation  
23 and shall be followed by Erosion Control Revegetative Mat installation.
- 24 F. At time of installation, document the manufacturer and mat type by retention of  
25 material labels and manufacturer's installation instructions. Retain this  
26 documentation until the site has been stabilized.
- 27 G. In channels and on slopes, each upslope and each downslope end of each piece of  
28 mat shall be placed in a 4-inch trench, stapled on 12-inch centers, backfilled and  
29 tamped. Where one roll ends and second roll starts, the upslope piece shall be  
30 brought over the end of the downslope roll so that there is a 12 inch overlap, placed  
31 in a 4 inch trench, stapled on 12 inch centers, backfilled and tamped. In channels,  
32 erosion mats shall extend for whichever is greater: upslope one-foot minimum  
33 vertically from the ditch bottom or 6 inches higher than the design flow depth.
- 34 H. On slopes, where two or more widths of mat are applied, the two edges shall be  
35 overlapped according to the manufacturer's installation instructions and stapled at 18  
36 to 24 inch intervals along the exposed edge of the lap joint. The body of the mat  
37 shall be stapled in a grid pattern with staples 3 feet on center each way.

- 1 I. Where heavy concentrations of water or extremely erodible soil conditions exist, as  
2 noted on the contract drawings, erosion checks shall be installed at intervals of  
3 50 feet, or less. Such a check shall consist of a 4-inch deep trench perpendicular to  
4 the flow direction across the entire width of the fabric. The mat shall be stapled at  
5 9-inch intervals along the bottom of the trench across the entire width of the mat.  
6 The trench shall then be backfilled and tamped.
- 7 J. If anchoring devices become loosened, or if any fabric loosens, is torn or  
8 undermined, repairs shall be made immediately without additional compensation.
- 9 K. Erosion mat when used in conjunction with fertilizing and seeding done for surface  
10 restoration, shall be installed immediately after fertilizing and seeding operations  
11 have been completed. Straw or hay mulch shall not be used under the fabric.
- 12 L. Erosion mat shall at a minimum be inspected weekly and within 24 hours after every  
13 precipitation event that produces 0.5 inches of rain or more during a 24-hour period.
- 14 1. If there are signs of rilling under the mat, install more staples or more  
15 frequent anchoring trenches. If rilling becomes severe enough to prevent  
16 establishment of vegetation, remove the section of mat where the damage has  
17 occurred. Fill the eroded area with topsoil, compact, reseed and replace the  
18 section of mat, trenching and overlapping ends per manufacturer's  
19 recommendations. Additional staking shall be provided where rilling was  
20 filled.
- 21 2. If the reinforcing plastic netting has separated from the mat, remove the  
22 plastic and if necessary replace the mat.
- 23 3. Maintenance shall be completed as soon as possible with consideration to site  
24 conditions.

25 3.05 VEGETATIVE BUFFERS

- 26 A. Vegetative Buffers for Construction shall be installed and maintained in accordance  
27 with Wisconsin DNR Conservation Practice Standard 1054.
- 28 B. Trees should not be cut down to establish a vegetative buffer.
- 29 C. A stand of dense vegetation shall be maintained to a height of 3 – 12 inches.
- 30 D. Vegetative buffers shall at a minimum be inspected weekly and within 24 hours after  
31 every precipitation event that produces 0.5 inches of rain or more during a 24-hour  
32 period. Vegetative buffers shall be inspected for proper distribution of flows,  
33 sediment accumulation and signs of rill formation.
- 34 E. If the vegetative buffer becomes silt covered, contains rills, or is otherwise rendered  
35 ineffective, other perimeter sediment control measures shall be installed. Eroded  
36 areas shall be repaired and stabilized. Repair shall be completed as soon as possible  
37 with consideration to site conditions.

1 3.06 TEMPORARY SOD PLACEMENT

- 2 A. The Contractor shall place sod with edges in close contact and with joints staggered.  
3 Sod placement on slopes shall commence at the bottom of the slope, and the rows  
4 shall be laid perpendicular to the slope. The edge of the sod at the tops of slopes  
5 shall be turned slightly under, and a layer of soil shall be compacted over the edge to  
6 direct surface drainage over the edge onto the top of the sod. Sod placement in areas  
7 other than on slopes shall be made so that the top sod surface is flush with adjoining  
8 surfaces.
- 9 B. On slopes steeper than 4:1 horizontal to vertical, the Contractor shall stake the sod  
10 with split cedar shingles, or other equally effective stakes, spaced from 18 to  
11 36 inches apart along the longitudinal axis of the sod strip. These stakes shall be  
12 placed near the top edge of the sod strip and shall be driven flush with the sod.
- 13 C. After the sod is placed, it shall be rolled or firmly tamped to press the sod onto the  
14 underlying soil. The Contractor shall, at the end of the day in which the sod is laid,  
15 thoroughly soak all sodded areas by sprinkling them with water.
- 16 D. Sod shall be maintained in a moist, growing condition. The Contractor shall repair  
17 all areas damaged by erosion or traffic of any kind.

18 3.07 PLACING HAY BALE BARRIERS

- 19 A. Straw Bale (Sediment Bale Barriers) shall be installed and maintained in accordance  
20 with Wisconsin DNR Conservation Practice Standard 1055.
- 21 B. Sufficient bales shall be on the site to create the necessary barriers prior to the start  
22 of groundbreaking operations. The bales shall be stacked and covered with plastic  
23 sheeting until required for use.
- 24 C. At a minimum, sediment bale barriers shall be placed in a single row, lengthwise on  
25 the contour, with the ends of adjacent sediment bale barriers tightly abutting one  
26 another. The holes between bales shall be chinked (filled by wedging) with straw,  
27 hay or equivalent material to prevent water from escaping between the bales.
- 28 D. The maximum allowable slope lengths contributing runoff to a sediment bale barrier  
29 are specified below:  
30

Slope Barrier Row Spacing	
< 2%	100 feet
2 to 5%	75 feet
5 to 10%	50 feet
10 to 33%	25 feet
33 to 50%	20 feet
> 50%	Not Permitted

- 1 E. Sediment bale barriers shall not be placed perpendicular to the contour.
- 2 F. The end of the sediment bale barrier shall be extended upslope to prevent water from  
3 flowing around the barrier ends.
- 4 G. Installed sediment bale barrier shall be a minimum of 10 inches high and shall not  
5 exceed a maximum height of 20 inches from ground level.
- 6 H. The barrier shall be entrenched and backfilled. A trench shall be excavated the width  
7 of a sediment bale barrier and the length of the proposed barrier to a minimum depth  
8 of 4 inches. After bales are staked and chinked, the excavated soil shall be backfilled  
9 and compacted against the barrier. Backfill to ground level on the down slope side.  
10 On the upslope side of the sediment bale barrier backfill to 4 inches above ground  
11 level.
- 12 I. At least two wood stakes, "T" or "U" steel posts, or 1/2 inch rebar driven through at  
13 equidistance along the centerline of the barrier shall securely anchor each bale. The  
14 first stake in each bale shall be driven toward the previously laid bale to force the  
15 bales together. Stakes shall be driven a minimum 12-inches into the ground to  
16 securely anchor the sediment bale barriers.
- 17 J. Bales shall be installed so that bindings are oriented around the sides rather than  
18 along the tops and bottoms of the bales in order to prevent deterioration of the  
19 bindings.
- 20 K. Sediment bale barriers shall, at a minimum, be inspected weekly and within 24 hours  
21 after every precipitation event that produces 0.5 inches of rain or more during a 24-  
22 hour period.
- 23 L. Damaged or decomposed sediment bale barriers, any undercutting, or flow channels  
24 around the end of the sediment bale barriers shall be repaired.
- 25 M. Sediment shall be properly disposed of once the deposits reach 1/2 the height of the  
26 sediment bale barrier.
- 27 N. Sediment bale barriers and anchoring devices shall be removed and properly  
28 disposed of when they have served their usefulness, but not before the upslope areas  
29 have been permanently stabilized.
- 30 O. Any sediment deposits remaining in place after the sediment bale barrier is no longer  
31 required shall be dressed to conform to the existing grade, prepared, and seeded.

32 3.08 CONSTRUCTION OF SEDIMENT CONTROL FENCE (SILT FENCE)

- 33 A. Silt Fence shall be installed and maintained in accordance with Wisconsin DNR  
34 Conservation Practice Standard 1056.

1 B. When installed as a stand-alone practice on a slope, silt fence shall be placed on the  
2 contour. The parallel spacing shall not exceed the maximum slope lengths for the  
3 appropriate slope as specified:

4  
5 Slope Fence Spacing

6 < 2% 100 feet

7 2 to 5% 75 feet

8 5 to 10% 50 feet

9 10 to 33% 25 feet

10 > 33% 20 feet

11 > 50% Not Permitted

12 C. Silt fences shall not be placed perpendicular to the contour.

13 D. The ends of the fence shall be extended upslope to prevent water from flowing  
14 around the ends of the fence.

15 E. When attached to wooden posts the silt fence fabric shall be stapled, using at least  
16 0.5-inch staples, to the upslope side of the posts in at least 3 places.

17 F. When attached to steel supports the silt fence fabric shall be attached in at least three  
18 places on the upslope side with 50 pound plastic tie straps or wire fasteners. To  
19 prevent damage to the fabric from fastener, the protruding ends shall be pointed  
20 away from the fabric.

21 G. The maximum spacing of posts for nonwoven silt fence shall be 3 feet and for woven  
22 fabric 8 feet.

23 H. Where joints are necessary, each end of the fabric shall be securely fastened to a  
24 post. The posts shall then be wrapped around each other to produce a stable, secure  
25 joint or shall be overlapped the distance between two posts.

26 I. On the terminal ends of silt fence the fabric shall be wrapped around the post such  
27 that the staples are not visible.

28 J. A minimum of 20 inches of the post shall extend into the ground after installation.

29 K. Anchoring – Silt fence shall be anchored by spreading at least 8 inches of the fabric  
30 in a 4 inch wide by 6 inch deep trench, or 6 inch deep V-trench on the upslope side  
31 of the fence. The trench shall be backfilled and compacted. Trenches shall not be  
32 excavated wider and deeper than necessary for proper installation.

33 L. Removal – Silt fences shall be removed once the disturbed area is permanently  
34 stabilized and no longer susceptible to erosion.

- 1 M. Silt fences shall at a minimum be inspected weekly and within 24 hours after every  
2 precipitation event that produces 0.5 inches of rain or more during a 24 hour period.
- 3 N. Damaged or decomposed fences, undercutting, or flow channels around the end of  
4 barriers shall be repaired or corrected.
- 5 O. Sediment shall be properly disposed of once the deposits reach 1/2 the height of the  
6 fence.

7 3.09 STONE TRACKING PAD

- 8 A. Stone Tracking Pads shall be installed and maintained in accordance with Wisconsin  
9 DNR Conservation Practice Standard 1057.
- 10 B. The tracking pad shall be installed prior to any traffic leaving the site.
- 11 C. The aggregate shall be placed in a layer at least 12 inches thick. On sites with a high  
12 water table, or where saturated conditions are expected during the life of the practice,  
13 stone tracking pads shall be underlain with a WisDOT Type R geotextile fabric to  
14 prevent migration of underlying soil into the stone.
- 15 D. Tracking pads and tire washing stations shall, at a minimum, be inspected weekly  
16 and within 24 hours after every precipitation event that produces 0.5 inches of rain or  
17 more during a 24-hour period.
- 18 E. The tracking pad performance shall be maintained by scraping or top-dressing with  
19 additional aggregate.
- 20 F. A minimum 12-inch thick pad shall be maintained.

21 3.10 STORM DRAIN INLET PROTECTION

- 22 A. Storm Drain Inlet Protection shall be installed and maintained in accordance with  
23 Wisconsin DNR Conservation Practice Standard 1060.
- 24 B. The contributing drainage area to the inlet protection device shall be one acre or less.  
25 In instances where a larger contributing drainage area exists, runoff shall be routed  
26 through a properly designed sediment trapping or settling device upstream of inlet.
- 27 C. Other than Type D inlet protection devices, no gaps shall be left in the material used  
28 that would allow the flow of water to bypass the inlet protection device.
- 29 D. Filter Fabric Barrier Criteria - See Inlet Protection Detail
  - 30 1. Inlet protection Type A devices shall be utilized around inlets and unpaved  
31 areas until permanent stabilization methods have been established. Type A  
32 devices shall be utilized on inlets prior to installation of curb and gutter or  
33 pavement, and where safety considerations are not compromised on the site.

