

RFB NO. 313077



CONSTRUCTION DOCUMENTS PROJECT MANUAL

DANE COUNTY DEPARTMENT OF PUBLIC WORKS,
HIGHWAY AND TRANSPORTATION

PUBLIC WORKS ENGINEERING DIVISION
1919 ALLIANT ENERGY CENTER WAY
MADISON, WISCONSIN 53713

REQUEST FOR BIDS NO. 313077 TIMBER SHELTER BRIGHAM COUNTY PARK BRIGHAM PARK 3160 COUNTY F BLUE MOUNDS, WISCONSIN

Due Date / Time: **TUESDAY, SEPTEMBER 10, 2013 / 2:00 P.M.**

Location: **PUBLIC WORKS OFFICE**

Performance / Payment Bond: **100% OF CONTRACT AMOUNT**

Bid Deposit: **5% OF BID AMOUNT**

FOR INFORMATION ON THIS REQUEST FOR BIDS, PLEASE CONTACT:

**TOM SRACIC, PROJECT ENGINEER
TELEPHONE NO.: 608/266-4475
FAX NO.: 608/267-1533
E-MAIL: SRACIC@COUNTYOFDANE.COM**

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DRAWINGS

To be printed to correct scale or size, plot sheets on 24" x 36" (D) paper.

- G1.0 TITLE SHEET
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LEGAL NOTICE

INVITATION TO BID

Dane County Public Works, Highway & Transportation Dept., 1919 Alliant Energy Center Way, Madison, WI 53713, will receive sealed Bids until:

2:00 P.M., TUESDAY, SEPTEMBER 10, 2013

REQUEST FOR BIDS NO. 313077

TIMBER SHELTERS BRIGHAM COUNTY PARK

BRIGHAM PARK

3160 COUNTY F

BLUE MOUNDS, WISCONSIN

Dane County is inviting Bids for construction services to build a Timber Construction shelter for the Dane County Parks Department. Work consists of site preparation, timber construction, concrete work, electrical work and metal roofing. Only firms with capabilities, experience and expertise with similar projects should obtain this packet and submit Bids.

Request for Bids package may be obtained after **2:00 p.m. on Monday, August 19, 2013** by downloading it from www.countyofdane.com/pwbids. Please call Tom Sracic, Project Engineer, at 608/266-4475, for any questions or additional information.

All Bidders must be a registered vendor with Dane County and pay an annual registration fee and must be pre-qualified as a Best Value Contractor before award of Contract. Complete Vendor Registration Form at www.danepurchasing.com/registration or obtain one by calling 608/266-4131. Complete Pre-qualification Application for Contractors at www.countyofdane.com/pwht/BVC_Application.aspx or obtain one by calling 608/266-4018.

A site tour for Bidders will be held on Wednesday, September 4, 2013 at 9:00 a.m. starting at Stewart Lake County Park, 3106 County Hwy JG, Mount Horeb, followed by Brigham County Park, 3160 County Hwy F, Blue Mounds. Bidders are not required to attend in order to bid, but it is recommended.

PUBLISH: AUGUST 19 & AUGUST 26, 2013 - WISCONSIN STATE JOURNAL
AUGUST 19 & AUGUST 26, 2013 - THE DAILY REPORTER

INSTRUCTIONS TO BIDDERS

**TIMBER SHELTER BRIGHAM COUNTY PARK
BRIGHAM PARK
3160 COUNTY F
BLUE MOUNDS, WISCONSIN**

1. SECURING DOCUMENTS

- A. Construction Documents may be obtained at:
Dane County Department of Public Works, Highway & Transportation
1919 Alliant Energy Center Way, Madison, Wisconsin 53713
608/266-4018
or at:
www.countyofdane.com/pwbids
- B. If Construction Documents are obtained from the Dane County web site, Bidder is responsible to check back regularly at the web site for Addenda.
- C. Deposit for Drawings and Specifications is not required.

2. BID REQUIREMENTS

- A. Bidder shall submit lump sum bid for providing all labor, equipment, tools and materials necessary to perform all Work described in Construction Documents. Only firms with capabilities, experience and expertise with similar projects should submit Bids.
- B. Envelope containing Bid shall be clearly marked as for this project (note title at top of page). Bids shall be delivered to:
Dane County Department of Public Works, Highway & Transportation
1919 Alliant Energy Center Way
Madison, Wisconsin 53713
- C. One (1) Bid Form shall be submitted with your Bid. Bid Form is provided with Construction Documents; no other form or letter shall be accepted.
- D. Bidders shall not add any conditions, escalator clauses or qualifying statements to Bid Form.
- E. Erasures or other changes to Bid must be explained or noted, and shall be accompanied by initials of bidder.
- F. Legally authorized official of bidder's organization shall sign Bids.
- G. Bidder's organization shall submit completed Fair Labor Practices Certification form, included in these Construction Documents.
- H. Bid Bond shall be made payable to Dane County in amount of five percent (5%) of bid amount. Bid Bond shall be either certified check or bid bond issued by surety licensed to conduct business in the State of Wisconsin. Successful bidder's Bid Bond shall be retained until Contract is signed and required Performance / Payment Bond is submitted.

Bids shall be binding on bidder for sixty (60) days after Bid Due Date. Bid Bond must be submitted with Bid.

- I. Successful bidder shall furnish and pay for Performance / Payment Bond as called for in Conditions of Contract.

3. INQUIRIES

- A. Written inquiries regarding intent of Construction Documents should be directed to:
Tom Sracic, Project Engineer
Dane County Department of Public Works, Highway & Transportation
1919 Alliant Energy Center Way, Madison, Wisconsin 53713
Fax: 608/267-1533
Email: sracic@countyofdane.com
- B. Bidders shall bring questions, discrepancies, omissions, conflicts or doubt as to meaning of any part of Construction Documents to attention of Department of Public Works, Highway & Transportation at least ten (10) days before due date for Bids. Prompt clarification of intent of Construction Documents shall be made available to bidders in form of Addendum. Bidder shall acknowledge all Addenda on Bid Form.
- C. Failure to request clarification of interpretation of Construction Documents shall not relieve bidders of their responsibilities to perform Work.

4. EXAMINATION OF SITE

- A. Coordinate site access activities with Parks Department Planner, Chris James, 608/235-2252.
- B. A bidders facility tour will be held on Wednesday, September 4, 2013 at 9 AM at Stewart Lake County Park, 3106 County Highway JG, Mount Horeb, followed by Brigham Park 3160 County Highway F, Blue Mounds. This tour will go until approximately 10:30 AM. Bidders are encouraged to attend this tour, however attendance is optional.

5. ALTERNATES

- A. Not used.

6. WITHDRAWAL OF BIDS

- A. Any bidder may withdraw their Bid any time prior to Bid Due Date. Withdrawn Bids shall be returned unopened.

7. BID DUE DATE

- A. See Legal Notice (advertisement).

8. COMMENCEMENT AND COMPLETION OF WORK

- A. Work shall commence starting September 23, 2013.
- B. Work shall be completed by June 1, 2014.

9. RESERVATION

- A. Dane County reserves the right to reject any or all Bids, to waive any informalities in the Bid, and to accept any Bid which shall be in the best interest of Dane County.

10. WORK BY OWNER

- A. This work will be accomplished by Owner or will be let under separate contracts and will not be included under this Contract:
 - 1. Electrical power to a pole near the new structure.

Name of Bidding Firm: _____

BID FORM

BID NO. 313077

**PROJECT: TIMBER SHELTER BRIGHAM COUNTY PARK
BRIGHAM PARK**

**TO: DANE COUNTY DEPARTMENT OF PUBLIC WORKS, HIGHWAY &
TRANSPORTATION PROJECT ENGINEER
1919 ALLIANT ENERGY CENTER WAY
MADISON, WISCONSIN 53713**

BASE BID - LUMP SUM:

Contractor to provide construction services to build a Timber Construction shelter for the Dane County Parks Department. Work consists of site preparation, timber milling and fabrication, timber construction, concrete work, electrical work and metal roofing. The undersigned, having examined the site where the Work is to be executed and having become familiar with local conditions affecting the cost of the Work and having carefully examined the Drawings and Specifications, all other Construction Documents and Addenda thereto prepared by Dane County Department of Public Works, Highway & Transportation hereby agrees to provide all labor, materials, equipment and services necessary for the complete and satisfactory execution of the entire Work, as specified in the Construction Documents, for the Base Bid stipulated sum of:

_____ and _____ /100 Dollars
Written Price

\$ _____
Numeric Price

Receipt of the following addenda and inclusion of their provisions in this Bid is hereby acknowledged:

Addendum No(s). _____ through _____

Dated _____

Dane County Public Works must have this project completed by June 1, 2014. Assuming this Work can be started by September 23, 2013, what dates can you commence and complete this job?

Commencement Date: _____ Completion Date: _____
(final, not substantial)

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

(Name of Corporation, Partnership or Person submitting Bid)

Select one of the following:

1. A corporation organized and existing under the laws of the State of _____, or
2. A partnership consisting of _____, or
3. A person conducting business as _____;

Of the City, Village, or Town of _____ of the State of _____.

I have examined and carefully prepared this Bid from the associated Construction Documents and have checked the same in detail before submitting this Bid; that I have full authority to make such statements and submit this Bid in (its) (their) (my) behalf; and that the said statements are true and correct. In signing this Bid, we also certify that we have not, either directly or indirectly, entered into any agreement or participated in any collusion or otherwise taken any action in restraint of free competition; that no attempt has been made to induce any other person or firm to submit or not to submit a Bid; that this Bid has been independently arrived at without collusion with any other bidder, competitor, or potential competitor; that this Bid has not been knowingly disclosed prior to the Bids Due Date to another bidder or competitor; that the above statement is accurate under penalty of perjury.