- 1                   2.     Type B shall be utilized after the casting and grate are in place.
- 2                   3.     Type D shall be utilized in areas where other types of inlet protection are
- 3                         identified as incompatible with roadway and traffic conditions, causing
- 4                         possible safety hazards when ponding occurs at the inlet. Type D shall only
- 5                         be used after castings are in place on top of the inlet boxes.
- 6                   4.     Type D inlet protection shall conform to the standard drawing as shown in
- 7                         the contract drawings. There shall be a three-inch space between the bag and
- 8                         the sides of the inlet to prevent the inlet sides from blocking the overflow;
- 9                         and shall only be used in inlets deeper than 30 inches from the top of grate to
- 10                        bottom of the inlet. If such clearance is not available, cinch or tie the sides of
- 11                        the bag (with rope or ties) to provide clearance.

- 12           E.     Criteria Applicable to the Post-Paving/Curbing Phase of Construction
- 13                 1.     Inlet protection Types B, C, and D are applicable to post paving construction.
- 14                         See Inlet Protection Detail.
- 15                         a.     Type B shall be utilized on inlets without curb box.
- 16                         b.     Type C shall be utilized on street inlets with curb heads. A 1½ inch x
- 17                                 3½ inch (37 mm by 87 mm) minimum, piece of wood shall be
- 18                                 wrapped and secured in the fabric and placed in front of the curb head
- 19                                 as shown in the contract drawings. The wood shall not block the
- 20                                 entire opening of the curb box and be secured to the grate with wire
- 21                                 or plastic ties.
- 22                         c.     Type D.
- 23           F.     Remove inlet protection devices once the contributing drainage area is stabilized
- 24                         with appropriate vegetation or impervious area.
- 25           G.     Inlet protection shall be at a minimum inspected weekly and within 24 hours after
- 26                         every precipitation event that produces 0.5 inches of rain or more during a 24-hour
- 27                         period.
- 28           H.     Sediment deposits shall be removed and the inlet protection device restored to its
- 29                         original dimensions when the sediment has accumulated between 1/3 to 1/2 the
- 30                         design depth of the device, or when the device is no longer functioning as designed.
- 31                         Removed sediment shall be deposited in a suitable area and stabilized.
- 32           I.     Any material falling into the inlet shall be removed.

33   3.11   DITCH CHECK (CHANNEL)

- 34           A.     Ditch Checks for erosion and sediment control in drainage ditches and channels shall
- 35                         be installed and maintained in accordance with Wisconsin DNR Conservation
- 36                         Practice Standard 1062.

- 1 B. Ditch checks shall be utilized during rough grading and shall be removed once the  
2 final grading and channel stabilization is applied, unless intended to be part of a  
3 permanent storm water management plan.
- 4 C. Channel erosion mat or other nonerodible materials shall be placed at the base of a  
5 ditch check, and extended a minimum of 6 feet, to prevent scour and washing out the  
6 toe of the ditch check. DNR Conservation Practice Channel Erosion Mat (1053)  
7 contains criteria for the placement of erosion mat in this location.
- 8 D. Stone ditch checks may be underlain by a nonwoven geotextile fabric to ease  
9 installation and removal. If the geotextile fabric is extended, it can serve purpose  
10 specified in item 3.11 C above.
- 11 E. Chink or seal stone and rock ditch checks to minimize the flow through the ditch  
12 check.
- 13 F. For added stability, the base of a stone or rock ditch check shall be keyed into the  
14 soil to a depth of 6-inches.
- 15 G. Ditch checks shall, at a minimum, be inspected weekly and within 24 hours after  
16 every precipitation event that produces 0.5 inches of rain or more during a 24 hour  
17 period.
- 18 H. Unless incorporated into a permanent storm water management system, ditch checks  
19 shall be removed once the final grading and channel stabilization is applied.
- 20 I. Maintenance shall be completed as soon as possible with consideration to site  
21 conditions.

### 22 3.12 TEMPORARY SEDIMENT TRAPS

- 23 A. Temporary Sediment Traps shall be installed and maintained in accordance with  
24 Wisconsin DNR Conservation Practice Standard 1063.
- 25 B. Sediment traps shall be constructed prior to disturbance of up-slope areas and placed  
26 so they function during all phases of construction.
- 27 C. The depth of the sediment trap measured from the sediment trap bottom to the invert  
28 of the stone outlet, shall be at least three feet to minimize re-suspension and provide  
29 storage for sediment.
- 30 D. The sediment trap shall have a length to width ratio of at least 2:1. The position of  
31 the outlet to the inlet shall be as such to minimize short-circuiting of the water flow  
32 path.
- 33 E. Side slopes shall be no steeper than 2:1.

- 1 F. Embankments of temporary sediment traps shall not exceed five feet in height  
2 measured from the downstream toe of the embankment to the top of the  
3 embankment. Construct embankments with a minimum top width of four feet, and  
4 side slopes of 2:1 or flatter. Earthen embankments shall be compacted.
- 5 G. Sediment traps shall be constructed with both a principal and emergency spillway.  
6 The stone outlet of a sediment trap shall consist of a stone section of embankment  
7 (stone outlet) located at the discharge point. The stone outlet section provides a  
8 means of dewatering the basin back to the top of the permanent storage between  
9 storm events, and also serves as a non-erosive emergency spillway for larger flow  
10 events.
- 11 H. The stone outlet shall have a minimum top width of 2 feet and a maximum side-slope  
12 of 2:1.
- 13 I. The stone outlet shall be protected from undercutting by excavating a keyway trench  
14 across the stone foundation and up the sides to the height of the outlet.
- 15 J. Sediment Traps shall, at a minimum, be inspected weekly and within 24 hours after  
16 every precipitation event that produces 0.5 inches of rain or more during a 24-hour  
17 period. Sediment may need to be removed more frequently.
- 18 K. Deposits of sediment shall be removed when they reach a depth of one foot.
- 19 L. If the outlet becomes clogged it shall be cleaned to restore flow capacity.
- 20 M. Maintenance shall be completed as soon as possible with consideration given to site  
21 conditions.
- 22 N. Sediment traps shall be removed and the location stabilized after the disturbed area  
23 draining to the sediment trap is stabilized and no longer susceptible to erosion.

24 3.13 TEMPORARY CONSTRUCTION SITE DIVERSION

- 25 A. Temporary Construction Site Diversions shall be installed and maintained in  
26 accordance with Wisconsin DNR Conservation Practice Standard 1066.
- 27 B. The minimum berm cross section shall have side slopes of 2:1 (horizontal:vertical) or  
28 flatter, a minimum top width of two feet and a minimum height of 1.5 feet.
- 29 C. Diversions that are to serve longer than 30 days shall be stabilized as soon as they are  
30 constructed.
- 31 D. Diversions shall, at a minimum, be inspected weekly and within 24 hours after every  
32 precipitation event that produces 0.5 inches of rain or more during a 24-hour period.

- 1 E. Maintenance shall be completed as soon as possible with consideration to site  
2 conditions.
- 3 F. Accumulated sediment shall be removed when it reaches one half the height of the  
4 diversion berm.
- 5 G. Diversions shall be removed and the area stabilized according to construction  
6 contract drawings.

7 3.14 DUST CONTROL

- 8 A. Dust Control measures shall be installed and maintained in accordance with  
9 Wisconsin DNR Conservation Practice Standard 1068.
- 10 B. Polymers may be used in areas that do not receive vehicle traffic. Dry applied  
11 polymers must be initially watered for activation to be effective for dust control.  
12 Polymers shall be utilized in accordance with the provisions of WDNR Conservation  
13 Practice Standard 1050 Erosion Control Land Application of Polymers.
- 14 C. Tackifiers and Soil Stabilizers Type A – Products must be installed at rates  
15 conforming to the WisDOT Erosion Control PAL.
- 16 D. Chlorides shall be applied according to the most recent version of the WisDOT  
17 Standard Specifications for Highway and Bridge Construction.
- 18 E. Barriers - Barriers shall be placed at right angles to prevailing wind currents at  
19 intervals of about 15 times the barrier height.
- 20 F. Areas that have dust control practices shall at a minimum be inspected daily.

21 3.15 LAND APPLICATION OF ANIONIC POLYACRYLAMIDE (POLYMERS).

- 22 A. Land Application of Anionic Polyacrylamide (polymers) shall be installed and  
23 maintained in accordance with Wisconsin DNR Conservation Practice Standard  
24 1050.
- 25 B. Application rates shall not exceed manufacturer’s written application rate  
26 recommendations that shall not exceed the WDNR use restrictions.
- 27 C. Maximum application rates, in parts per million (ppm or mg/L or mg/kg), shall be  
28 determined by multiplying 1.4 by the number of pounds applied per acre. This  
29 number shall be less than or equal to the WDNR use restriction. Repeated  
30 applications of anionic PAM mixtures may be applied, if necessary, to ensure  
31 adequate effectiveness.
- 32 D. The application method shall provide uniform coverage to the target area and avoid  
33 drift to non-target areas.

- 1 E. When used on bare soil, without seed or mulch, anionic PAM mixtures shall be used  
2 on slopes 2.5:1 or flatter.
- 3 F. Anionic PAM mixtures shall not be applied to channel bottoms.
- 4 G. The applicator of anionic PAM mixture shall document, at the time of application,  
5 the following: name of applicator, application rate per acre, date applied, product  
6 type, weather conditions during application, and method of application. Copies of  
7 this documentation shall be entered into the contractor's monitoring log or project  
8 diary and made available upon request.
- 9 H. Unused liquid anionic PAM mixtures shall be minimized. Excess material shall not  
10 be applied at a rate greater than the maximum application rate. Disposal shall not  
11 occur in storm water conveyance systems (i.e., storm sewer manholes, storm sewer  
12 inlets, ditches, and culverts).
- 13 I. PAM shall not be used within 30 feet of surface waters of the state.
- 14 J. Maintenance will consist of reapplying anionic PAM mixtures to disturbed areas,  
15 including high use traffic areas, which interfere in the performance of this practice.
- 16 K. Anionic PAM mixtures should be reapplied in areas where wind or rill erosion is  
17 apparent and whenever an area has been graded, driven upon, or otherwise disturbed  
18 since the anionic PAM mixture was last applied.

19 PART 4 MEASUREMENT AND PAYMENT

20 4.01 GENERAL

- 21 A. Erosion and sedimentation controls shall be paid for at the bid price in accordance  
22 with one of the following methods, unless indicated otherwise in the Bid Schedule or  
23 Special Procedures - Division 01.
- 24 B. All work specified herein shall be considered in each of the measurement and  
25 payment method(s) stipulated, unless indicated otherwise in the Bid Schedule or  
26 Special Procedures - Division 01.

27 4.02 EROSION AND SEDIMENTATION CONTROLS

- 28 A. Erosion and Sedimentation Controls, Lump Sum. When so provided, payment for  
29 erosion and sedimentation controls shall be made at the contract lump sum price bid.
- 30 B. Erosion and Sedimentation Controls, Inclusive. When no quantity is provided,  
31 erosion and sedimentation controls shall be considered inclusive to payment for  
32 contract work related to the associated construction.  
33



1 SECTION 32 12 13.16

2  
3 ASPHALTIC TACK COAT

4 PART 1 GENERAL

5 1.01 APPLICABLE PROVISIONS

6 A. Applicable provisions of Division 01 shall govern the work of this section.

7 1.02 APPLICABLE PUBLICATIONS

8 A. The following publications of the issues listed below, but referred to thereafter by  
9 basic designation only, form a part of this specification to the extent indicated by the  
10 reference thereto.

- 11 1. State of Wisconsin, Department of Transportation, Standard Specifications  
12 for Highway and Structure Construction, Current Edition at time of bid  
13 opening.

14 1.03 DESCRIPTION OF WORK

15 A. The work under this section includes all materials, equipment, supervision, and labor  
16 necessary to apply asphaltic tack coat prior to paving asphaltic concrete pavement on  
17 an existing surface, as indicated on the Contract Drawings.

18 B. All work shall conform to the requirements specified in the State of Wisconsin,  
19 Department of Transportation, Standard Specifications for the asphaltic tack coat.

20 1.04 RELATED WORK ELSEWHERE

21 A. Procurement and Contracting Requirements - Division 00 (All Sections)

22 B. Submittals - Division 01

23 C. Asphaltic Concrete Pavement - Division 32

24 1.05 SUBMITTALS

25 A. Contractor shall submit such product literature and catalog cuts of materials to be  
26 supplied to relate these materials to the specifications. Information shall be in  
27 conformance with requirements of Submittals - Division 01 of these specifications.

1 1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS (NONE)

2 PART 2 PRODUCTS AND MATERIALS

3 2.01 ASPHALTIC TACK COAT

4 A. The materials furnished and used for asphaltic tack coat shall conform to the  
5 requirements of Section 455 of the State of Wisconsin, Department of  
6 Transportation, Standard Specifications.

7 PART 3 CONSTRUCTION METHODS

8 3.01 GENERAL

9 A. All work shall conform to the requirements specified in the State of Wisconsin,  
10 Department of Transportation, Standard Specifications for the particular class, type  
11 and grade of material specified, unless specified otherwise herein or in Special  
12 Procedures - Division 01.

13 B. Weeds shall be removed on all streets to be resurfaced prior to the application of the  
14 tack coat or construction of asphaltic concrete pavement. Prior to the application of  
15 the tack coat or construction of asphaltic concrete, the surface of the prepared  
16 foundation shall be cleaned by brooming all dust, dirt, debris or other foreign or  
17 loose material.

18 3.02 ASPHALTIC TACK COAT

19 A. The application of asphaltic tack coat shall comply with Section 455 of the State of  
20 Wisconsin, Department of Transportation, Standard Specifications.

21 B. The asphaltic tack coat shall be applied at a minimum application rate of 0.025  
22 gallon per square yard of undiluted asphaltic material or as otherwise designated by  
23 the Engineer to provide complete and uniform coverage.

24 C. Asphaltic tack coat shall be applied to the vertical faces of curbs and cut pavement,  
25 and to the lower layers unless the upper layer is applied directly after the lower layer.  
26 Asphaltic tack coat shall be applied to existing surfaces to be overlaid.

27 D. All surfaces shall be swept clean prior to the application of tack coat.

28 PART 4 MEASUREMENT AND PAYMENT

29 4.01 GENERAL

30 A. Asphaltic tack coat shall be paid for at the bid price in accordance with one of the  
31 following methods, unless indicated otherwise in the Bid Schedule or Special  
32 Procedures - Division 01.

1 B. All work specified herein shall be considered in each of the measurement and  
2 payment method(s) stipulated, unless indicated otherwise in the Bid Schedule or  
3 Special Procedures - Division 01.

4 4.02 ASPHALTIC TACK COAT

5 A. Asphaltic Tack Coat, Square Yard. Measurement for asphaltic tack coat shall be per  
6 square yard installed as measured in the field. Payment shall be made at the contract  
7 unit price bid per square yard for asphaltic tack coat installed.

8 B. Asphaltic Tack Coat, Gallon. Measurement for asphaltic tack coat shall be per  
9 gallon applied. Payment shall be made at the contract unit price bid per gallon for  
10 asphaltic tack coat applied. The Contractor shall supply load tickets for verification  
11 of quantity used.

12 C. Asphaltic Tack Coat, Inclusive. When no quantity is provided, asphaltic tack coat  
13 shall be considered inclusive to payment for asphaltic concrete pavement.  
14

15 END OF SECTION

1 SECTION 32 12 16

2  
3 ASPHALTIC CONCRETE PAVEMENT

4 PART 1 GENERAL

5 1.01 APPLICABLE PROVISIONS

6 A. Applicable provisions of Division 01 shall govern the work of this section.

7 1.02 APPLICABLE PUBLICATIONS

8 A. The following publications of the issues listed below, but referred to thereafter by  
9 basic designation only, form a part of this specification to the extent indicated by the  
10 reference thereto.

- 11 1. State of Wisconsin, Department of Transportation, Standard Specifications  
12 for Highway and Structure Construction, Current Edition at time of bid  
13 opening.

14 1.03 DESCRIPTION OF WORK

15 A. The work under this section includes all materials, equipment, supervision, and labor  
16 necessary to construct a plant-mixed asphaltic concrete pavement on the prepared  
17 foundation of base course or existing surface, as indicated on the contract drawings  
18 and specified herein.

19 B. All work shall conform to the requirements specified in the State of Wisconsin,  
20 Department of Transportation, Standard Specifications for the particular class, type  
21 and grade of material specified.

22 1.04 RELATED WORK ELSEWHERE

23 A. Procurement and Contracting Requirements - Division 00 (All Sections)

24 B. Submittals - Division 01

25 C. Subgrade Preparation - Division 31

26 D. Aggregate Base Course - Division 32

27 E. Asphaltic Tack Coat - Division 32

28 1.05 SUBMITTALS

29 A. Contractor shall submit such product literature and catalog cuts of materials to be  
30 supplied to relate these materials to the specifications. Information shall be in  
31 conformance with requirements of Submittals - Division 01 of these specifications.

1 B. Job Mix Formula. Contractor shall submit a Wisconsin Department of  
2 Transportation approved Job Mix Formula for the asphaltic mixture to be used to the  
3 Engineer prior to paving. If requested, the Contractor shall submit a history of recent  
4 testing results.

5 1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS (NONE)

6 PART 2 PRODUCTS AND MATERIALS

7 2.01 GENERAL

8 A. All materials shall conform to the requirements of the State of Wisconsin,  
9 Department of Transportation, Standard Specifications, unless specified otherwise  
10 herein or in Special Procedures - Division 01.

11 B. Asphaltic concrete pavement shall be Asphaltic Concrete Pavement, Type E-1,  
12 unless indicated otherwise in the Bid Schedule or Special Procedures - Division 01.

13 2.02 ASPHALTIC MATERIAL

14 A. The asphaltic material for asphaltic concrete pavement, including overlays shall be  
15 asphalt, Type AC with a Performance Grade Designation of PG 58-28 unless  
16 specified otherwise in the Bid Schedule or Special Procedures – Division 01.

17 PART 3 CONSTRUCTION METHODS

18 3.01 GENERAL

19 A. All work shall conform to the requirements specified in the State of Wisconsin,  
20 Department of Transportation, Standard Specifications for the particular class, type  
21 and grade of material specified, unless specified otherwise herein or in Special  
22 Procedures - Division 01.

23 3.02 PREPARATION

24 A. All existing asphaltic concrete pavement removals, including driveway removals,  
25 shall be saw cut to the limits designated as pavement removal on the contract  
26 drawings or to the limits staked by the Engineer in the field. Typically, all pavement  
27 sawcuts shall be parallel or perpendicular to the centerline of the roadway.

28 B. Weeds shall be removed on all streets to be resurfaced prior to the application of the  
29 tack coat or construction of asphaltic concrete pavement. Prior to the application of  
30 the tack coat or construction of asphaltic concrete, the surface of the prepared  
31 foundation shall be cleaned by brooming all dust, dirt, debris or other foreign or  
32 loose material.

- 1 C. Apply tack coat as specified in Asphaltic Tack Coat - Division 32 to existing  
 2 pavement and each layer of a plant-mixed asphaltic base or pavement that will be  
 3 overlaid with asphaltic mixture.
- 4 D. The Contractor shall perform all final shaping and grading of aggregate bases  
 5 necessary to produce the required roadway cross sectional contour. All valve boxes,  
 6 manhole frames, and other utility appurtenances shall be adjusted to the final grade  
 7 prior to the placement of the final pavement course.

8 3.03 PLACEMENT

- 9 A. Asphaltic concrete pavements shall be placed in reasonable conformity with the  
 10 thickness shown on the contract drawings, Bid Schedule, or specified in Special  
 11 Procedures - Division 01.
- 12 B. The following thickness limits shall apply unless specified otherwise:

NOMINAL AGGREGATE SIZE (inches)	MINIMUM LAYER THICKNESS (inches)	MAXIMUM LOWER LAYER (inches)	MAXIMUM UPPER LAYER (inches)
1.5	3.5	5	4.5
1.0	3.25	5	4
3/4	2.25	4	3
1/2	1.75	3	2.5
3/8	1.5	3	2

23 3.04 COMPACTION

- 24 A. Compaction methods and requirements shall conform to Sections 450.3.2.6 and  
 25 460.3.3 of the State of Wisconsin, Department of Transportation, Standard  
 26 Specifications.
- 27 B. The Contractor shall perform field pavement density tests on projects requiring over  
 28 1000 tons of asphaltic mixture. Tests shall be performed to determine the necessary  
 29 compaction methods to achieve the required minimum density. The Contractor shall  
 30 not operate below the specified minimum density on a continuing basis.
- 31 C. Additional tests shall be performed as directed by the Engineer for varying paving  
 32 conditions, such as different weather conditions, base conditions, job mix, layer  
 33 thickness, construction methods.
- 34 D. Documentation of all testing shall be provided to the Engineer.

35 3.05 QUALITY CONTROL

- 36 A. The Contractor shall provide and maintain a quality control program.

- 1 B. If requested by the Owner or Engineer, submit samples and sampling data of all  
2 proposed materials for test and analysis.

3 PART 4 MEASUREMENT AND PAYMENT

4 4.01 GENERAL

- 5 A. Asphaltic concrete pavement shall be paid for at the bid price in accordance with one  
6 of the following methods, unless indicated otherwise in the Bid Schedule or Special  
7 Procedures - Division 01.
- 8 B. All work specified herein shall be considered in each of the measurement and  
9 payment method(s) stipulated, unless indicated otherwise in the Bid Schedule or  
10 Special Procedures - Division 01.

11 4.02 ASPHALTIC CONCRETE PAVEMENT

- 12 A. Asphaltic Concrete Pavement, Square Yards. The measurement for asphaltic  
13 concrete pavement shall be by the square yard of the specified thickness of surface  
14 area constructed, as measured in the field. Payment shall be made at the contract unit  
15 price bid per square yard of asphaltic concrete pavement constructed, as measured or  
16 as specified in Special Procedures - Division 01.

- 17 1. Where the average thickness of a portion of asphaltic concrete pavement is  
18 deficient in thickness by more than 0.25 inch of compacted material, but not  
19 more than 1.00 inch, at the option of the Engineer, shall be either overlaid  
20 to the specified thickness or payment will be made at an adjusted price as  
21 specified as follows:

Deficiency in Thickness by Cores (inches)	Proportional Part of Contract Price Allowed
0.00 to 0.25	100%
0.26 to 0.50	75%
0.51 to 1.00	50%
1.01 or greater	0%

- 22
- 23
- 24
- 25
- 26
- 27
- 28
- 29 2. Areas of pavement determined to be deficient in thickness by more than  
30 1.00 inch shall be either removed and replaced or overlaid by the  
31 Contractor (with the Engineer's approval) to the specified thickness.
- 32 3. When the deficient area has been acceptably replaced or overlaid payment  
33 shall then be made for 100 percent of the original contract unit price.

- 34 B. Asphaltic Concrete Pavement, Ton. Measurement shall be per ton of asphaltic  
35 binder course and surface course compacted in place. The Contractor shall supply  
36 the Engineer with load tickets to verify the amount of material used. Payment shall  
37 be made at the contract unit price bid per ton for asphaltic concrete pavement  
38 installed.

- 39 C. Asphaltic Concrete Pavement, Lump Sum. When so provided, payment for  
40 Asphaltic Concrete Pavement shall be made at the contract lump sump price bid.



1 SECTION 32 13 10

2  
3 CONCRETE SIDEWALK, STEPS AND DRIVEWAYS

4 PART 1 GENERAL

5 1.01 APPLICABLE PROVISIONS

6 A. Applicable provisions of Division 01 shall govern work of this section.

7 1.02 APPLICABLE PUBLICATIONS

8 A. The following publications of the issues listed below, but referred to thereafter by  
9 basic designation only, form a part of this specification to the extent indicated by the  
10 reference thereto.

- 11 1. State of Wisconsin, Department of Transportation, Standard Specifications  
12 for Highway and Structure Construction, Current Edition at time of bid  
13 opening.  
14 2. American Society for Testing and Materials (ASTM), Annual Book of  
15 ASTM Standards, Current Edition.

16 1.03 DESCRIPTION OF WORK

17 A. The work covered under this section shall consist of furnishing all material,  
18 equipment, and labor required to execute the concrete sidewalk, driveway and step  
19 work for this project.

20 B. This work shall be in accordance with Section 602 of the State of Wisconsin,  
21 Department of Transportation, Standard Specifications, and as indicated on the  
22 contract drawings and specifications.

23 1.04 RELATED WORK ELSEWHERE

24 A. Procurement and Contracting Requirements - Division 00 (All Sections)

25 B. Concrete Quality Control - Division 01

26 C. Maintenance of Existing Conditions - Division 02

27 D. Cast-in-Place Concrete - Division 03

28 E. Subgrade Preparation - Division 31

29 F. Aggregate Base Course - Division 32

1 1.05 SUBMITTALS  
2 A. Contractor shall submit such product literature and catalog cuts to relate the materials  
3 supplied to the specifications. Information shall be in conformance with  
4 requirements of Submittals - Division 01 of these specifications.

5 1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS (NONE)

6 PART 2 PRODUCTS AND MATERIALS

7 2.01 CONCRETE

8 A. Concrete for sidewalk, steps and driveways shall be as specified in Cast-in-Place  
9 Concrete - Division 03 of these specifications.