The undersigned further agrees to honor the Base Bid and the Alternate Bid(s) for 60 days from date of Award of Contract.

SIGNATURE: _____
(Bid is invalid without signature)

Print Name: _____ Date: _____

Title: _____

Address: _____

Telephone No.: _____ Fax No.: _____

Email Address: _____

Contact Person: _____

THIS PAGE IS FOR BIDDERS' REFERENCE AND NEED NOT BE SUBMITTED WITH BID FORM.

BID CHECK LIST:

These items **must** be included with Bid:

Bid Form

Bid Bond

Fair Labor Practices Certification

BIDDERS SHOULD BE AWARE OF THE FOLLOWING:

DANE COUNTY VENDOR REGISTRATION PROGRAM

Any person bidding on any County contract must be registered with the Dane County Purchasing Division & pay an annual registration fee. A contract will not be awarded to an unregistered vendor. Obtain a *Vendor Registration Form* by calling 608/266-4131 or complete a new form or renewal online at:

www.danepurchasing.com/registration

DANE COUNTY BEST VALUE CONTRACTING PRE-QUALIFICATION

Contractors must be pre-qualified as a Best Value Contractor with the Dane County Public Works Engineering Division before the award of contract. Obtain a *Best Value Contracting Application* by calling 608/266-4018 or complete one online at:

www.countyofdane.com/pwht/BVC_Application.aspx

EQUAL BENEFITS REQUIREMENT

By submitting a Bid, the contractor acknowledges that a condition of this contract is to provide equal benefits as required by Dane County Code of Ordinances Chapter 25.016. Contractor shall provide equal benefits as required by that Ordinance to all required employees during the term of the contract. Equal Benefits Compliance Payment Certification shall be submitted with final pay request. For more information:

www.danepurchasing.com/partner_benefit.aspx

FAIR LABOR PRACTICES CERTIFICATION

The undersigned, for and on behalf of the BIDDER, APPLICANT or PROPOSER named herein, certifies as follows:

- A. That he or she is an officer or duly authorized agent of the above-referenced BIDDER, APPLICANT or PROPOSER, which has a submitted a proposal, bid or application for a contract with the county of Dane.
- B. That BIDDER, APPLICANT or PROPOSER has (check one):

_____ not been found by the National Labor Relations Board (“NLRB”) or the Wisconsin Employment Relations Commission (“WERC”) to have violated any statute or regulation regarding labor standards or relations in the seven years prior to the signature date of this Certification.

_____ been found by the National Labor Relations Board (“NLRB”) or the Wisconsin Employment Relations Commission (“WERC”) to have violated any statute or regulation regarding labor standards or relations in the seven years prior to the signature date of this Certification.

Officer or Authorized Agent Signature _____
Date

Printed or Typed Name and Title

Printed or Typed Business Name

NOTE: You can find information regarding the violations described above at: www.nlr.gov and werc.wi.gov.

For reference, Dane County Ordinance 25.11(28)(a) is as follows:

(28) BIDDER RESPONSIBILITY. (a) Any bid, application or proposal for any contract with the county, including public works contracts regulated under chapter 40, shall include a certification indicating whether the bidder has been found by the National Labor Relations Board (NLRB) or the Wisconsin Employment Relations Committee (WERC) to have violated any statute or regulation regarding labor standards or relations within the last seven years. The purchasing manager shall investigate any such finding and make a recommendation to the committee, which shall determine whether the conduct resulting in the finding affects the bidder’s responsibility to perform the contract.

If you indicated that the NLRB or WERC have found you to have such a violation, you must include copies of any relevant information regarding such violation with your proposal, bid or application.



DANE COUNTY DEPARTMENT of PUBLIC WORKS, HIGHWAY and TRANSPORTATION

County Executive
Joseph T. Parisi

1919 Alliant Energy Center Way ♦ Madison, Wisconsin 53713
Phone: (608) 266-4018 ♦ FAX: (608) 267-1533

Commissioner / Director
Gerald J. Mandli

BEST VALUE CONTRACTING APPLICATION

CONTRACTORS / LICENSURE APPLICANTS

The Dane County Department of Public Works requires all contractors to be pre-qualified as a best value contractor with the County prior to being awarded a contract. In addition, the County pre-qualifies potential contractors and sub-contractors who wish to work on County contracts. Subcontractors must become pre-qualified ten (10) days prior to commencing work under any Dane County Public Works Contract. Potential subcontractors are urged to become pre-qualified as early as possible. This document shall be completed, properly executed, along with the necessary attachments and additional information that the County requires for the protection and welfare of the public in the performance of a County contract.

Contractors or subcontractors of any tier who attain pre-qualification status will retain that status for a period of two (2) years from the date of qualification. Contractors shall notify the Dane County Department of Public Works, Highway & Transportation within fifteen (15) days of any changes to its business or operations that are relevant to the pre-qualification application. Failure to do so could result in suspension, revocation of the contractor's pre-qualification, debarment from County contracts for up to three (3) years and / or other sanctions available under the law.

No contracts will be awarded for construction work performed on Dane County projects unless the contractor is currently approved as a Wisconsin Trade Trainer or has applied for approval as an Apprenticeship Trade Trainer to the Wisconsin Department of Workforce Development and agrees to an acceptable apprenticeship program. If you are not currently approved as a Wisconsin Trade Trainer, or have not applied for approval as an Apprenticeship Trade Trainer, please contact the Department of Workforce Development - Bureau of Apprenticeship Standards at 608/266-3133 or visit their web site at: dwd.wisconsin.gov/apprenticeship/.

EXEMPTIONS

- Contractors who employ less than five (5) apprenticeable trade workers are not required to pre-qualify.
- Contractors performing work that does not apply to an apprenticeable trade, as outlined in Appendix A.
- The contractor / subcontractor provides sufficient documentation to demonstrate one or more of the following:
 - apprentices are not available in a specific geographic area;
 - the applicable apprenticeship program is unsuitable or unavailable; or
 - there is a documented depression of the local construction market which prevents compliance.

SEC.	PROOF OF RESPONSIBILITY	CHECK IF APPLICABLE
1	Does your firm possess all technical qualifications and resources, including equipment, personnel and financial resources, necessary to perform the work required for any project or obtain the same through the use of responsible, pre-qualified subcontractors?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
2	Will your firm possess all valid, effective licenses, registrations or certificates required by federal, state, county, or local law, which are necessary for the type of work to be performed including, but not limited to, those for any type of trade work or specialty work?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
3	Will your firm meet all bonding requirements as required by applicable law or contract specifications?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
4	Will your firm meet all insurance requirements as required by applicable law or specifications, including general liability insurance, workers compensation insurance and unemployment insurance requirements?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
5	Will your firm maintain a substance abuse policy for employees hired for public works contracts that comply with Wis. Stats. Sec. 103.503?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
6	Does your firm acknowledge that it must pay all craft employees on public works projects the wage rates and benefits required under Section 66.0903 of the Wisconsin Statutes?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
7	Will your firm fully abide by the equal opportunity and affirmative action requirements of all applicable laws, including County ordinances?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
8	In the past three (3) years, has your firm had control or has another corporation, partnership or other business entity operating in the construction industry controlled it? If so, please attach a statement explaining the nature of the firm relationship?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
9	In the past three (3) years, has your firm had any type of business, contracting or trade license, certification or registration revoked or suspended?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
10	In the past three (3) years, has your firm been debarred by any federal, state or local government agency?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
11	In the past three (3) years, has your firm defaulted or failed to complete any contract?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
12	In the past three (3) years, has your firm committed a willful violation of federal, state or local government safety laws as determined by a final decision of a court or government agency authority.	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
13	In the past three (3) years, has your firm been in violation of any law relating to your contracting business where the penalty for such violation resulted in the imposition of a penalty greater than \$10,000?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
14	Is your firm Executive Order 108 precertified with the State of Wisconsin?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
15	Is your firm an active Wisconsin Trade Trainer as determined by the Wisconsin Bureau of Apprenticeship Standards?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
16	Is your firm exempt from being pre-qualified with Dane County?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach reason for exemption.
17	Does your firm acknowledge that in doing work under any County Public Works Contract, it will be required to use as subcontractors only those contractors that are also pre-qualified with the County or become so ten days prior to commencing work?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
18	Contractor has been in business less than one year?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
19	Is your firm a first time Contractor requesting a one time exemption, but, intend to comply on all future contracts and are taking steps typical of a "good faith" effort?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
20	Not applicable. My firm does not intend to work on Best Value Contracts. Note: Best Value Contracting is required to bid on most Public Works Contracts (if unclear, please call Jan Neitzel Knox 608-266-4029).	Yes: <input type="checkbox"/> No: <input type="checkbox"/>

SIGNATURE SECTION

Your firm's Officer, or the individual who would sign a bid and / or contract documents must sign this document.

I do hereby certify that all statements herein contained are true and correct to the best of my knowledge:

Signature

Date

Printed or Typed Name and Title

NAME AND ADDRESS OF CONTRACTOR	
Name of Firm:	
Address:	
City, State, Zip:	
Telephone Number:	
Fax Number:	
E-mail Address:	

REMEMBER!

Return all to forms and attachments, or questions to:

JAN NEITZEL KNOX
EMAIL: NEITZEL-KNOX@COUNTYOFDANE.COM
OFFICE: (608)266-4029, FAX: (608)267-1533

**DANE COUNTY DEPARTMENT OF PUBLIC WORKS,
HIGHWAY & TRANSPORTATION
1919 ALLIANT ENERGY CENTER WAY
MADISON, WI 53713**

APPENDIX A

APPRENTICEABLE TRADES

Bricklayer
Carpenter
Cement Mason (Concrete Finisher)
Cement Mason (Heavy Highway)
Construction Craft Laborer
Data Communications Installer
Electrician
Elevator Mechanic / Technician
Environmental Systems Technician / HVAC Service Technician / HVAC Install & Service
Glazier
Heavy Equipment Operator / Operating Engineer
Insulation Worker (Heat & Frost)
Iron Worker (Assembler, Metal Buildings)
Painter / Decorator
Plasterer
Plumber
Roofer / Waterproofer
Sheet Metal Worker
Sprinkler Fitter
Steamfitter (Service & Refrigeration)
Taper & Finisher
Telecommunications (Voice, Data & Video) Installer / Technician
Tile Setter

COUNTY OF DANE

PUBLIC WORKS CONSTRUCTION CONTRACT

Contract No. _____ Bid No. 313077

Authority: Res. _____, 2013-14

THIS CONTRACT, made and entered into as of the date by which authorized representatives of both parties have affixed their signatures, by and between the County of Dane (hereafter referred to as "COUNTY") and _____ (hereafter, "CONTRACTOR"), and

WITNESSETH:

WHEREAS, COUNTY, whose address is c/o Assistant Public Works Director, 1919 Alliant Energy Center Way, Madison, WI 53713, desires to have CONTRACTOR provide a Timber Construction Shelter at Brigham Park in Blue Mounds including Alternate Bids X, Y & Z (if applicable) ("the Project"); and

WHEREAS, CONTRACTOR, whose address is _____ is able and willing to construct the Project, in accordance with the Construction Documents;

NOW, THEREFORE, in consideration of the above premises and the mutual covenants of the parties hereinafter set forth, the receipt and sufficiency of which is acknowledged by each party for itself, COUNTY and CONTRACTOR do agree as follows:

1. CONTRACTOR agrees to construct, for the price of \$_____ the Project and at the CONTRACTOR'S own proper cost and expense to furnish all materials, supplies, machinery, equipment, tools, superintendence labor, insurance, and other accessories and services necessary to complete the Project in accordance with the conditions and prices stated in the Bid Form, Conditions of Contract, the drawings which include all maps, plats, plans, and other drawings and printed or written explanatory matter thereof, and the specifications therefore as prepared by General Engineering Company (hereinafter referred to as "the Architect / Engineer"), and as enumerated in the Project Manual Document Index, all of which are made a part hereof and collectively evidence and constitute the Contract.

2. COUNTY agrees to pay the CONTRACTOR in current funds for the performance of the Contract subject to additions and deductions, as provided in the Conditions of Contract, and to make payments on account thereof as provided in Article entitled, "Payments to Contractor" of the Conditions of Contract.

3. During the term of this Contract, CONTRACTOR agrees to take affirmative action to ensure equal employment opportunities. The CONTRACTOR agrees in accordance with Wisconsin Statute 111.321 and Chapter 19 of the Dane County Code of Ordinances not to discriminate on the basis of age, race, ethnicity, religion, color, gender, disability, marital status, sexual orientation, national origin, cultural differences, ancestry, physical appearance, arrest record or conviction record, military participation or membership in the national guard, state defense force or any other reserve component of the military forces of the United States, or political beliefs.

Such equal opportunity shall include, but not be limited to, the following: employment, upgrading, demotion, transfer, recruitment, advertising, layoff, termination, training, rates of pay, and any other form of compensation. CONTRACTOR agrees to post in conspicuous places, available to all employees and applicants for employment, notices setting forth the provisions of this paragraph.

4. CONTRACTOR shall file an Affirmative Action Plan with the Dane County Contract Compliance Officer in accord with Chapter 19 of the Dane County Code of Ordinances. CONTRACTOR must file such plan within fifteen (15) days of the effective date of this Contract. During the term of this Contract CONTRACTOR shall also provide copies of all announcements of employment opportunities to COUNTY'S Contract Compliance Office, and shall report annually the number of persons, by race, ethnicity, gender, and disability status, which apply for employment and, similarly classified, the number hired and number rejected.

5. During the term of this Contract, all solicitations for employment placed on CONTRACTOR'S behalf shall include a statement to the effect that CONTRACTOR is an "Equal Opportunity Employer."

6. CONTRACTOR agrees to comply with provisions of Chapter 25.016 of the Dane County Code of Ordinances, which pertains to domestic partnership benefits.

7. CONTRACTOR agrees to furnish all information and reports required by COUNTY'S Contract Compliance Officer as the same relate to affirmative action and nondiscrimination, which may include any books, records, or accounts deemed appropriate to determine compliance with Chapter 19, Dane County Code of Ordinances, and the provisions of this Contract.

8. CONTRACTOR agrees that all persons employed by CONTRACTOR or any subcontractor shall be paid no less than the minimum wage established under Chapter 40, Subchapter II, Dane County Code of Ordinances. CONTRACTOR agrees to abide by and comply with the provisions of Chapter 40, Subchapter II of the Dane County Code of Ordinances, and said Subchapter is fully incorporated herein by reference.

9. This Contract is intended to be a Contract solely between the parties hereto and for their benefit only. No part of this Contract shall be construed to add to, supplement, amend, abridge or repeal existing rights, benefits or privileges of any third party or parties including, but not limited to, employees of either of the parties.

10. The entire agreement of the parties is contained herein and this Contract supersedes any and all oral agreements and negotiations between the parties relating to the subject matter hereof. The parties expressly agree that the express terms of this Contract shall not be amended in any fashion except in writing, executed by both parties.

11. CONTRACTOR must be pre-qualified as a Best Value Contractor with Dane County Public Works Engineering Division before award of Contract. Subcontractors must be pre-qualified ten (10) days prior to commencing Work under this Contract.

IN WITNESS WHEREOF, COUNTY and CONTRACTOR, by their respective authorized agents, have caused this Contract and its Schedules to be executed, effective as of the date by which all parties hereto have affixed their respective signatures, as indicated below.

* * * * *

FOR CONTRACTOR:

Signature Date

Printed or Typed Name and Title

Signature Date

Printed or Typed Name and Title

NOTE: If CONTRACTOR is a corporation, Secretary should attest. In accordance with IRS Regulations, unincorporated entities are required to provide either their Social Security or Employer Number in order to receive payment for services rendered.

* * * * *

This Contract is not valid or effectual for any purpose until approved by the appropriate authority designated below, and no work is authorized until the CONTRACTOR has been given notice to proceed by COUNTY'S Assistant Public Works Director.

FOR COUNTY:

Joseph T. Parisi, County Executive Date

Scott McDonell, County Clerk Date

THE AMERICAN INSTITUTE OF ARCHITECTS



AIA Document A310

Bid Bond

Bond No.

KNOW ALL MEN BY THESE PRESENTS, that we (Here insert full name and address or legal title of Contractor)

as Principal, hereinafter called the Principal, and (Here insert full name and address or legal title of Surety)

a corporation duly organized under the laws of the State of WI as Surety, hereinafter called the Surety, are held and firmly bound unto (Here insert full name and address or legal title of Owner)

as Obligee, hereinafter called Obligee, in the sum of () Percent of total amount bid Dollars (\$) Percent of attached bid.

For the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for Project No.: (Here insert full name, address, and description of project)

NOW, THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

Signed and sealed this day of , 20 .

(Principal) (Seal)
(Witness)
(Title)
(Surety) (Seal)
(Witness)
ATTORNEY-IN-FACT

THE AMERICAN INSTITUTE OF ARCHITECTS



Bond No. _____

AIA Document A312

Performance Bond

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

CONTRACTOR (Name and Address):

SURETY (Name and Principal Place of Business):

OWNER (Name and Address):

CONSTRUCTION CONTRACT
Date:
Amount: \$
Description (Name and Location):

BOND

Date (Not earlier than Construction Contract Date):

Amount: \$

Modifications to this Bond:

None

See Page 3

CONTRACTOR AS PRINCIPAL
COMPANY: (Corporate Seal)

SURETY COMPANY:
(Corporate Seal)

Signature: _____
Name and Title:

Signature: _____
Name and Title:

Attorney-in-Fact

(Any additional signatures appear on page 3)

FOR INFORMATION ONLY-Name, Address and Telephone
AGENT OR BROKER:

OWNER'S REPRESENTATIVE (Architect,
Engineer or other party):

1. The Contractor and the 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 to participate in conferences as provided in Subparagraph 3.1.

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

3.1 The Owner has notified the Contractor and the Surety at its address described in Paragraph 10 below that the Owner is considering declaring a Contractor Default and has requested and attempted to arrange a conference with the Contractor and the Surety to be held not later than fifteen days after receipt of such notice to discuss methods of performing the Construction Contract. 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; and

3.2 The Owner has declared a Contractor Default and formally terminated the Contractor's right to complete the contract. Such Contractor Default shall not be declared earlier than twenty days after the Contractor and the Surety have received notice as provided in Subparagraph 3.1; and

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

4. 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:

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

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

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

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

1. After investigation, determine the amount for

which it may be liable to the Owner and, as soon as practicable after the amount is determined, tender payment therefor to the Owner; or

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

5. If the Surety does not proceed as provided in Paragraph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond fifteen 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 Subparagraph 4.4, and the Owner refuses the payment tendered 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.