10 2.02 BASE MATERIAL

11 A. Base material shall be as specified in Aggregate Base Course - Division 32 of these  
12 specifications or conform with Section 305 of the State of Wisconsin, Department of  
13 Transportation, Standard Specifications.

14 2.03 CURING COMPOUND

15 A. Curing compound shall be as specified in Cast-in-Place Concrete - Division 03 of  
16 these specifications.

17 PART 3 CONSTRUCTION METHODS

18 3.01 BASE PREPARATION - GRADING

19 A. Prepare foundation by excavating to the lines, grades and cross section as required.  
20 All soft or unstable material shall be removed and replaced with sand or aggregate  
21 base course material compacted to a relative field density of 95%, based on the  
22 Modified Proctor Density, ASTM D1557. Proof-roll subbase to check for unstable  
23 areas needing additional compaction. Finish to a true and firm surface.

24 B. If not listed as a separate bid item, minor clearing and grubbing shall be considered  
25 incidental to the respective concrete work.

26 C. Disposal locations for all excess or unsuitable excavated material shall be subject to  
27 Owner approval.

28 3.02 DETECTABLE WARNING FIELDS

29 A. Detectable warning fields shall be included in the current WisDOT Prequalified  
30 Product List.

1 3.03 BASE MATERIAL

2 A. A minimum thickness of 4 inches of compacted aggregate base course or granular  
3 subbase course material is required under sidewalks and steps, unless indicated  
4 otherwise on the contract drawings or Special Procedures - Division 01.

5 3.04 SIDEWALK

6 A. Sidewalks shall be constructed to a uniform depth of 4 inches except at alleys and  
7 driveways where they shall be constructed to a uniform depth of 6 inches unless  
8 otherwise noted.

9 B. Sidewalks shall slope toward the roadway at 1 foot vertical per 50 feet horizontal  
10 (2 percent).

11 C. The concrete shall be placed on a moist foundation, deposited to the required depth,  
12 and consolidated and spaded sufficiently to bring the mortar to the surface, after  
13 which it shall be struck off and finished to a true and even surface.

14 D. The final floating shall be done with a wooden float. Before the mortar has set, the  
15 surface shall be brushed or lightly broomed, perpendicular to the direction of travel  
16 or as shown on the contract drawings. Before the concrete is given the final surface  
17 finish, the surface of the walk shall be checked with a ten-foot straightedge, and any  
18 areas which show a variation or departure from the testing edge of more than 1/4  
19 inch shall be corrected by adding or removing concrete as necessary while the  
20 concrete is still plastic.

21 E. Concrete sidewalks may be constructed with suitable, approved slip-form equipment  
22 when permitted by the Engineer. The wood floating may be omitted when a suitable  
23 finish is produced by the slip-form equipment.

24 F. Ramps for individuals with disabilities shall be constructed at the locations and in  
25 accordance with the details and dimensions shown on the contract drawings, these  
26 specifications and the Americans with Disabilities Act (ADA). Ramps shall include  
27 detectable warning fields installed per manufacturer's recommendations.

28 G. Where reinforcement is required, it shall conform to and be placed in accordance  
29 with the details shown on the contract drawings.

30 H. Joints for sidewalks, including transverse joints, longitudinal joints, contraction  
31 joints, expansion joints and joint felts and filler materials shall conform to the  
32 requirements of Section 602.3.2.5 of the State of Wisconsin, Department of  
33 Transportation, Standard Specifications, except as modified herein.

- 1           1.       Sidewalks shall be divided into sections not less than 3 feet nor more than  
2                       12 feet, unless otherwise indicated on the contract drawings. Transverse  
3                       joints shall be spaced at 6 foot intervals.
- 4           2.       Prefabricated expansion joint of 1/2-inch thickness shall be placed where  
5                       steps or sidewalks abut curbs, pavements, steps, or existing sidewalk.  
6                       Prefabricated expansion joint of 1 inch thickness shall be placed where  
7                       sidewalk abuts buildings, retaining walls, or other rigid structures.  
8                       Expansion joints shall be provided on each side of driveways and at uniform  
9                       intervals of not more than 96 foot centers for sidewalk construction.
- 10          3.       Extend joint fillers full-width and depth of joint and not less than 1/4-inch or  
11                       more than 1/2-inch below finished surface. Furnish joint fillers in one-piece  
12                       lengths for the full width being placed, wherever possible. Where more than  
13                       one length is required, lace or clip joint filler sections together. Trim top  
14                       edge of filler to conform to profile of concrete.

15   3.05   STEPS

- 16          A.       Steps shall be constructed and placed as shown on the contract documents.

17   3.06   DRIVEWAYS

- 18          A.       Driveways shall be constructed to a uniform depth of 6 inches. Driveways shall be  
19                       constructed to the limits and slope shown on the contract drawings or as staked by  
20                       the Engineer.

21   3.07   CURING COMPOUND

- 22          A.       Curing compound shall be applied at the recommended coverage requirement and  
23                       application rate of the manufacturer. The compound shall be applied by sprayer as  
24                       soon as all free water has disappeared after finishing operations.
- 25          B.       If the coating is damaged within 72 hours of its application, the damaged surfaces  
26                       shall be resprayed immediately.

27   3.08   ADJUSTING UTILITY APPURTENANCES

- 28          A.       Valves and curb stop boxes shall be adjusted to finished grade of new construction in  
29                       a manner that the new construction will not interfere with the proper operation of the  
30                       facility. Catch basins, manholes and inlet covers shall be adjusted to the required  
31                       elevation by adjusting the top of the existing structure by removing or adding  
32                       concrete masonry and reinstalling the fixtures firmly in place.

1 PART 4 MEASUREMENT AND PAYMENT

2 4.01 GENERAL

3 A. Concrete sidewalk, steps and driveways shall be paid for at the bid price in  
4 accordance with one of the following methods, unless indicated otherwise in the Bid  
5 Schedule or Special Procedures - Division 01.

6 B. All work specified herein shall be considered in each of the measurement and  
7 payment method(s) stipulated, unless indicated otherwise in the Bid Schedule or  
8 Special Procedures - Division 01.

9 4.02 CONCRETE SIDEWALK

10 A. Concrete Sidewalk, Square Foot. Measurement for concrete sidewalk shall be per  
11 square foot of a specific thickness installed. Payment shall be made at the contract  
12 unit price bid per square foot of the specific thickness of concrete sidewalk installed.

13 4.03 STEPS

14 A. Steps, Square Foot. Measurement for concrete steps shall be per square foot of tread  
15 surface. Payment shall be made at the contract unit price bid per square foot of tread  
16 surface.

17 4.04 DRIVEWAYS

18 A. Driveways, Square Foot. Measurement for concrete driveways shall be per square  
19 foot of a specific thickness installed. Payment shall be made at the contract unit  
20 price bid per square foot of the specific thickness of concrete driveway installed.

21 4.05 DETECTABLE WARNING FIELDS

22 A. Detectable Warning Fields, Square Foot. Detectable warning fields shall be  
23 measured and paid per square foot installed.  
24  
25

END OF SECTION

1 SECTION 32 16 13

2  
3 CONCRETE CURB AND GUTTER

4 PART 1 GENERAL

5 1.01 APPLICABLE PROVISIONS

6 A. Applicable provisions of Division 01 shall govern work of this section.

7 1.02 APPLICABLE PUBLICATIONS

8 A. The following publications of the issues listed below, but referred to thereafter by  
9 basic designation only, form a part of this specification to the extent indicated by the  
10 reference thereto.

- 11 1. American Society for Testing and Materials (ASTM), Annual Book of  
12 ASTM Standards, Current Edition.
- 13 2. State of Wisconsin, Department of Transportation, Standard Specifications  
14 for Highway and Structure Construction, Current Edition at time of bid  
15 opening.

16 1.03 DESCRIPTION OF WORK

17 A. The work under this section shall cover furnishing all material, equipment, and labor  
18 required to execute the construction of concrete curb and gutter for this project.

19 B. This work shall be in accordance with Section 601 of the State of Wisconsin,  
20 Department of Transportation, Standard Specifications, and as indicated on the  
21 contract drawings and these specifications.

22 1.04 RELATED WORK ELSEWHERE

23 A. Procurement and Contracting Requirements - Division 00 (All Sections)

24 B. Cast-in-Place Concrete - Division 03

25 C. Subgrade Preparation - Division 31

26 D. Aggregate Base Course - Division 32

27 E. Concrete Sidewalk, Steps, and Driveways - Division 32

28 1.05 SUBMITTALS

29 A. Contractor shall submit such product literature and catalog cuts of materials to be  
30 supplied to relate these materials to the specifications. Information shall be in  
31 conformance with requirements of Submittals - Division 01 of these specifications.

1 1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS (NONE)

2 PART 2 PRODUCTS AND MATERIALS

3 2.01 CONCRETE

4 A. Concrete for curb and gutter construction shall be as specified in Cast-in-Place  
5 Concrete - Division 03 of these specifications.

6 2.02 BASE MATERIAL

7 A. Base material for concrete curb and gutter construction shall be as specified in  
8 Aggregate Base Course - Division 32 of these specifications.

9 2.03 CURING COMPOUND

10 A. Curing compound for curb and gutter construction shall be as specified in Cast-in-  
11 Place Concrete - Division 03 of these specifications.

12 PART 3 CONSTRUCTION METHODS

13 3.01 CONCRETE CURB AND GUTTER, GENERAL

14 A. All work shall be in accordance with Section 601 of the State of Wisconsin,  
15 Department of Transportation, Standard Specifications, and as otherwise indicated on  
16 the contract drawings and as specified herein.

17 3.02 GRADING

18 A. Prepare foundation by excavating to the lines, grades and cross section as required.

19 B. All soft or unstable material shall be removed and replaced with sand, gravel or  
20 crushed stone base course material compacted to a relative density of 95 percent, of  
21 the Modified Proctor density, ASTM D1557. Proof-roll subbase to check for  
22 unstable areas needing additional compaction. Finish to a true and firm surface.

23 C. Dispose of all excess or unsuitable excavated material, subject to Engineer's  
24 approval.

25 3.03 BASE MATERIAL UNDER CURB AND GUTTER

26 A. A minimum of 4 inches of compacted aggregate base course material is required  
27 under the curb and gutter, unless otherwise indicated on the contract drawings or  
28 Special Procedures - Division 01.

1 3.04 CONCRETE CURB AND GUTTER

- 2 A. This work shall consist of constructing combination curb and gutter of the type  
3 shown on the contract drawings and to the line and grade as staked in the field.
- 4 B. Driveway entrances shall be installed where shown on the contract drawings or at  
5 any other locations required by the Engineer.
- 6 C. Final brooming shall be done perpendicular to the curb.

7 3.05 JOINTS

- 8 A. Construct expansion, weakened-plane (contraction), and construction joints with face  
9 perpendicular to surface, unless otherwise shown. Construct traverse joints at right  
10 angles to curb, unless otherwise shown on the contract drawings or specifically  
11 designated in Special Procedures - Division 01.
- 12 1. Provide expansion joints on each side of catch basins, inlets, structures, and  
13 other fixed objects; abutting to existing curb and gutter; at radius points; and  
14 at 300 foot centers, unless otherwise shown.
- 15 2. Contraction joints shall be a slot or groove at least 1 inch in depth by 1/4 inch  
16 width at 20-foot maximum and 6-foot minimum intervals.
- 17 B. Extend joint fillers full-width and depth of joint, and not less than 3/4 inch or more  
18 than 1 inch below finished surface. Furnish joint fillers in one-piece lengths for the  
19 full width being placed, wherever possible. Where more than one length is required,  
20 lace or clip joint filler sections together. Trim top edge of filler to conform to profile  
21 of concrete.

22 3.06 CURING COMPOUND

- 23 A. Curing compound shall be applied at the recommended coverage requirement and  
24 application rate of the manufacturer. The compound shall be applied by sprayer as  
25 soon as all free water has disappeared after finishing operations.
- 26 B. If the coating is damaged within 72 hours of its application, the damaged surfaces  
27 shall be resprayed immediately.

28 3.07 ADJUSTING UTILITY APPURTENANCES

- 29 A. Adjust valve and curb stop boxes to finished grade of new construction in a manner  
30 that the new construction will not interfere with the proper operation of the facilities.
- 31 B. Adjust catch basin, manhole and inlet frames and covers to the required elevation by  
32 adjusting the top of the existing structure by removing or adding concrete masonry  
33 and reinstalling the fixtures, supporting them in a collar of concrete mortar and brick  
34 constructed to hold them firmly in place.