6. After the Owner has terminated the Contractor's right to complete the Construction Contract, and if the Surety elects to act under Subparagraph 4.1, 4.2, or 4.3 above, 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. To the limit of the amount of this Bond, but subject to commitment by the Owner of the Balance of the Contract Price to mitigation of costs and damages on the Construction Contract, the Surety is obligated without duplication for:

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

6.2 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 4; and

6.3 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.

7. 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, or successors.

8. 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.

9. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after Contractor Default or within two years after 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 period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

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

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

12 DEFINITIONS

12.1 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 to the Contractor of 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.

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

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

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

MODIFICATIONS TO THIS BOND ARE AS FOLLOWS:

SAMPLE

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL
Company: (Corporate Seal)

SURETY
Company: (Corporate Seal)

Signature: _____
Name and Title:
Address:

Signature: _____
Name and Title:
Address:

THE AMERICAN INSTITUTE OF ARCHITECTS



Bond No. _____

AIA Document A312

Payment Bond

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

CONTRACTOR (Name and Address):

SURETY (Name and Principal Place of Business):

OWNER (Name and Address):

CONSTRUCTION CONTRACT
Date:
Amount: \$
Description (Name and Location):

SAMPLE

BOND

Date (Not earlier than Construction Contract Date):

Amount: \$

Modifications to this Bond:

[] None

[] See Page 6

CONTRACTOR AS PRINCIPAL
COMPANY: (Corporate Seal)

SURETY COMPANY:
(Corporate Seal)

Signature: _____
Name and Title:

Signature: _____
Name and Title:
Attorney-in-Fact

(Any additional signatures appear on page 6)

FOR INFORMATION ONLY-Name, Address and Telephone
AGENT OR BROKER:

OWNER'S REPRESENTATIVE (Architect,
Engineer or other party):

1. The Contractor and the 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.
2. With respect to the Owner, this obligation shall be null and void if the Contractor:
 - 2.1 Promptly makes payment, directly, or indirectly, for all sums due Claimants, and
 - 2.2 Defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity whose claim, demand, lien or suit is for the payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, provided the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 12) of any claims, demands, liens, or suits and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety, and provided there is no Owner Default.
3. With respect to Claimants, this obligation shall be null and void if the Contractor promptly makes payment, directly or indirectly, for all sums due.
4. The Surety shall have no obligation to Claimants under this Bond until:
 - 4.1 Claimants who are employed by or have a direct contract with the Contractor have given notice to the Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to the Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.
 - 4.2 Claimants who do not have a direct contract with the Contractor:
 1. Have furnished written notice to the Contractor and sent a copy, or notice thereof, to the Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials were furnished or supplied or for whom the labor was done or performed; and
 2. Have either received a rejection in whole or in part from the Contractor, or not received within 30 days of furnishing the above notice any communication from the Contractor by which the Contractor has indicated the claim will be paid directly or indirectly; and
 3. Not having been paid within the above 30 days, have sent a written notice to the Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to the Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to the Contractor.
5. If a notice required by Paragraph 4 is given by the Owner to the Contractor or to the Surety, that is sufficient compliance.
6. When the Claimant has satisfied the conditions of Paragraph 4, the Surety shall promptly and at the Surety's expense take the following actions:
 - 6.1 Send an answer to the Claimant, with a copy to the Owner, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.
 - 6.2 Pay or arrange for payment of any undisputed amounts.
7. The Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.
8. 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 the Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
9. 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 payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.
10. 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. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the work or part of the work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by Subparagraph 4.1 or Clause 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
12. Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the signature page. Actual receipt of notice by Surety, the Owner or the Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.
13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
14. Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor

shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15. DEFINITIONS

15.1 Claimant: An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of 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.

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

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

MODIFICATIONS TO THIS BOND ARE AS FOLLOWS:

SAMPLE

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL
Company: (Corporate Seal)

SURETY
Company: (Corporate Seal)

Signature: _____
Name and Title:
Address:

Signature: _____
Name and Title:
Address:

EQUAL BENEFITS COMPLIANCE PAYMENT CERTIFICATION

PURPOSE

25.016(8) of the Dane County Ordinance requires that each contractor receiving payment for contracted services must certify that he or she has complied fully with the requirements of Chapter 25.016 “Equal Benefits Requirement” of the Dane County Ordinances. Such certification must be submitted prior to the final payment on the contract.

This form should be included with a copy of the final contract invoice forwarded to your contract representative at Dane County.

CERTIFICATION

I, _____ certify that
Printed or Typed Name and Title

Printed or Typed Name of Contractor

has complied fully with the requirements of Chapter 25.016 of the Dane County Ordinances “Equal Benefits Requirements”.

Signed _____

Date _____

For questions on this form, please contact Chuck Hicklin at 608-266-4109 or your contract representative at Dane County.

CONDITIONS OF CONTRACT

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1. BIDS AND QUOTATIONS

- A. **Addressing of Bids.** Bids shall be addressed to the attention of Public Works Engineering Division and received at the Dane County Department of Public Works, Highway & Transportation, 1919 Alliant Energy Center Way, Madison, WI 53713, on or before the local time and date specified herein for the Bid Due Date. Seal all bids in envelopes and clearly mark the front with bid number and a reference to the specified contents of the bid. All uses of the term “County” in the Construction Documents shall mean Dane County.
- B. **Only One Copy Required.** Unless otherwise specified, only one copy of a bid or quotation on prescribed Bid Form will be required.
- C. **Additional Data with Bid.** Bidder may submit, on the firm’s letterhead only, additional data and information deemed advantageous to the County. The County shall hold optional the consideration of such data and information.
- D. **More than One Bid.** Bidders desiring to submit more than one bid may do so provided such additional bid or bids are properly submitted on the Dane County Department of Public Works, Highway & Transportation’s Bid Form. Obtain extra sets of Construction Documents from the Dane County Department of Public Works, Highway & Transportation. All uses of the term “Department” in the Construction Documents shall mean the Department of Public Works, Highway & Transportation, which is a unit of Dane County government.
- E. **Withdrawal or Late Bids.** The County will not accept formal bids, amendments thereto, or requests for withdrawal of a bid or any part thereof, after the time of Bid Due Date.
- F. **Preparation and Submission.** All written bids, unless otherwise provided for, must be submitted on and in accordance with forms provided by the County properly signed in ink. Bids not signed by hand are not accepted. Bidders must register in advance with the Purchasing Division.
- G. **Products by Name.** Intention of Specifications of products by name is to be descriptive of quality, workmanship, finish, function and approximate characteristics desired; intention is not necessarily restriction. Consideration of products substitution for those named is possible, provided the substitute offered is, in the opinion of the Dane County Public Works

Project Engineer, equal or superior in quality, workmanship, finish, function and approximate characteristics to that specified in the Project Manual Specifications listed herein.

- H. **Visitation of Sites.** Bidder shall visit the site(s) that will receive the intended work or installation, and in so doing, be held responsible for a job deemed satisfactory by the County after completion of the Work or installation. No additional compensation shall be allowed for any condition of which bidder could have been informed.
- I. **Completeness.** Supply all information required by Construction Documents to constitute a regular bid. This shall include:
 - 1. Completed Bid Form.
 - 2. Completed Fair Labor Practices Certification.
 - 3. Completed Bid Bond.
- J. **Bids Binding Sixty (60) Days.** Unless otherwise specified all formal bids submitted shall be binding for sixty (60) calendar days following Bid Due Date.
- K. **Conditional Bids.** Qualified bids are subject to complete rejection, or partial rejection.
- L. **All or Part.** Bids or quotations may be considered and award made for all or any part of total quantities as specified in the Construction Documents.
- M. **Errors.** Unit bid price shall govern when extending total prices has errors.. Carelessness in quoting prices or in preparation of bid otherwise, will not relieve the bidder. Explain all erasures in bids and include signature of bidder.
- N. **Regulation by State Statutes.** The bidding and letting of contracts are subject to provisions of Wisconsin Statutes 59.52(29) and 66.0901 and all subsequent sections and amendments thereof.
- O. **Bidders Present.** The Bid Due Date is the time fixed for the opening of formal bids. The Bids' contents will be made public for the information of bidders and others properly interested, who may be present either in person or by representative. Bidders are encouraged to attend all openings, and to offer constructive suggestions for improvements to bid format or ways in which County can realize greater savings.
- P. **Taxes.** Contractor shall pay applicable State and local sales taxes.

2. GUARANTEE AND BOND

- A. **Bid Bond / Guarantee.** A Bid Bond shall accompany Bids, which shall be either a flat sum or a percentage figure as shown on the Project Manual Cover. This Bid Bond shall serve as a warrant that the successful bidder will fulfill the terms of the bid within the time limit as indicated in the bid after notice of award by the Dane County. The Bid Bond may be a certified bank check (note: uncertified checks will not be acceptable), a cashier's check or a United State money order payable to the order of the Treasurer of Dane County; or on a Bid Bond with corporate surety authorized to do business in the State of Wisconsin and a warranty of attorney to confess judgment thereon attached thereto. The County will return negotiable Bid Bonds to unsuccessful bidders after awarding of bid. The County shall return a check held from a Contractor after satisfactory completion of the Contract or after receipt

by the County of a Performance Bond from the Contractor, if one is required. Surety Bid Bonds will not be returned unless specifically requested by individual bidders.

- B. **Guarantor Liability.** When guarantee is required, failure of bidder to furnish an acceptable Performance Bond (Article 2.C.) within twenty (20) days after receipt of notice of award shall render the guarantor liable to the County. Bids covered by certified check or bond such security shall become the absolute property of the County and shall be deposited with the County Treasurer for the benefit of the County as liquidated damages. The County shall forthwith proceed to collect on the Bid Bond.
- C. **Performance / Payment Bond.** When required, file a guarantee that the successful bidder will faithfully perform the obligations of the bid as accepted. Such guarantee must be a bond complying with Wisconsin Statute 779.14 with corporate surety authorized to do business in this State, and that the Contractor or subcontractors will be responsible for all claims for injuries to persons or damages to property or premises arising out of or in connection with their operations prior to the acceptance of the finished work or supplies, and that they will promptly make payments to all persons supplying them with labor or materials in the execution of the Work provided for in the Contract; guarantee to indemnify, hold harmless and defend Dane County, its boards, commissions, agencies, officers, employees and representatives from all costs, damages and expenses growing out of or by reason of the successful bidder's failure to comply and perform the Work and complete the Contract in accordance with the Construction Documents; attach thereto a warrant of attorney authorizing the confession of judgment thereon for the benefit of the County.

3. SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- A. Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a subcontractor, sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.
- B. Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.
- C. Samples are physical examples that illustrate materials, equipment or workmanship and establish standards to compare the Work.
- D. Shop Drawings, Product Data, Samples and similar submittals are not Construction Documents. The purpose of their submittal is to demonstrate for those portions of the Work for which submittals are required the way the Contractor proposes to conform to the information given and the design concept expressed in the Construction Documents.
- E. The Contractor shall review, approve and submit to the Public Works Project Engineer Shop Drawings, Product Data, Samples and similar submittals required by the Construction Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the County or of separate contractors. Submittals made by the Contractor not required by the Construction Documents, may be returned without action.
- F. The Contractor shall perform no portion of the Work requiring submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the Public Works Project Engineer has approved the respective submittal. Such Work shall be in accordance with approved submittals.

- G. By approving and submitting, Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents that the Contractor has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Construction Documents.
- H. The Contractor shall not be relieved of responsibility for deviations from requirements of the Construction Documents by the Public Works Project Engineer's approval of Shop Drawings, Product Data, Samples and similar submittals unless the Contractor has specifically informed the Public Works Project Engineer in writing of such deviation at the time of submittal and the Public Works Project Engineer has given written approval to the specific deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Sample or similar submittals by the Public Works Project Engineer's approval thereof.
- I. The Contractor shall in writing direct specific attention to revised and / or resubmitted Shop Drawings, Product Data, Samples or similar submittals that were not requested by the Architect / Engineer or the Public Works Project Engineer on previous submittals.
- J. Unless specified otherwise, Contractor shall submit three (3) copies of all Shop Drawings, Product Data, Samples or similar submittals for each submission, until receiving final approval. After final approval, provide five (5) additional copies for distribution and such other copies as may be required.

4. AWARDS

- A. **Lowest Responsible Bidder.** Award will be to the lowest responsible bidder conforming to Construction Documents or on the most advantageous bid to the County.
- B. **Other Considerations.** Quantities involved, time of delivery, purpose for which required, competency of bidder, the ability to render satisfactory service and past performance will be considered in determining responsibility.
- C. **Rejection of Bids.** The County reserves the right to reject any or all bids or quotations in whole or in part and to award by items, parts of items, or by any aggregate group of items specified. The County reserves also the right to waive technical defects when in its judgment the best interests of the County thereby will be served.
- D. **Notice of Acceptance.** Sufficient notification of acceptance of bid will be written notice of award to a bidder in the form of a Purchase Order or similar, mailed or delivered to the address shown on the Bid Form.
- E. **Tie Bids.** If two or more bidders submit identical bids, the decision of the County to make award to one or more of such bidders shall be final. Cash discount will be taken into consideration determining an award. Also, see Article 7.A. IDENTICAL BIDDING, Antitrust Laws.
- F. **Qualifying Bidders.** Prior to solicitation and / or awarding of bid, the County may require submission by bidder of complete financial statement and questionnaire describing bidder's financial ability and experience in performance of similar work. Refer to Instructions to Bidders.

- G. **Disqualification.** Awards will not be made to any person, firm or company in default of a Contract with the County, or to any bidder having as its sales agent or representative or as a member of the firm, any individual previously in default or guilty of misrepresentation.
- H. **Bid Results.** Bidders may secure information pertaining to results of bids by visiting the County Purchasing Division Office Monday through Friday, between 7:45 a.m. and 4:30 p.m.

5. CONTRACT PROVISIONS

- A. **Acceptance Constitutes Contract.** Written acceptance by the Public Works Project Engineer of a proposal for services shall constitute a Contract, which shall bind the bidder to perform the Work as detailed in the Construction Documents, for the bid amount and in accordance with all conditions of said accepted bid. A formal Contract containing all provisions of the Contract signed by both parties shall be used when required by the Public Works Project Engineer.
- B. **Local Restrictions and Permits.** All work shall be done according to applicable laws, ordinances and codes. The Contractor shall procure and pay for all required permits for permanent or temporary work.
- C. **Payment of Invoices.** Payment may be made only after inspection and acceptance by the using agency and approval by the Dane County Public Works Project Engineer, and, where required by ordinances, approval by the Dane County Board of Supervisors. If materials or equipment were delivered, constructed, erected, installed or tested on site, payment shall be made based on ninety-five percent (95%) of the value of all Work performed up to fifty percent (50%) of scheduled values less the total of previous payments. Authorized extra work will be included in progress payments. Payment of balances will be made only after approval and final acceptance by the County in consideration and elimination of the possibilities of imperfect work, faulty materials or equipment, liens that have been filed, or if evidence indicates the possible filing of claims.
- D. **Contract Alterations.** No alterations or variables in the terms of a contract shall be valid or binding upon the County unless made in writing and signed by the Purchasing Agent or authorized agent.
- E. **Assignments.** No contract may be assigned, sublet or transferred without written consent of the Public Works Project Engineer.
- F. **Cancellations.** A contract may be canceled or voided by the Public Works Project Engineer upon non-performance or violation of contract provisions, and an award made to the next low bidder or articles specified may be purchased on the open market. In either event, the defaulting contractor (or their surety) shall be liable to Dane County for costs to the County in excess of the defaulting contractor's contract prices.
- G. **Right of the Department to Terminate Contract.**
 - 1. In the event that the Contractor or any subcontractors violate any of the provisions of this Contract, the County may serve written notice upon the Contractor and the Surety of its intention to terminate the Contract. Such notice to contain the reasons for such intention to terminate the Contract, and unless within ten (10) days after the serving of such notice upon the Contractor, such violation or delay shall cease and satisfactory arrangement or correction be made, the Contract shall, upon the expiration of said ten (10) days, cease and terminate.

2. In the event of any such termination, the County shall immediately serve notice thereof upon the Surety and the Contractor, and the Surety shall have the right to take over and perform the Contract subject to County's approval. However, if the Surety does not commence performance thereof within ten (10) days from the date of the mailing to such Surety of notice of termination, the County may take over the Work and prosecute the same to completion by Contract or by force account for the account and at the expense of the Contractor. The Contractor and Surety shall be liable to the County for any excess cost occasioned the County thereby, and in such event the County may take possession of and utilize in completing the Work, such equipment, materials and / or supplies as may be on the site of the Work and therefore necessary.

H. **Non-Liability.** The Contractor shall not be liable in damages for delay in shipment or failure to deliver when such delay or failure is the result of fire, flood, strike, the transporting carrier, act of God, act of government, act of an alien enemy or by any other circumstances which, in the Public Works Project Engineer's opinion, is beyond the control of the Contractor. Under such circumstances, however, the Public Works Project Engineer may in the discretion, cancel the Contract.

I. **Quality Assurance.** Inspection of equipment, materials and / or supplies shall be made by or at the direction of the County or the Agency to which the goods are delivered, and any articles supplied that are defective, or fails in any way to meet Specifications or other requirements of the Contract, will be rejected. The Public Works Project Engineer shall direct all required laboratory tests. The decision of the Public Works Project Engineer on acceptance shall be final.

J. **Time for Completion.** The Contractor agrees that the Work shall be prosecuted regularly and diligently and complete the entire project as stated in the Construction Documents.