1 3.08 SAWCUTTING

- 2 A. The existing curb and gutter shall be sawcut full-depth, where the existing curb and  
3 gutter sections will butt to the new sections.

4 PART 4 MEASUREMENT AND PAYMENT

5 4.01 GENERAL

- 6 A. Concrete curb and gutter shall be paid for at the bid price in accordance with one of  
7 the following methods, unless indicated otherwise in the Bid Schedule or Special  
8 Procedures - Division 01.

- 9 B. All work specified herein shall be considered in each of the measurement and  
10 payment method(s) stipulated, unless indicated otherwise in the Bid Schedule or  
11 Special Procedures - Division 01.

12 4.02 CONCRETE CURB AND GUTTER

- 13 A. Concrete Curb and Gutter, Lineal Foot. Measurement shall be per lineal foot of  
14 concrete curb and gutter installed as measured in the field along the flow line of the  
15 gutter. Payment shall be made at the contract unit price bid per lineal foot of  
16 concrete curb and gutter installed.

17  
18 END OF SECTION

1  
2 SECTION 32 91 19.13

3  
4 TOPSOIL PLACEMENT AND GRADING

5 PART 1 GENERAL

6 1.01 APPLICABLE PROVISIONS

7 A. Applicable provisions of Division 01 shall govern work of this section.

8 1.02 APPLICABLE PUBLICATIONS

9 A. The following publications of the issues listed below, but referred to thereafter by  
10 basic designation only, form a part of this specification to the extent indicated by the  
11 reference thereto.

- 12 1. State of Wisconsin, Department of Transportation, Standard Specifications  
13 for Highway and Structure Construction, Current Edition at time of bid  
14 opening.

15 1.03 DESCRIPTION OF WORK

16 A. The work under this section shall cover furnishing all material, equipment, and labor  
17 required to salvage and/or furnish, haul, place, and prepare topsoil for this project in  
18 accordance with Section 625 of the State of Wisconsin, Department of  
19 Transportation Standard Specifications.

20 1.04 RELATED WORK ELSEWHERE

- 21 A. Procurement and Contracting Requirements - Division 00 (All Sections)  
22 B. Erosion and Sedimentation Controls - Division 31  
23 C. Grading - Division 31  
24 D. Subgrade Preparation - Division 31  
25 E. Seeding - Division 32  
26 F. Sodding - Division 32

27 1.05 SUBMITTALS

28 A. Submit a sample of the topsoil material prior to placement. Topsoil material shall be  
29 approved by the Owner or Engineer prior to placing on the project.

30 1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS (NONE)

1 PART 2 PRODUCTS AND MATERIALS

2 2.01 TOPSOIL –

- 3 A. Topsoil or salvaged topsoil shall be screened and conform to Section 625 of the State  
4 of Wisconsin, Department of Transportation, Standard Specifications. A minimum  
5 of 100% of the topsoil shall pass through the one-inch sieve (25 mm) and 90% shall  
6 pass the No. 10 (2.00 mm) sieve.
- 7 B. Topsoil or salvaged topsoil shall be shredded and conform to Section 625 of the State  
8 of Wisconsin, Department of Transportation, Standard Specifications. 100% of the  
9 topsoil shall pass through the one-inch sieve (25 mm).

10 PART 3 CONSTRUCTION METHODS

11 3.01 PRESERVATION OF TREES AND SHRUBS

- 12 A. Trees and shrubs to be preserved shall be thoroughly protected from scarring or other  
13 injury during placement and grading operations. Excavation operations shall not  
14 disturb the original ground around trees within a distance of one foot or twice the  
15 diameter of the tree, whichever is greater. Exposed roots resulting from excavation  
16 shall be cut cleanly and covered with humus-bearing soil.
- 17 B. When necessary or required by the Contract Documents, trees or shrubs around  
18 which embankment is placed shall be protected by tree wells built in accordance with  
19 Detailed Drawings or as laid out in the field by the Owner or Engineer.

20 3.02 PLACEMENT AND GRADING

- 21 A. General. Topsoil shall be stripped and placed in accordance with Subsection 625.3  
22 of the State of Wisconsin, Department of Transportation Standard Specifications.
- 23 B. Salvaged Topsoil. Topsoil shall be stripped to a minimum depth of 6 inches in all  
24 areas of cut or fill, except within roadway limits topsoil shall be stripped full depth.  
25 Stockpile topsoil in storage piles in areas shown, or where otherwise directed.  
26 Construct storage piles to freely drain surface water. Cover or sprinkle water on  
27 storage piles if required to prevent windblown dust. Any appreciable volume left in  
28 the stockpile after properly placing shall become the property of the Owner and left  
29 in the pile. In any event, the pile shall be smoothed and seeded. All piles, which are  
30 to be left for seven or more days, shall be stabilized as indicated in the Erosion and  
31 Sedimentation Controls - Division 31.
- 32 C. Grading. The Contractor shall grade in back of the curb or walk to provide a smooth  
33 surface and a 4:1 maximum slope unless shown otherwise on the plan. Graded  
34 surfaces shall be covered with topsoil to finished grade as shown on the typical  
35 sections.

- 1 D. Utility Adjustment. The Contractor shall adjust all valve boxes, manhole frames, and  
2 other utility appurtenances to within 1 inch of the final grade as shown on the  
3 contract drawings or as staked in the field by the Engineer.
- 4 E. All areas disturbed by the Contractor's activities shall be topsoiled to the depth of 6-  
5 inches, unless shown otherwise on the Contract Drawings or specified in Special  
6 Procedures - Division 01.
- 7 F. Screened/Sifted Topsoil. In existing urban areas or areas where a lawn type turf is  
8 required, the topsoil shall be top dressed with screened/sifted topsoil.
- 9 G. Construction in and adjacent to flowing streams shall be performed to avoid washing,  
10 sloughing or deposition of materials into the channel which may obstruct or impair  
11 stream flow, or which may result in contamination and/or silting of the stream.

12 PART 4 MEASUREMENT AND PAYMENT

13 4.01 GENERAL

- 14 A. Topsoil placement and grading shall be paid for at the bid price in accordance with  
15 one of the following methods, unless indicated otherwise in the Bid Schedule or  
16 Special Procedures - Division 01.
- 17 B. All work specified herein shall be considered in each of the measurement and  
18 payment method(s) stipulated, unless indicated otherwise in the Bid Schedule or  
19 Special Procedures - Division 01.

20 4.02 TOPSOIL PLACEMENT AND GRADING

- 21 A. Topsoil Placement and Grading, Lump Sum. The payment for this item shall be at  
22 the contract lump sum price bid for topsoil placement and grading.
- 23 B. Topsoil Placement and Grading, Inclusive. When no quantity is provided, topsoil  
24 placement and grading shall be considered inclusive to unclassified excavation.  
25

26 END OF SECTION

1 SECTION 32 92 19

2 SEEDING

3

4 PART 1 GENERAL

5 1.01 APPLICABLE PROVISIONS

6 A. Applicable provisions of Division 01 shall govern work of this section.

7 1.02 APPLICABLE PUBLICATIONS

8 A. The following publications of the issues listed below, but referred to thereafter by  
9 basic designation only, form a part of this specification to the extent indicated by the  
10 reference thereto.

- 11 1. State of Wisconsin, Department of Transportation, Standard Specifications  
12 for Highway and Structure Construction, Current Edition at time of bid  
13 opening.

14 1.03 DESCRIPTION OF WORK

15 A. The work covered under this section shall consist of furnishing all material,  
16 equipment, and labor required to execute the seeding for this project. All areas  
17 disturbed by the construction and not covered with pavement, aggregate base course,  
18 sod, or other structures shall be seeded, fertilized and mulched.

19 1.04 RELATED WORK ELSEWHERE

20 A. Procurement and Contracting Requirements - Division 00 (All Sections)

21 B. Submittals - Division 01

22 C. Subgrade Preparation - Division 31

23 D. Trenching and Backfilling - Division 31

24 E. Erosion and Sedimentation Controls - Division 31

25 F. Topsoil Placement and Grading - Division 32

26 G. Sodding - Division 32

27 1.05 SUBMITTALS

28 A. Contractor shall submit such product literature and catalog cuts of materials to be  
29 supplied to relate these materials to these specifications. Information shall be in  
30 conformance with requirements of Submittals - Division 01 of these specifications.

1 1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS (NONE)

2 PART 2 PRODUCTS AND MATERIALS

3 2.01 SEED

4 A. Seed shall conform to Section 630 of the State of Wisconsin, Department of  
5 Transportation, Standard Specifications.

6 B. Mixture. Unless specified otherwise, the Contractor shall select a seed mixture or  
7 mixtures from the following:

8 1. Boulevard Mixture by La Crosse Seed LLC, or equal, shall be used on all  
9 areas within a street or road right-of- way, and all other turf areas that will be  
10 subjected to roadway salts.

11 2. Madison Parks Mix by La Crosse Seed LLC, or equal, shall be used in lawn  
12 and park areas with full sun to light shade and moist soils.

13 3. Shady Place Mix by La Crosse Seed LLC, or equal, shall be used in areas  
14 that are predominantly shaded.

15 4. Survivor Lawn Mix by La Crosse Seed LLC, or equal, shall be used in areas  
16 with sandy or poor soil conditions.

17 5. In non-urban areas where a lawn type turf is not required, the appropriate  
18 seed mixture per Section 630 of the State of Wisconsin, Department of  
19 Transportation, Standard Specifications shall be used.

20 6. La Crosse Seed LLC is located in Madison, Wisconsin;  
21 <http://www.lacrosseseed.com>.

22 2.02 FERTILIZER

23 A. Fertilizer shall contain the following percentages by weight:

24 Nitrogen (N) 20%

25 Potash (K) 10%

26 Phosphorus (P) 10%

27 B. If local ordinances restrict the use of phosphorus in fertilizer, the local restrictions  
28 shall supercede the above percentages.

29 2.03 MULCH

30 A. Mulching shall consist of any straw, hay, wood excelsior fiber or other suitable  
31 material of a similar nature, which is substantially free of noxious weed seeds and  
32 objectionable foreign material.

33 2.04 WATER

34 A. Water shall be clean and free of impurities or substances that might injure the seed or  
35 grass.

1 PART 3 CONSTRUCTION METHODS

2 3.01 SEEDING

3 A. Seeding shall be done in conformance with Subsection 630.3 of the State of  
4 Wisconsin, Department of Transportation, Standard Specifications. Seed shall be  
5 sown at the manufacturer's recommended application rate.

6 B. A companion crop of annual rye grass shall be sown with the seeding at a rate of four  
7 pound per 1000 square feet of area.

8 3.02 FERTILIZER

9 A. Apply fertilizer in conformance with Section 629 of the State of Wisconsin,  
10 Department of Transportation, Standard Specifications.

11 B. Deliver fertilizer to site in original unopened containers showing manufacturer's  
12 name, guaranteed analysis and weight. Store in a weatherproof location and use only  
13 when dry and free flowing. Apply fertilizer at rate of 10 pounds per 1000 square feet  
14 and evenly mix into top 2 inches of topsoil.

15 C. At the Contractor's option, the Contractor may perform soil tests and apply fertilizer  
16 based on the results.

17 3.03 MULCHING

18 A. This work shall consist of furnishing, placing, and anchoring a mulch cover over  
19 seeded areas.

20 B. Construction shall be done in conformance with Section 627 of the State of  
21 Wisconsin, Department of Transportation, Standard Specifications.

22 C. In existing developed areas, mulching shall be done in such a manner to prevent dust  
23 and mulch from being deposited on non-seeded areas. Acceptable methods are by  
24 hand or a small chopper/mulcher with a controlled discharge.

25 3.04 ACCEPTANCE

26 A. The work will be considered acceptable after a 2-inch uniform stand of grass is  
27 attained and all gullies, rivulets, and washouts have been repaired to the satisfaction  
28 of the Engineer. The Contractor shall request the Engineer's inspection and  
29 acceptance will be made in writing when the above conditions have been complied  
30 with.

1 3.05 WATERING

- 2 A. If weather conditions are not suitable establishing turf, the seeded areas shall be  
3 watered twice weekly. Water shall be applied uniformly and in such a manner as not  
4 to waterlog the topsoil, dislodge the seed, or cause erosion.
- 5 B. If water is provided by a water utility, the Contract shall maintain a record of the  
6 amount of water obtained and provide it to the utility.

7 PART 4 MEASUREMENT AND PAYMENT

8 4.01 GENERAL

- 9 A. Seeding shall be paid for at the bid price in accordance with one of the following  
10 methods, unless indicated otherwise in the Bid Schedule or Special Procedures -  
11 Division 01.
- 12 B. All work specified herein shall be considered in each of the measurement and  
13 payment method(s) stipulated, unless indicated otherwise in the Bid Schedule or  
14 Special Procedures - Division 01.