K. **Changes in the Work.**

1. Except in cases of emergency, no changes in the Work covered by the approved Construction Documents shall be made without having prior written approval of the Department. Charges or credits for the work covered by the approved change shall be determined by one of the following methods:
 - a) Unit bid prices previously approved.
 - b) An agreed lump sum based on actual cost of:
 - 1) Labor, including foremen, and all fringe benefits that are associated with their wages;
 - 2) Materials entering permanently into the Work;
 - 3) The ownership or rental cost of construction plant and equipment during the time of use on the extra work;
 - 4) Power and consumable supplies for the operation of construction or power equipment;
 - 5) Workmen's Compensation Insurance, Contractor's Public Liability and Property Damage Insurance, and Comprehensive Automobile Liability Insurance;
 - 6) Social Security, pension and unemployment contributions;
 - 7) To the cost under K.1.b) 2), there shall be added a fixed fee to be agreed upon, but not to exceed fifteen percent (15%) of the actual cost of the Work performed with their own labor force; the fee shall be compensation to cover the cost of supervision, overhead, bond, profit and any other general expense;
 - 8) On that portion of the work under K.1.b) 2) done under subcontract, the Contractor may include not over seven and one-half percent (7½%) for supervision, overhead, bond, profit and any other general expense; and

- 9) The Contractor shall keep and present in such form as directed, a correct amount of the cost together with such supporting vouchers as may be required by the Department.
 - c) Cost-Plus Work, with a not-to-exceed dollar limit, based on actual cost of:
 - 1) Labor, including foremen, and all fringe benefits that are associated with their wages;
 - 2) Materials entering permanently into the Work;
 - 3) The ownership or rental cost of construction plant and equipment during the time of use on the extra work. (Rental cost cannot exceed fifty percent (50%) replacement value of rented equipment);
 - 4) Power and consumable supplies for the operation of construction or power equipment;
 - 5) Workmen's Compensation, Contractor's Public Liability and Property Damage Insurance, and Comprehensive Automobile Liability Insurance;
 - 6) Social Security, pension and unemployment contributions;
 - 7) To the cost under K.1.c) 3) there shall be added a fixed fee to be agreed upon, but not to exceed fifteen percent (15%) of the actual cost of the Work performed with their own labor force; the fee shall be compensation to cover the cost of supervision, overhead, bond, profit, and any other general expense;
 - 8) On that portion of the work under K.1.c) 3) done under subcontract, the Contractor may include not over seven and one-half percent (7½%) for supervision, overhead, bond, profit, and any other general expense; and
 - 9) The Contractor shall keep and present in such form as directed, a correct amount of the cost together with such supporting vouchers as may be required by the Department.
 2. If the Contractor claims that by any instructions given by the Architect / Engineer, the Department, by drawings or otherwise, regarding the performance of the Work or the furnishing of material under the Contract, involves extra cost, the Contractor shall give the Department written notice thereof within two weeks after the receipt of such instructions and in any event before proceeding to execute the work, unless delay in executing the work would endanger life or property.
 3. No claim for extra work or cost shall be allowed unless the same was done in pursuance of a written order of the Architect / Engineer and approved by the Department, as previously mentioned, and the claim presented with the payment request submitted after the changed or extra work is completed.
 4. Negotiation of cost for a change in the Work shall not be cause for the Contractor to delay prosecution of the Work if the Contractor has been authorized in writing by the Public Works Project Engineer to proceed.
- L. Payments to Contractor.**
1. The County will make partial payments to the Contractor for the value, proportionate to the amount of the Contract, of all labor and material incorporated in the work during the preceding calendar month upon receipt of approved Application and Certificate of Payment from the Architect / Engineer and approval of the Department.
 2. The Contractor shall submit to the Architect / Engineer an Application and Certificate of Payment. The Architect / Engineer will review and approve this before sending it to the Public Works Project Engineer. Evidence may be required, and supplied on demand, that supports the request and the Contractor's right to the payment claimed.

3. Request for payment for preparatory work and materials delivered and suitably stored at the site to be incorporated into the Work at some future period, will be given due consideration. Requests involving materials stored off the site, may be rejected; however, if deemed essential for reasons of job progress, protection, or other sufficient cause, requests will be considered conditional upon the submission by the Contractor of bills of sale and such other procedures as will adequately protect the County's interest such as storage in a bonded warehouse with adequate coverage. If there is any error in a payment, the Contractor is obligated to notify the Department immediately, but no longer than ten (10) days from receipt of payment.
4. Payments by the County will be due within forty-five (45) days after receipt by the Department of a certified request.
5. Five percent (5%) of each request for certification will be retained until final completion and acceptance of all the Work covered by the Contract. However, any time after fifty percent (50%) of the Work has been furnished and installed at the site, the remaining payments will be made in full if the Architect / Engineer and Public Works Project Engineer find that the progress of the Work corresponds with the construction progress schedule. If the Architect / Engineer and Public Works Project Engineer find that the progress of the Work does not correspond with the construction progress schedule, up to ten percent (10%) of each request for payment may be retained for the Work completed.
6. All material and work covered by partial payments made shall become the sole property of the County. This provision shall not be construed as relieving the Contractor from the sole responsibility for the care and protection of materials and work upon which payments have been made or the restoration of any damaged work, or as a waiver of the right of the County to require the fulfillment of all of the terms of the Contract.
7. Final payment will be made within sixty (60) days after final completion of the Work, and will constitute acceptance thereof. Submit Equal Benefits Compliance Payment Certification with final pay request. Payment may be denied if Certification is not included.
8. On completion and acceptance of each separate division of the Contract, on which the stated price is separated in the Contract, payment may be made in full, including retained percentages thereon, less authorized deductions.
9. Every contractor engaged in performance of any contract for Department of Public Works, Highway & Transportation shall submit to this Department, as requested and with final application for payment for work under said contract, affidavit(s) as required to prove that all debts and claims against this Work are paid in full or otherwise satisfied, and give final evidence of release of all liens against the Work and County. If Wisconsin Prevailing Wage Rate Determination is required for this Work, use "Prime Contractor Affidavit of Compliance With Prevailing Wage Rate Determination" and "Agent or Subcontractor Affidavit of Compliance With Prevailing Wage Rate Determination" (if applicable). If Wisconsin Prevailing Wage Rate Determination is not required for this Work, use "Dane County, Wisconsin Contractor Wage Affidavit". Forms of such affidavits are included in Supplementary Conditions.

M. Withholding of Payments.

1. The County, after having served written notice on the said Contractor, may either pay directly any unpaid bills of which the Department has written notice, or withhold from the Contractor's unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all

liabilities have been fully discharged. Then payment to the Contractor shall be resumed in accordance with the terms of this Contract, but in no event shall these provisions be construed to impose any obligations upon the County to either the Contractor or the Contractor's Surety.

2. In paying any unpaid bills of the Contractor, the County shall be deemed the Agent of the Contractor, and any payment so made by the County, shall be considered as a payment made under the Contract by the County to the Contractor and the County shall not be liable to the Contractor for any such payment made in good faith.
3. Contractor shall indemnify, hold harmless and defend Dane County, its boards, commissions, agencies, officers, employees and representatives from all claims growing out of the lawful demands of subcontractors, laborers, workmen, mechanics, material men, and furnishers of machinery and parts thereof, equipment, power tools, and all supplies, including commissary, incurred in the performance of this Contract.
4. At the Department's request, the Contractor shall furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged or waived.

N. Acceptance of Final Payment as Release.

1. The making of final payment shall constitute a waiver of all claims by the County except those arising from:
 - a) Unsettled lien;
 - b) Faulty or defective work appearing after substantial completion;
 - c) Failure of the work to comply with the requirements of the Construction Documents; or
 - d) Terms of any special guarantees required by the Construction Documents.
2. The acceptance of final payment shall constitute a waiver of all claims by the Contractor.

O. Lien Waivers. The Contractor warrants that title to all work covered by an application for Payment will pass to the County no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all work for which Certificates for Payment have been previously issued and payments received from the County shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, subcontractor, material suppliers, or other persons or entities making a claim by reason of having provide labor, materials and equipment related to the Work.

P. Use and Occupancy Prior to Acceptance. The Contractor agrees to the use and occupancy of a portion or unit of the project before formal acceptance by the Department, provided the Department:

1. Secures written consent of the Contractor; except when in the opinion of the Department's Public Works Project Engineer, the Contractor is chargeable with unwarranted delay in final cleanup of punch list items or other Contract requirements;
2. Secures endorsement from the insurance carrier and consent of the Surety permitting occupancy of the building or use of the project during the remaining period of construction, or, secures consent of the Surety;
3. Assumes all costs and maintenance of heat, electricity and water; and
4. Accepts all work completed within that portion or unit of the project to be occupied, at time of occupancy.

Q. Correction of Work.

1. All work, all materials whether incorporated in the Work or not, and all processes of manufacture shall at all times and places be subject to the inspection of the Architect / Engineer and the Public Works Project Engineer who shall be the judge of the quality and suitability of the work, materials, and processes of manufacture for the purposes for which they are used. Should they fail to meet the Architect / Engineer's and the Public Works Project Engineer's approval they shall be reconstructed, made good, replaced or corrected, as the case may be, by the Contractor at the Contractor's expense. Rejected material shall immediately be removed from the site.
2. If the Contractor defaults or neglects to carry out the Work in accordance with the Construction Documents or fails to perform any provision of the Contract, the Department may, after ten (10) days written notice to the Contractor and without prejudice to any other remedy the County may have, make good such deficiencies. In such case, an appropriate Change Order shall be issued deducting from the payments then or thereafter due the Contractor the cost of correcting such deficiencies, including the cost of the Architect / Engineer's additional services made necessary by such default, neglect or failure.

6. GENERAL GUARANTEE

- A. Neither the final certificate of payment nor any provision in the Construction Documents nor partial or entire occupancy of the premises by the County shall constitute an acceptance of work not done in accordance with the Construction Documents or relieve the Contractor of liability in respect to any expressed warranties or responsibility for faulty materials or workmanship.
 1. In no event shall the making of any payment required by the Contract constitute or be construed as a waiver by County of any breach of the covenants of the Contract or a waiver of any default of Contractor and the making of any such payment by County while any such default or breach shall exist shall in no way impair or prejudice the right of County with respect to recovery of damages or other remedy as a result of such breach or default.
- B. The Contractor shall remedy and make good all defective workmanship and materials and pay for any damage to other work resulting therefrom, which appear within a period of one year from the date of substantial completion, providing such defects are not clearly due to abuse or misuse by the County. The Department will give notice of observed defects with reasonable promptness.
- C. Guarantee on work executed after certified date of substantial completion will begin on the date when such work is inspected and approved by the Architect / Engineer and the Public Works Project Engineer.
- D. Where guarantees or warranties are required in sections of Construction Documents for periods in excess of one year, such longer terms shall apply; however, the Contractor's Performance / Payment Bond shall not apply to any guarantee or warranty period in excess of one year.

7. IDENTICAL BIDDING

- A. **Antitrust Laws.** All identical bids submitted to the County because of advertised procurement for materials, supplies, equipment or services exceeding \$1,000,000.00 in total

amount shall be reported to the Attorney Generals of the United States and the State of Wisconsin for possible violation and enforcement of antitrust laws.

8. BINDING CONTRACTS

- A. **Contract Commitment.** Any contracts resulting from this bid shall be binding on a successful bidder(s) to its conclusion and on its assigns, heirs, executors, administrators or successors.

9. AFFIRMATIVE ACTION PROVISION AND MINORITY / WOMEN / DISADVANTAGED BUSINESS ENTERPRISES

- A. **Affirmative Action Provisions.** During the term of its Contract, Contractor agrees not to discriminate on the basis of race, religion, color, sex, handicap, age, sexual preference, marital status, physical appearance, or national origin against any person, whether a recipient of services (actual or potential), an employee, or an applicant for employment. Such equal opportunity shall include but not be limited to the following: employment, upgrading, demotion, transfer, recruitment, advertising, layoff, termination, training, rates of pay, and any other form of compensation or level of service(s). Contractor agrees to post in conspicuous places, available to all employees, service recipients and applicants for this paragraph. The listing of prohibited bases for discrimination shall not be construed to amend in any fashion state or federal law setting forth additional bases and exceptions shall be permitted only to the extent allowable in state or federal law.
- B. Contractor is subject to this paragraph only if Contractor has ten (10) or more employees and receives \$10,000.00 or more in annual aggregate contracts with County. Contractor shall file an Affirmative Action Plan with the Dane County Contract Compliance Officer in accord with Chapter 19 of the Dane County Code of Ordinances. Contractor must file such plan within fifteen (15) days of the effective date of this Contract and failure to do so by that date shall constitute grounds for immediate termination of the Contract. During the term of this Contract, Contractor shall also provide copies of all announcements of employment opportunities to the County's Contract Compliance Office, and shall report annually the number of persons, by race, sex and handicap status, which apply for employment and, similarly classified, the number hired and the number rejected.
- C. Contact the Dane County Contract Compliance Officer at Dane County Contract Compliance Office, 210 Martin Luther King, Jr. Blvd., Room 421, Madison, WI 53703, 608/266-4114.
- D. In all solicitations for employment placed on Contractor's behalf during the term of this Contract, Contractor shall include a statement to the effect the Contractor is an "Equal Opportunity Employer."
- E. Contractor agrees to furnish all information and reports required by County's Contract Compliance Officer as the same relate to affirmative action and nondiscrimination, which may include any books, records, or accounts deemed appropriate to determine compliance with Chapter 19, Dane County Code of Ordinances, and the provision of this Contract.
- F. **Minority / Women / Disadvantaged / Emerging Small Business Enterprises.** Chapter 19.508 of the Dane County Code of Ordinances is the official policy of Dane County to utilize Minority Business Enterprises (MBEs), Women Business Enterprises (WBEs), Disadvantage Business Enterprises (DBEs) and Emerging Small Business Enterprises (ESBEs) fully.

- G. The Contractor may utilize MBEs / WBEs / DBEs / ESBEs as subcontractors or suppliers. A list of subcontractors will be required of the low bidder as stated in this Contract. The list shall indicate which subcontractors or suppliers are MBEs / WBEs / DBEs / ESBEs and what percentage of subcontract is awarded, shown as a percentage of the total dollar amount of the bid.

10. COMPLIANCE WITH FAIR LABOR STANDARDS

- A. During term of this Contract, Contractor shall report to County Contract Compliance Officer, within ten (10) days, any allegations to, or findings by National Labor Relations Board (NLRB) or Wisconsin Employment Relations Commission (WERC) that Contractor has violated statute or regulation regarding labor standards or relations. If investigation by Contract Compliance Officer results in final determination that matter adversely affects Contractor's responsibilities under this Contract, and which recommends termination, suspension or cancellation of this Contract, County may take such action.
- B. Contractor may appeal any adverse finding by Contract Compliance Officer as set forth in Dane County Ordinance 25.015(11)(c) through (e).
- C. Contractor shall post this statement in prominent place visible to employees: "As condition of receiving and maintaining contract with Dane County, this employer shall comply with federal, state and all other applicable laws prohibiting retaliation or union organizing."

11. DOMESTIC PARTNERSHIP BENEFITS

- A. Contractor agrees to provide same economic benefits to all of its employees with domestic partners as it does to employees with spouses, or cash equivalent if such benefit cannot reasonably be provided. Contractor agrees to make available for County inspection Contractor's payroll records relating to employees providing services on or under this Contract or subcontract. If any payroll records of Contractor contain any false, misleading or fraudulent information, or if Contractor fails to comply with provisions of Chapter 25.016, Dane County Ordinances, contract compliance officer may withhold payments on Contract; terminate, cancel or suspend Contract in whole or in part; or, after due process hearing, deny Contractor right to participate in bidding on future County contracts for period of one year after first violation is found and for period of three years after second or subsequent violation is found.

12. INSURANCE REQUIREMENTS

- A. Contractor shall indemnify, hold harmless and defend Dane County, its boards, commissions, agencies, officers, employees and representatives from and against all claims, damages, losses and expenses including attorneys' fees arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss or expense 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 there from, and is caused in whole or in part by any act or omission of the Contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a part indemnified hereunder.
- B. In any and all claims against Dane County, its boards, commissions, agencies, officers, employees and representatives or by any employee of the Contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them

may be liable, the indemnification obligation under this Contract shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any subcontractor under worker's compensation acts, disability benefits or other employee benefit acts.

- C. The obligations of the Contractor under this Contract shall not extend to the liability of the Architect / Engineer, its agents or employees arising out of (1) the preparation or approval of maps, drawings, opinion, reports, surveys, change orders, designs or specifications; or (2) the giving of or the failure to give directions or instruction by the Architect / Engineer, its agents or employees provided such giving or failure to give is the primary cause of the injury or damage.
- D. The County shall not be liable to the Contractor for damages or delays resulting from work by third parties or by injunctions or other restraining orders obtained by third parties.
- E. **Contractor Carried Insurance.** In order to protect itself and the County, the Contractor shall not commence work under this Contract until obtaining all the required insurance and the County has approved such insurance. The Contractor shall not allow any subcontractor to commence work on the subcontract until the insurance required of the subcontractor has been so obtained and approved.
 - 1. **Worker's Compensation Insurance**
The Contractor shall procure and shall maintain during the life of this Contract, Worker's Compensation Insurance as required by statute for all of its employees engaged in work at the site of the project under this Contract and, in case of such work sublet, the Contractor shall require the subcontractor similarly to provide Worker's Compensation Insurance for all of the latter's employees to be engaged in such work unless such employees are covered by the protection afforded by the Contractor's Worker's Compensation Insurance.
 - 2. **Contractor's Public Liability and Property Damage Insurance**
The Contractor shall procure and maintain during the life of this Contract, Contractor's Public Liability Insurance and Contractor's Property Damage Insurance in an amount not less than \$1,000,000.00 per occurrence for bodily injury and death, and Contractor's Property Damage Insurance in an amount not less than \$1,000,000.00 and shall be primary with Dane County as an "Additional Insured".
 - 3. **Auto Liability Insurance**
The Contractor shall procure and maintain during the life of this Contract, Comprehensive Automobile Liability Insurance covering owned, non-owned and hired automobiles for limits of not less than \$1,000,000.00 and shall be primary with Dane County as an "Additional Insured".
- F. Contractor either (1) shall require each subcontractors to procure and to maintain during life of subcontract, subcontractor's Public Liability Property Damage Insurance, and Comprehensive Automobile Liability Insurance of type and in same amount specified in preceding paragraphs; or (2) insure that activities of subcontractors in their own policy.
- G. Contractor shall furnish the County with certificates showing type, amount, class of operations covered, effective dates and dates of expiration of policies. Such certificates shall also contain substantially this statement: "Insurance covered by this certificate will not be canceled or materially altered, except after ten (10) days written notice has been received by the County."

H. **Builder's Risk.** County shall provide Builder's Risk policy. Terms of this policy will be made available by County's Risk Manager upon Contractor's request. By executing this Contract, Contractor warrants it is familiar with terms of said policy.

SUPPLEMENTARY CONDITIONS

1. APPLICATION & CERTIFICATE FOR PAYMENT

- A. Every contractor engaged in performance of any contract for Department of Public Works, Highway & Transportation shall submit partial and final Application & Certificate for Payment for work under said contract. Form shall provide similar information as shown on AIA G702™ and G703™ forms (samples shown below). Forms shall be submitted to Tom Sracic Public Works Project Manager for approval.