15 4.02 SEEDING

- 16 A. Seeding, Square Yard. Payment shall be made at the contract unit price bid per  
17 square yard for seeding installed. Measurement shall be per square yard installed as  
18 measured in the field.
- 19 B. Seeding, Lump Sum. Payment shall be made at the contract lump sum price bid.  
20 Measurement shall be to the extent shown on the contract drawings and described in  
21 Special Procedures - Division 01.

22 4.03 WATERING

- 23 A. Watering, MGAL. Payment shall be made at the contract unit price bid per MGAL  
24 (1000 gallon unit) for watering completed. Measurement shall be per MGAL used  
25 for watering purposes. The Contractor shall provide load tickets for the water used.
- 26 B. Watering, Each. Payment shall be made at the contract unit price bid per each for  
27 watering. Measurement shall be per each watering completed on the entire project  
28 restoration area.
- 29 C. Watering, Inclusive. When no quantity is provided, payment for watering shall be  
30 considered inclusive to payment for seeding.  
31

32 END OF SECTION

1 SECTION 32 92 23

2  
3 SODDING

4 PART 1 GENERAL

5 1.01 APPLICABLE PROVISIONS

6 A. Applicable provisions of Division 01 shall govern work of this section.

7 1.02 APPLICABLE PUBLICATIONS

8 A. The following publications of the issues listed below, but referred to thereafter by  
9 basic designation only, form a part of this specification to the extent indicated by the  
10 reference thereto.

- 11 1. State of Wisconsin, Department of Transportation, Standard Specifications  
12 for Highway and Structure Construction, Current Edition at time of bid  
13 opening.

14 1.03 DESCRIPTION OF WORK

15 A. The work covered under this section shall consist of furnishing all material,  
16 equipment, and labor required to execute the sodding for this project.

17 1.04 RELATED WORK ELSEWHERE

18 A. Procurement and Contracting Requirements - Division 00 (All Sections)

19 B. Submittals - Division 01

20 C. Subgrade Preparation - Division 31

21 D. Grading - Division 31

22 E. Trenching and Backfilling - Division 31

23 F. Erosion and Sedimentation Controls - Division 31

24 G. Topsoil Placement and Grading - Division 32

25 H. Seeding - Division 32

26 1.05 SUBMITTALS

27 A. Contractor shall submit such product literature and catalog cuts of materials to be  
28 supplied to relate these materials to these specifications. Information shall be in  
29 conformance with requirements of Submittals - Division 01 of these specifications.

1 1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS (NONE)

2 PART 2 PRODUCTS AND MATERIALS

3 2.01 SOD

4 A. Materials. Sod shall be vigorous, well-rooted, healthy nursery grown lawn grass turf  
5 free from disease, insect pests, weeds, stones and other foreign material. Sod shall  
6 conform to Section 631 of the State of Wisconsin, Department of Transportation,  
7 Standard Specifications. Sod shall be cut in uniform strips approximately 18 inches  
8 wide and have a thickness of not more than 1-1/2 inches nor less than 1 inch, and  
9 have grass approximately 2 inches high.

10 2.02 FERTILIZER

11 A. Fertilizer shall contain the following percentages by weight:

12 Nitrogen	(N)	20%
13 Potash	(K)	10%
14 Phosphorus	(P)	10%

15 B. If local ordinances restrict the use of phosphorus in fertilizer, the local restrictions  
16 shall supercede the above percentages.

17 2.03 WATER

18 A. Water shall be clean and free of impurities or substances that might injure the sod.

19 PART 3 CONSTRUCTION METHODS

20 3.01 SODDING

21 A. Sod shall be installed within 48 hours after cutting. Do not lay sod during freezing  
22 weather or on a frozen bed.

23 B. Match to existing and lay sod snugly with alternating joints, stamp firmly and evenly  
24 by hand. After laying, clean surface of extraneous material, and compact with a  
25 roller weighing not more than 100 pounds per lineal foot nor less than 25 pounds per  
26 lineal foot. Finished surface shall be true to grade, smooth and equally firm at all  
27 points.

28 C. A total of three waterings are required; an initial and two subsequent waterings  
29 within 10 days after sod placement. Watering shall be done with a slow fine spray to  
30 a minimum penetration depth of 4 inches.

31 D. Sodding shall be done in conformance with Section 631 of the State of Wisconsin,  
32 Department of Transportation, Standard Specifications.

1 3.02 FERTILIZER

- 2 A. Apply fertilizer in conformance with Section 629 of the State of Wisconsin,  
3 Department of Transportation, Standard Specifications.
- 4 B. Deliver fertilizer to site in original unopened containers showing manufacturer's  
5 name, guaranteed analysis and weight. Store in a weatherproof location and use only  
6 when dry and free flowing. Apply fertilizer at rate of 10 pounds per 1000 square feet  
7 and evenly mix into top 2 inches of topsoil.
- 8 C. At the Contractor's option, the Contractor may perform soil tests and apply fertilizer  
9 based on the results.

10 3.03 WATERING

- 11 A. If weather conditions are not suitable to achieve sod rooting, the sodded areas shall  
12 be watered to keep the sod thoroughly moist. Water shall be applied uniformly and  
13 in such a manner as not to waterlog the topsoil, dislodge the sod, or cause erosion.
- 14 B. If water is provided by a water utility, the Contract shall maintain a record of the  
15 amount of water obtained and provide it to the utility.

16 3.04 ACCEPTANCE

- 17 A. The work will be considered acceptable after a 2-inch uniform stand of grass is  
18 attained and all gullies, rivulets, and washouts have been repaired to the satisfaction  
19 of the Engineer. The Contractor shall request the Engineer's inspection and  
20 acceptance will be made in writing when the above conditions have been complied  
21 with.

22 PART 4 MEASUREMENT AND PAYMENT

23 4.01 GENERAL

- 24 A. Sodding shall be paid for at the bid price in accordance with one of the following  
25 methods, unless indicated otherwise in the Bid Schedule or Special Procedures -  
26 Division 01.
- 27 B. All work specified herein shall be considered in each of the measurement and  
28 payment method(s) stipulated, unless indicated otherwise in the Bid Schedule or  
29 Special Procedures - Division 01.

30 4.02 SODDING

- 31 A. Sodding, Square Yard. Payment shall be made at the contract unit price bid per  
32 square yard for sod installed. Measurement shall be per square yard installed as  
33 measured in the field.

1 B. Sodding, Lump Sum. Payment shall be made at the contract lump sum price bid.  
2 Measurement shall be to the extent shown on the contract drawings and described in  
3 Special Procedures - Division 01.

4 4.03 WATERING

5 A. Watering, MGAL. Payment shall be made at the contract unit price bid per MGAL  
6 (1000 gallon unit) for watering completed. Measurement shall be per MGAL used  
7 for watering purposes. The Contractor shall provide load tickets for the water used.

8 B. Watering, Each. Payment shall be made at the contract unit price bid per each for  
9 watering. Measurement shall be per each watering completed on the entire project  
10 restoration area.

11 C. Watering, Inclusive. When no quantity is provided, payment for watering shall be  
12 considered inclusive to payment for sodding.  
13

14 END OF SECTION

1 SECTION 32 93 00

2  
3 PLANTS

4 PART 1 GENERAL

5 1.01 APPLICABLE PROVISIONS

6 A. Applicable provisions of Division 01 shall govern the work of this section.

7 1.02 APPLICABLE PUBLICATIONS

8 A. The following publications of the issues listed below, but referred to thereafter by  
9 basic designation only, form a part of this specification to the extent indicated by the  
10 reference thereto.

- 11 1. American Association of Nurserymen, (AAN), Horticultural Specifications  
12 and Standards, Current Edition.
- 13 2. American National Standards Institute (ANSI), Specifications and Standards,  
14 Current Edition.
  - 15 a. ANSI Z60.1 - Nursery Stock, Current Edition.
- 16 3. Federal Specifications (FS), Specifications and Standards, Current Edition.
  - 17 a. FS O-F-241 - Fertilizers, Mixed, Commercial, Current Edition.
- 18 4. United States Department of Agriculture (USDA), Natural Resource  
19 Conservation Service - Wisconsin, Technical Guide:
  - 20 a. NRCS 612 - Tree/Shrub Establishment, Current Edition.

21 1.03 DESCRIPTION OF WORK

22 A. The work under this section shall consist of furnishing and planting plants of the  
23 species, varieties and size specified, complete in place at locations designated on the  
24 plans or as directed by the Landscape Architect. This shall include furnishing all  
25 necessary materials and performing all necessary work such as excavation of plant  
26 holes, salvaging topsoil, transplanting, backfilling, pruning, mulching, watering,  
27 fertilizing, support staking where necessary, disposing of surplus waste materials,  
28 necessary care and required replacements pending acceptance, and such work  
29 necessary or incidental to complete the item in accordance with the plans,  
30 specifications and contract.

31 1.04 RELATED WORK ELSEWHERE

- 32 A. Procurement and Contracting Requirements - Division 00 (All Sections)
- 33 B. Submittals - Division 01
- 34 C. Grading - Division 31
- 35 D. Erosion and Sedimentation Controls - Division 31

1 E. Seeding - Division 32

2 F. Sodding - Division 32

3 1.05 SUBMITTALS

4 A. Contractor shall submit such product literature and catalog cuts of materials to be  
5 supplied to relate these materials to these specifications. Names of nurseries shall be  
6 identified for each plant purchased. Information shall be in conformance with  
7 requirements of Submittals - Division 01 of these specifications.

8 1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS

9 A. The manual shall include operating and maintenance literature for continuing Owner  
10 maintenance. The submitted literature shall be in sufficient detail and include cutting  
11 and trimming methods; types, application frequency, and recommended coverage of  
12 fertilizer.

13 B. Preparation of this document shall be in conformance with the requirements stated in  
14 Submittals - Division 01 of these specifications. The Contractor shall submit to the  
15 Engineer for review an outline of any variations of information for the operation and  
16 maintenance manuals and other documentation he proposes to prepare.

17 1.07 DELIVERY, STORAGE, AND HANDLING

18 A. Deliver, store, protect and handle products to site under provisions of Material and  
19 Equipment - Division 01.

20 B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of  
21 manufacturer.

22 C. Plants shall not be on site and not installed for more than one week. Keep plants root  
23 balls, containers and bare roots moist at all times. Protect plants from adverse  
24 weather during this period.

25 D. Deliver plant materials immediately prior to placement. Keep plants moist.

26 1.08 ENVIRONMENTAL REQUIREMENTS

27 A. Do not install plant life when ambient temperatures may drop below 35 degrees  
28 Fahrenheit or above 90 degrees Fahrenheit.

29 B. Do not plant when wind velocity exceeds 30 mph.

30 1.09 WARRANTY

31 A. Provide a two (2) year warranty under provisions of Closeout Procedures -  
32 Division 01.

- 1 B. Warranty. Provide a two (2) full year warranty. Include coverage for one two (2)  
2 full years from time of planting; replace dead or unhealthy plants in the next  
3 appropriate planting season. Remove any dead trees from the site as soon as they are  
4 40% dead or more and inspected by the Landscape Architect.
- 5 C. Replacements. Plants of same size and species as specified, planted in the next  
6 growing season, with a new warranty commencing on date of replacement.

7 1.10 DEFINITIONS

- 8 A. Weeds. Include Dandelion, Jimsonweed, Quackgrass, Horsetail, Morning Glory,  
9 Rush Grass, Mustard, Lambsquarter, Chickweed, Cress, Crabgrass, Canadian Thistle,  
10 Nutgrass, Poison Oak, Blackberry, Tansy Ragwort, Bermuda Grass, Johnson Grass,  
11 Poison Ivy, Nut Sedge, Nimble Will, Bindweed, Bent Grass, Wild Garlic, Perennial  
12 Sorrel, and Brome Grass.
- 13 B. Plants. Living trees, shrubs, perennials and ground cover specified in this Section,  
14 and described in ANSI Z60.1.

15 1.11 QUALIFICATIONS

- 16 A. Nursery. Nursery shall be a company specializing in growing and cultivating the  
17 plants with three years documented experience. Nurseries shall be from Northern  
18 Illinois, Wisconsin, Minnesota or Northern Iowa.
- 19 B. Installer. Installer shall be a company specializing in installing and planting the  
20 plants with three years documented experience and shall be approved by Landscape  
21 Architect, and client prior to signing a contract.
- 22 C. Maintenance Services. Maintenance services shall be performed by installer, which  
23 shall consist of watering, weeding the mulched areas around all plants and pruning as  
24 necessary.

25 PART 2 PRODUCTS AND MATERIALS

26 2.01 PLANTS

- 27 A. General. All plants shall be hardy under climactic conditions similar to those in the  
28 location of the project.
- 29 1. All plants shall be typical of their species or variety and shall have a normal  
30 habit of growth. They shall be sound, healthy and vigorous, well branched  
31 and densely foliated when in leaf. They shall be free of disease, insect pests,  
32 eggs or larvae. They shall have healthy, well-developed root systems that do  
33 not encircle the plant. Any soil above the root flare shall be removed prior to  
34 planting so it can be placed at the proper depth. Bare rooted shrubs shall be  
35 dug with adequate fibrous roots. Roots of these plants shall be covered or  
36 packed in moist straw, or other water holding material. B&B plants shall be

1                   dug with firm natural balls of earth of sufficient diameter and depth to  
2                   include most of the fibrous roots.

- 3  
4                   2.       Container grown stock shall have been grown in a container long enough for  
5                   the root systems to have developed sufficiently to hold its soil together, firm  
6                   and whole. No plants shall be loose in the container. Prune roots as needed  
7                   and prune of any encircling roots once the plant is removed from its  
8                   container.

9                   B.       Trees and Plants. Species and size shall be as identifiable in plant schedule. No  
10                  substitute will be permitted without approval from the Engineer.

11                  1.       Measurement. Dimensions of trees and shrubs shall conform to the  
12                  specifications in the current edition of Horticultural Standards of the  
13                  American Association of Nurserymen.

14                  2.       Sizes. All plants shall conform to the measurements specified in the plant  
15                  schedule. Exceptions are as follows: plants larger than specified in the plant  
16                  list may be used but use of such plants shall not increase the contract price.  
17                  If the use of larger plants is approved, the spread of roots or ball of earth  
18                  shall be increased in proportion to the size of the plant.

19   2.02   SOIL MATERIALS

20                  A.       Topsoil: Topsoil shall be fertile, agricultural soil, typical for locality, capable of  
21                  sustaining vigorous plant growth, taken from drained site; free of subsoil, clay or  
22                  impurities, plants, weeds and roots.

23   2.03   FERTILIZER FOR TREES & SHRUBS

24                  A.       Fertilizer to be used in plant holes shall be a water soluble fertilizer contained in a  
25                  micropore slow release polyethylene packet. The amount of fertilizer in each packet  
26                  shall be a minimum of one ounce. The fertilizer shall meet the following  
27                  requirements:

28                    Nitrogen, not less than	16%
29                    Phosphoric Acid, not less than	8%
30                    Potash, not less than	16%

31   2.04   MULCH MATERIALS

32                  A.       Mulching material shall be shredded hardwood bark free of any colorant.

33   2.05   WATER

34                  A.       Suitable water for the execution of this work and maintenance shall be provided by  
35                  the Owner. The Contractor shall be required to furnish his own hose connections  
36                  from outlets where the water will be provided. An adequate water supply must be  
37                  available if a replacement policy on plant material is called for in the specifications.

1 2.06 ACCESSORIES

- 2 A. Tree Wrapping Materials. Before tree is wrapped, the Landscape Architect shall  
3 inspect the plant stock. Only trees with a smooth bark shall be wrapped and only  
4 applied in late fall before the first frost. Use a two-ply waterproofed crepe tree  
5 wrapping paper, laminated with a layer of pliable asphalt material. The wrap shall  
6 tightly cover the entire surface of the trunk, overlapped one-half inches in a spiral  
7 fashion, starting from the base of the tree and extending to the height of the first  
8 branches. The wrapping shall be secured in at least three places with masking tape.  
9 The Contractor shall be responsible for removing and disposing of the tree wrap in  
10 the following spring.
- 11 B. Stakes. When and where specified, these materials shall consist of such wood or  
12 metal stakes, soft straps or banding material as needed to perform the work. Support  
13 stakes shall be of solid durable wood or metal approximately two inches wide and of  
14 the required length. In no case shall the strap or banding material be tight around  
15 the tree trunk. Material should be attached loosely enough to allow a small amount  
16 of play in the trunk.
- 17 C. Decorative Mulch. Shall be a natural colored (no dyes allowed) shredded cedar bark,  
18 cypress bark or other hardwood shredded bark.
- 19 D. Weed Barrier. Permeable, 100% polypropylene, abrasive texture of the fabric  
20 insures against slippage of decorative cover even on sloped surfaces. This should  
21 only be used where no plants are installed.
- 22 E. Edging. If called for in the plans use only metal edging made of aluminum, steel or  
23 other metal product capable of being formed to the design of the planting bed edge.  
24 Otherwise the planting bed edge should be shovel cut as shown in the details.

25 PART 3 CONSTRUCTION METHODS

26 3.01 EXAMINATION

- 27 A. Verify that prepared topsoil is ready to receive work.
- 28 B. The Engineer will inspect all plant material prior to installation. Provide a minimum  
29 of 48 hours notice of when plants will be delivered to the site.

30 3.02 INSTALLATION

- 31 A. Seasons for Planting. Due to modern technology and planting practices, the planting  
32 season is almost continuous with minor limitations at the discretion of the  
33 Contractor, however spring is strongly preferred.
- 34 B. Handling and Protection of Plants. Roots and balls of plants shall be adequately  
35 protected at all times from sun and from drying winds. All balled and burlapped  
36 (B&B) plants which cannot be planted immediately upon delivery shall be set on the

1 ground and shall be well protected or covered with mulch to maintain a good  
2 moisture level in the tree ball. Care shall be taken to prevent air pockets among the  
3 roots. During planting operations, bare roots shall be covered with canvas, hay or  
4 other suitable material prior to planting.

5 C. Obstructions Below Ground. In the event that rock or underground construction  
6 work or obstructions are encountered in any plant pit excavation work to be done  
7 under this contract, alternate locations may be selected by the Engineer. Where  
8 locations cannot be changed, the obstruction shall be removed to a depth of not less  
9 than 3 feet below grade and no less than 6 inches below the bottom of ball or roots  
10 when plant is properly set at required grade. The Contractor shall be paid for  
11 removal of such rock or obstruction encountered on a time and material basis, to be  
12 agreed by the Owner's representative and the Contractor.

13 D. Planting Operations. Tree pits shall be one foot wider than the ball of earth or roots  
14 of the tree around the entire ball or root mass. Shrubs and evergreens shall be  
15 planted in pits one foot greater than the spread of roots. Excavated planting beds  
16 shall be a minimum of 6 inches deeper than the plant roots. Scarification of the  
17 excavated hole will be required to prevent glazing (as per planting detail). All plants  
18 shall be at least the height, caliper or spread before pruning as specified by the  
19 Engineer, drawings or planting schedule. Root systems shall be as called for in the  
20 specifications. Roots of bare root plants shall be properly spread out and topsoil  
21 carefully worked in among them. Any broken or frayed roots shall be cut off clean.

22 Plants shall be set with the root flare at the finished grade (root flare shall be  
23 determined 1-inch above the upper-most woody support root. Plants must be  
24 centered in the hole and set plumb. Plants shall be set so that they will be at the same  
25 depth at the end of the guarantee period.

26 Topsoil around roots or balls should be lightly compacted and thoroughly watered to  
27 settle the soil around the roots. Backfill if necessary after watering and settlement of  
28 the soil. Do not fill soil above the root flair. All containers shall be removed before  
29 planting. If roots are crowded or coiled on the bottom, sides or surface, they shall be  
30 gently separated from the edges or surface. Ropes, strings, wire baskets, burlap and  
31 other wrapping shall be removed from the top 2/3 of the ball after the plant has been  
32 set in place.

33 E. Immediately after planting the pit is backfilled and watered. A shallow basin slightly  
34 larger than the pit shall be formed with a ridge of soil to contain water.

35 F. Pruning. All dead wood, suckers, broken or badly bruised branches shall be  
36 removed. Pruning shall be done with clean, sharp tools and shall not leave any  
37 ragged edges.

1 3.03 INSTALLATION OF ACCESSORIES

2 A. Place edging, mulch and weed barrier fabric only as indicated on drawings. All  
3 plants shall be mulched over the root system with a three (3) inch layer of shredded  
4 hardwood bark mulch free of any colorants. Mulching material shall be pulled back  
5 no less than 3 inches and no more than 6 inches from the trunk of trees and shrubs.

6 3.04 PLANT SUPPORT

7 A. Brace plants vertically with plant protector wrapped guy wires and stakes to the  
8 following:

<u>Tree Caliper</u>	<u>Tree Support Method</u>
1 inch (25 mm)	1 stake with one tie
1 – 2.5 inches (25 - 50 mm)	2 stakes with two ties
3- 4 inches (50 - 100 mm)	3 fabric ties
Over 4 inches (100 mm)	4 fabric ties

9 3.05 FINAL CLEANUP

10 A. Project shall be left clean and neat, excess soil and refuse from landscape operation  
11 shall be removed from the site and disposed of properly. All twine rope, transit  
12 guards or wrappings, and plant labels secured around the trunk or branches shall be  
13 removed after the planting is completed.

14 3.06 MAINTENANCE

15 A. During planting, maintenance shall begin immediately after each plant is planted and  
16 shall continue until the installation of plants is completed. Plants shall be watered,  
17 mulched, weeded, pruned, sprayed, fertilized, cultivated and otherwise maintained  
18 and protected. Settled plants shall be reset to proper grade and position, planting  
19 saucer restored and dead material removed. Defective work shall be corrected as  
20 soon as possible after it becomes apparent and weather and season permit. Upon  
21 completion of planting and prior to provisional acceptance, the landscape contractor  
22 shall remove from the site excess soil and debris and repair damage to structures,  
23 etc., resulting from planting operation.

24  
25 3.07 PLANT SCHEDULE – See plans.

1 PART 4 MEASUREMENT AND PAYMENT

2 4.01 GENERAL

3 A. Upon completion of all required planting, an inspection of the work will be made by  
4 the Landscape Architect. All plants which are dead or dying or found not to be in a  
5 normal, healthy condition or do not conform to specifications, in the judgment of the  
6 Landscape Architect will not be accepted. All rejected work shall be replaced by the  
7 contractor, including removal and repair of all work affected by the replacement, at  
8 no cost to the client. It is the responsibility of the contractor to notify the Landscape  
9 Architect forty eight (48) hours prior to any replacement plantings being installed.

10 B. Prior the termination of the guarantee period, the contractor shall request a final  
11 inspection by the Landscape Architect. All plants found unacceptable for reasons  
12 herein before stated shall be replaced at the first planting season and thereafter the  
13 responsibility for such plants or material shall lie with the Client, no additional  
14 guarantee period will be required for these plantings.

15 C. Release of the payment and performance bond by the Client shall not be made until  
16 after acceptance of the final guarantee replacement by the contractor.

17 D. Plants shall be paid for at the bid price in accordance with one of the following  
18 methods, unless indicated otherwise in the Bid Schedule or Special Procedures -  
19 Division 01.

20 E. All work specified herein shall be considered in each of the measurement and  
21 payment method(s) stipulated, unless indicated otherwise in the Bid Schedule or  
22 Special Procedures - Division 01

23 4.02 PLANTS

24 A. Plants, Lump Sum. When so provided, payment for plants shall be made at the  
25 contract lump sum price bid.

26 B. Plants, Inclusive. When no quantity is provided, plants shall be considered inclusive  
27 to payment for work associated with seeding and sodding.  
28

29 END OF SECTION

**APPENDIX A**



September 18, 2015

IP-SE-2015-46-02651,2650,2649,2470

Village of Grafton  
David Murphy  
675 N. Green Bay Road  
Grafton, WI 53024

Dear Mr. Murphy:

The Department of Natural Resources has completed its review of your application for a permit to dredge, place riprap, place miscellaneous structures, and grade, on the bed and banks of the Milwaukee River, in the Village of Grafton, Ozaukee County. You will be pleased to know your application is approved with a few limitations.

I am attaching a copy of your permit, which lists the conditions that must be followed. A copy of the permit must be posted for reference at the project site. Please read your permit conditions carefully so that you are fully aware of what is expected of you.

Please note you are required to submit photographs of the completed project within 7 days after you've finished construction. This helps both of us to document the completion of the project and compliance with the permit conditions.

Your next step will be to notify me of the date on which you plan to start construction and again after your project is complete.

If you have any questions about your permit, please call me at (920) 893-8531 or email [Kathleen.Kramasz@wisconsin.gov](mailto:Kathleen.Kramasz@wisconsin.gov).

Sincerely,

Kathi Kramasz  
Water Management Specialist  
cc: Anthony Jernigan, U.S. Army Corps of Engineers  
Mike Lau, MSA  
Conservation Warden Tony Young

**We are committed to service excellence.**

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

**STATE OF WISCONSIN  
DEPARTMENT OF NATURAL RESOURCES**

**Dredging, Riprap, Structures and Grading PERMIT  
IP-SE-2015-46-02651,2650,2649,2470**

David Murphy, Village of Grafton, is hereby granted under Section 30.12(3m), 30.20, 30.19, and 30.12 Wisconsin Statutes, a permit to dredge, place riprap, place miscellaneous structures, and grade, on the bed and banks of the Milwaukee River, in the Village of Grafton, Ozaukee County, also described as in the NE1/4 of the NE1/4 of Section 24, Township 10 North, Range 21 East, subject to the following conditions:

**PERMIT**

1. You must notify Kathi Kramasz at phone (920) 893-8531 or email [Kathleen.Kramasz@wisconsin.gov](mailto:Kathleen.Kramasz@wisconsin.gov) before starting construction and again not more than 5 days after the project is complete.
2. You must complete the project as described on or before 09/18/2018. If you will not complete the project by this date, you must submit a written request for an extension prior to expiration of the initial time limit specified in the permit. Your request must identify the requested extension date. The Department shall extend the time limit for an individual permit or contract for no longer than an additional 5 years if you request the extension before the initial time limit expires. You may not begin or continue construction after the original permit expiration date unless the Department extends the permit in writing or grants a new permit.
3. This permit does not authorize any work other than what you specifically describe in your application and plans, and as modified by the conditions of this permit. If you wish to alter the project or permit conditions, you must first obtain written approval of the Department.
4. Before you start your project, you must first obtain any permit or approval that may be required for your project by local zoning ordinances and by the U.S. Army Corps of Engineers. You are responsible for contacting these local and federal authorities to determine if they require permits or approvals for your project. These local and federal authorities are responsible for determining if your project complies with their requirements.
5. Upon reasonable notice, you shall allow access to your project site during reasonable hours to any Department employee who is investigating the project's construction, operation, maintenance or permit compliance.
6. The Department may modify or revoke this permit for good cause, including if the project is not completed according to the terms of the permit or if the Department determines the activity is detrimental to the public interest.
7. You must post a copy of this permit at a conspicuous location on the project site, visible from the waterway, for at least five days prior to construction, and remaining at least five days after construction. You must also have a copy of the permit and approved plan available at the project site at all times until the project is complete.
8. Your acceptance of this permit and efforts to begin work on this project signify that you have read, understood and agreed to follow all conditions of this permit.

9. You must submit a series of photographs to the Department, within one week of completing work on the site. The photographs must be taken from different vantage points and depict all work authorized by this permit.
10. You, your agent, and any involved contractors or consultants may be considered a party to the violation pursuant to Section 30.292, Wis. Stats., for any violations of Chapter 30, Wisconsin Statutes, or this permit.
11. Construction shall be accomplished in such a manner as to minimize erosion and siltation into surface waters. Erosion control measures (such as silt fence and straw bales) must meet or exceed the technical standards of ch. NR 151, Wis. Adm. Code. The technical standards are found at: [http://dnr.wi.gov/topic/stormwater/standards/const\\_standards.html](http://dnr.wi.gov/topic/stormwater/standards/const_standards.html).

12. All equipment used for the project including but not limited to tracked vehicles, barges, boats, hoses, sheet pile and pumps shall be de-contaminated for invasive and exotic viruses and species prior to use and after use.

The following steps must be taken every time you move your equipment to avoid transporting invasive and exotic viruses and species. To the extent practicable, equipment and gear used on infested waters shall not be used on other non-infested waters.

1. **Inspect and remove** aquatic plants, animals, and mud from your equipment.
2. **Drain all water** from your equipment that comes in contact with infested waters, including but not limited to tracked vehicles, barges, boats, hoses, sheet pile and pumps.
3. **Dispose** of aquatic plants, animals in the trash. Never release or transfer aquatic plants, animals or water from one waterbody to another.
4. **Wash your equipment** with hot (>140° F) and/or high pressure water,

- OR -

Allow your equipment to **dry thoroughly for 5 days**.

13. All of the removed materials must be placed in the location shown on applicant's plan and approved by the Department.
14. This permit complies with the substantive requirements of s. 23.24, Stats. and NR 109, Adm. Code.
15. Bottom materials must be removed by equipment, which is designed to minimize the amount of sediment that can escape into the water. Equipment must be properly sized so that excavation conforms to the plans submitted and allows the work to be done from the banks rather than in the waterway.
16. During excavation, earth must be loaded directly into watertight trucks or stockpiled in an upland area separated from the stream by a protective, vegetated buffer strip not less than 30 feet in width and a silt screen.
17. Removal must not exceed 30 cubic yards as specified in the application and plans.

18. You must not deposit or store any of the removed materials in any wetland or below the ordinary high watermark of any waterway. All removed materials must be placed out of the floodway of any stream.
19. After the site is 80% stabilized, or prior to at the direction of the Department, all temporary erosion control measures must be removed and disposed of properly. Any remaining temporary erosion control devices after this point constitute littering and may be enforced as determined necessary by the department.
20. Any area where topsoil is exposed during construction must be immediately planted, seeded and mulched or sodded to prevent soil from being eroded and washed into the waterway.
21. Appropriate erosion control measures must be in-place and effective during every phase of this project.
22. Erosion control measures must be in place at the end of each working day.
23. Erosion control measures must be inspected, and any necessary repairs or maintenance performed, after every rainfall exceeding 1/2 inch and at least once per week.
24. Erosion control measures such as silt fence and straw bales must meet or exceed the standards in the Wisconsin Construction Site Best Management Practices Handbook.
25. No portion of the bank or upland which is altered or disturbed and, as a result, unstable may remain unprotected for more than 2 days.
26. Site stabilization between October 1 and April 15 requires sodding or seeding and mulching (with a non-toxic tackifier).
27. The removal of vegetative cover and exposure of bare ground must be restricted to the minimum amount necessary for construction. Areas where soil is exposed must be protected from erosion by seeding and mulching, sodding, diversion of surface runoff, installation of straw bales or silt screens, construction of settling basins, or similar methods as soon as possible after removal of the original ground cover as described in the Wisconsin Construction Site Handbook (BMP's).
28. This permit has been issued with the understanding that any construction equipment used is the right size to do the job, and can be brought to and removed from the project's site without unreasonable harm to vegetative cover or fish or wildlife habitat.
29. You are not allowed to do construction during periods of high water levels or between March 15 and June 1 of any calendar year.
30. You must maintain a log of the erosion control inspections, repairs made, and rain events. This must be made available to Department personal upon request and must remain on the project site at all times work is being performed.
31. You must not deposit or store any of the graded materials in any wetland or below the ordinary high water mark of any waterway. All graded materials must be placed out of the floodway of any stream.

32. You must not operate any construction equipment below the ordinary high water mark of any waterway.
33. You must supply a copy of this permit to every contractor associated with this project.
34. A synthetic filter cloth or gravel filter layer must be installed behind the wall and a layer of clean fieldstone rock must be installed on the waterward side of the wall to protect the toe from scour. The toe protection rock layer must be anchored or keyed into the bed of the waterway and must extend at least one foot up the wall and one and one half feet waterward.
35. Disturbance of bank vegetation must be kept to a minimum during construction. Any vegetative removal must comply with local zoning regulations.
36. You are hereby authorized to place clear, unpainted rock, between 6"-24" in diameter, along the shoreline. This stone may extend up to 4 feet into the water as measured from the existing bank. The slope of the stone must be no steeper than 2:1.
37. Final site stabilization requires the re-establishment of vegetation with non-aggressive, native species and should not contain invader species such as Reed Canary Grass (*Phalaris arundinacea*). Any plant species used in the buffer must be native to Wisconsin.
38. This project must be constructed in compliance with the floodplain zoning standards.
39. Encroachment into the river for the steps and rest areas must be as minimal as possible.
40. This permit allows the placement of an accessible kayak launch pier according to the plans.
41. This permit allows the placement of two rock outfall structures at existing stormsewer outlets that will be modified.
42. This permit is being issued with the understanding that a vegetated buffer will be placed and maintained between the edge of the paved path and the river.

#### FINDINGS OF FACT

1. David Murphy, Village of Grafton has filed an application for a permit to dredge, place riprap, place miscellaneous structures, and grade, on the bed and banks of the Milwaukee River, in the Village of Grafton, Ozaukee County, also described as NE1/4-NE1/4 S24, T10N, R21E.
2. The project will involve construction of a paved path along the shoreline at Veteran's Park, rock riprap along the shoreline, concrete steps to access the ice during the winter, a few asphalt bump out areas that will be close to the OWHM, two rock outfalls, and an accessible kayak launch pier.
3. The Department has completed an investigation of the project site and has evaluated the project as described in the application and plans.
4. Milwaukee River is a navigable water.

5. The proposed project, if constructed in accordance with this permit will not adversely affect water quality, will not increase water pollution in surface waters and will not cause environmental pollution as defined in s. 283.01(6m), Wis. Stats.
6. The proposed project will not impact wetlands if constructed in accordance with this permit.
7. The Department of Natural Resources has determined that the agency's review of the proposed project constitutes an equivalent analysis action under s. NR 150.20(2), Wis. Adm. Code. The Department has considered the impacts on the human environment, alternatives to the proposed projects and has provided opportunities for public disclosure and comment. The Department has completed all procedural requirements of s. 1.11(2)(c), Wis. Stats., and NR 150, Wis. Adm. Code for this project.
8. The Department of Natural Resources has completed all procedural requirements and the project as permitted will comply with all applicable requirements of sections 30.12(3m), 30.20. 30.19. and 30.12, Wisconsin Statutes and Chapters NR 102, 103, 326, 328, 329, 341, and 345 of the Wisconsin Administrative Code.

The applicant was responsible for fulfilling the procedural requirements for publication of notices under s. 30.208(5)(c)1m., Stats., and was responsible for publication of the notice of pending application under s.30.208(3)(a), Stats. or the notice of public informational hearing under s.30.208(3)(c), Stats., or both. S. 30.208(3)(e), Stats., provides that if no public hearing is held, the Department must issue its decision within 30 days of the 30-day public comment period, and if a public hearing is held, the Department must issue its decision within 20 days after the 10-day period for public comment after the public hearing. S. 30.208(5)(bm), Stats., requires the Department to consider the date on which the department publishes a notice on its web site as the date of notice.

#### CONCLUSIONS OF LAW

1. The Department has authority under the above indicated Statutes and Administrative Codes, to issue a permit for the construction and maintenance of this project.

#### NOTICE OF APPEAL RIGHTS

If you believe that you have a right to challenge this decision, you should know that the Wisconsin statutes and administrative rules establish time periods within which requests to review Department decisions shall be filed. For judicial review of a decision pursuant to sections 227.52 and 227.53, Wis. Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to file your petition with the appropriate circuit court and serve the petition on the Department. Such a petition for judicial review shall name the Department of Natural Resources as the respondent.

To request a contested case hearing of any individual permit decision pursuant to section 30.209, Wis. Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to serve a petition for hearing on the Secretary of the Department of Natural Resources, P.O. Box 7921, Madison, WI, 53707-7921. The petition shall be in writing, shall be dated and signed by the petitioner, and shall include as an attachment a copy of the decision for which administrative review is sought. If you are not the applicant, you must simultaneously provide a copy of the petition to the applicant. If you wish to request a stay of the project, you

must provide information, as outlined below, to show that a stay is necessary to prevent significant adverse impacts or irreversible harm to the environment. If you are not the permit applicant, you must provide a copy of the petition to the permit applicant at the same time that you serve the petition on the Department.

**The filing of a request for a contested case hearing is not a prerequisite for judicial review and does not extend the 30 day period for filing a petition for judicial review.**

A request for contested case hearing must meet the requirements of section 30.209, Wis. Stats., and sections NR 2.03, 2.05, and 310.18, Wis. Admin. Code, and if the petitioner is not the applicant the petition must include the following information:

1. A description of the objection that is sufficiently specific to allow the department to determine which provisions of this section may be violated if the proposed permit or contract is allowed to proceed.
2. A description of the facts supporting the petition that is sufficiently specific to determine how the petitioner believes the project, as proposed, may result in a violation of Chapter 30, Wis. Stats;.
3. A commitment by the petitioner to appear at the administrative hearing and present information supporting the petitioner's objection.

If the petition contains a request for a stay of the project, the petition must also include information showing that a stay is necessary to prevent significant adverse impacts or irreversible harm to the environment.

Dated at Plymouth Service Center, Wisconsin on 09/18/2015.

STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES  
For the Secretary

By   
Kathi Kramasz  
Water Management Specialist