AIA Document G702™ – 1992

Application and Certificate for Payment

TO OWNER:	PROJECT:	APPLICATION NO:	Distribution to:
		PERIOD TO:	OWNER <input type="checkbox"/>
FROM CONTRACTOR:	VIA ARCHITECT:	CONTRACT FOR:	ARCHITECT <input type="checkbox"/>
		CONTRACT DATE:	CONTRACTOR <input type="checkbox"/>
		PROJECT NOS:	FIELD <input type="checkbox"/>
			OTHER <input type="checkbox"/>

CONTRACTOR'S APPLICATION FOR PAYMENT
Application is made for payment, as shown below, in connection with the Contract. Continuation Sheet, AIA Document G703, is attached.

1. ORIGINAL CONTRACT SUM \$

2. Net change by Change Orders \$

3. CONTRACT SUM TO DATE (Line 1 + 2) \$

4. TOTAL COMPLETED & STORED TO DATE (Column G on G703) \$

5. RETAINAGE:

a. % of Completed Work (Column D + E on G703) \$

b. % of Stored Material (Column F on G703) \$

Total Retainage (Lines 5a + 5b or Total in Column I of G703) \$

6. TOTAL EARNED LESS RETAINAGE (Line 4 Less Line 5 Total) \$

7. LESS PREVIOUS CERTIFICATE(S) FOR PAYMENT (Line 6 from prior Certificate) \$

8. CURRENT PAYMENT DUE \$

9. BALANCE TO FINISH, INCLUDING RETAINAGE (Line 3 less Line 8) \$

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR:
 By: _____ Date: _____
 Title of: _____
 County of: _____
 Subscribed and sworn to before me this _____ day of _____
 Notary Public
 My Commission expires: _____

ARCHITECT'S CERTIFICATE FOR PAYMENT
In accordance with the Contract Documents, based on on-site observations and the data comprising this application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED \$
(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)

ARCHITECT:
 By: _____ Date: _____

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner	\$	\$
Total approved this Month	\$	\$
TOTALS	\$	\$
NET CHANGES by Change Order	\$	

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AIA Document G703™ – 1992

Continuation Sheet

AIA Document G703, APPLICATION AND CERTIFICATION FOR PAYMENT, containing Contractor's signed certification is attached. In tabulations below, amounts are stated to the nearest dollar. Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NO:
APPLICATION DATE:
PERIOD TO:
ARCHITECT'S PROJECT NO:

A LINE NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED		F MATERIALS PRESENTLY STORED (SHEETS OR E)	G TOTAL COMPLETED AND STORED TO DATE (D+F)	H % (G ÷ C)	I BALANCE TO FINISH (C - G)	J RETAINAGE (IF VARIABLE BASE)
			E FROM PREVIOUS APPLICATION (D + E)	F THIS PERIOD					

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.

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2. CONTRACTOR WAGE AFFIDAVIT

- A. Every contractor engaged in performance of any contract for Department of Public Works, Highway & Transportation shall submit to this Department, as requested and with final application for payment for work under said contract, affidavit in form as hereinafter set forth in this section. Affidavit affirms that all persons employed by contractor or by any of contractor's subcontractors on such contract have been paid no less than minimum wages established under Dane County Ordinances, Chapter 40, Subchapter II (Minimum Wage Ordinance) and in effect at date of execution of contract, that full payment of wages earned has been made, and that no rebates either directly or indirectly have been made. Form of such affidavit is included in this section.
- B. Form should be included with a copy of the final contract invoice forwarded to your contract representative at Dane County.

3. INSURANCE

A. Not Applicable

SECTION 01 00 00
BASIC REQUIREMENTS

PART 1 GENERAL

1.1 SECTION SUMMARY

- A. Section Includes:
1. Section Summary
 2. Summary of the Work
 3. Contractor Use of Premises
 4. Applications for Payment
 5. Alternates
 6. Coordination
 7. Cutting and Patching
 8. Conferences
 9. Progress Meetings
 10. Submittal Procedures
 11. Proposed Products List
 12. Shop Drawings
 13. Product Data
 14. Samples
 15. Manufacturers' Instructions
 16. Manufacturers' Certificates
 17. Quality Assurance / Quality Control of Installation
 18. References
 19. Interior Enclosures
 20. Protection of Installed Work
 21. Parking
 22. Staging Areas
 23. Occupancy During Construction and Conduct of Work
 24. Protection
 25. Progress Cleaning
 26. Products
 27. Transportation, Handling, Storage and Protection
 28. Product Options
 29. Substitutions
 30. Starting Systems
 31. Demonstration and Instructions
 32. Contract Closeout Procedures
 33. Final Cleaning
 34. Adjusting
 35. Operation and Maintenance Data
 36. Spare Parts and Maintenance Materials
 37. Record Drawings and Specifications

1.2 SUMMARY OF THE WORK

- A. Project Description: Contractor to provide construction services to build a Timber Construction shelter for the Dane County Parks Department. Work consists of site preparation, timber milling and fabricating, timber construction, concrete work, electrical work and metal roofing.
- B. **Phasing:** This project shall consist of **two (2) phases**. The **first phase** shall consist of site preparation, pouring of concrete, electrical rough-in, milling, drying, fabrication and finishing of timber structure components. The **second phase** is for shelter construction. This phasing sequence allows for concrete placement and timber structure component preparation during the winter months and construction commencing once the weather permits in the spring.
- C. Work by Owner: Electrical power to a pole near the new structure.
- D. Permits: Prior to commencement of the Work, Contractor to secure any and all necessary permits for completion of the Work and facility occupancy.

1.3 CONTRACTOR USE OF PREMISES

- A. Limit use of premises to allow work by Contractors or Subcontractors and access by Owner.

1.4 APPLICATIONS FOR PAYMENT

- A. Submit two (2) copies of each application on AIA G702™ and G703™ forms or approved contractors invoice form.
- B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.
- C. Payment Period: Monthly.

1.5 ALTERNATES

- A. Alternates quoted on Bid Form shall be reviewed and accepted or rejected at the Owner's option.
- B. Coordinate related work and modify surrounding work as required.
- C. Schedule of Alternates: there are no alternates proposed for this project.

1.6 COORDINATION

- A. Coordinate scheduling, submittals, and work of various sections of Specifications to assure efficient and orderly sequence of installation of interdependent construction elements.

- B. Verify utility requirement characteristics of operating equipment are compatible with building utilities.
- C. Coordinate space requirements and installation of mechanical and electrical work that are indicated diagrammatically on Drawings.

1.7 CUTTING AND PATCHING

- A. Employ a skilled and experienced installer to perform cutting and patching new work; restore work with new Products.
- B. Submit written request in advance of cutting or altering structural or building enclosure elements.
- C. Fit work tight to adjacent elements. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.
- D. Refinish surfaces to match adjacent finishes.

1.8 CONFERENCES

- A. Dane County Department Public Works, Highway & Transportation will schedule a preconstruction conference after Award of Contract for all affected parties.
- B. When required in individual Specification section, convene a pre-installation conference at project site prior to commencing work of the section.

1.9 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at minimum of one (1) per week.
- B. Preside at meetings, record minutes, and distribute copies within two (2) days to those affected by decisions made.

1.10 SUBMITTAL PROCEDURES

- A. Submittal form to identify Project, Contractor, Subcontractor or supplier; and pertinent Construction Documents references.
- B. Apply Contractor's stamp, signed or initialed, certifying that review, verification of Products required, field dimensions, adjacent construction work, and coordination of information is in accordance with requirements of the Work and Construction Documents.
- C. Identify variations from Construction Documents and Product or system limitations that may be detrimental to successful performance of completing the Work.

- D. Revise and resubmit submittals as required; identify all changes made since previous submittal.
- 1.11 PROPOSED PRODUCTS LIST
- A. Within fifteen (15) days after date of Award of Contract, submit complete list of major Products proposed for use, with name of manufacturer, trade name, and model number of each Product.
- 1.12 SHOP DRAWINGS
- A. Submit number of copies that Contractor requires, plus three (3) copies that shall be retained by Public Works Project Engineer.
- 1.13 PRODUCT DATA
- A. Submit number of copies that Contractor requires, plus two (2) copies that shall be retained by Public Works Project Engineer.
 - B. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturer's standard data to provide information unique to this Project.
- 1.14 SAMPLES
- A. Submit samples to illustrate functional and aesthetic characteristics of the Product.
 - B. Submit samples of finishes from the full range of manufacturers' standard colors, textures, and patterns for Public Works Project Engineer's selection.
- 1.15 MANUFACTURERS' INSTRUCTIONS
- A. When specified in individual Specification sections, submit manufacturers' printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for Product Data.
- 1.16 MANUFACTURERS' CERTIFICATES
- A. When specified in individual Specification sections, submit manufacturers' certificate to Public Works Project Engineer for review, in quantities specified for Product Data.
 - B. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- 1.17 QUALITY ASSURANCE / QUALITY CONTROL OF INSTALLATION
- A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce work of specified quality.
 - B. Comply fully with manufacturers' instructions.

- C. Comply with specified standards as minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

1.18 REFERENCES

- A. Conform to reference standard by date of issue current as of date for receiving bids.
- B. Should specified reference standard conflict with Construction Documents, request clarification from Public Works Project Engineer before proceeding.

1.19 INTERIOR ENCLOSURES

- A. Provide temporary partitions as required to separate work areas from Owner occupied areas, to prevent distribution of dust and moisture into Owner occupied areas, and to prevent damage to existing materials and equipment.

1.20 PROTECTION OF INSTALLED WORK

- A. Protect installed work and provide special protection where specified in individual Specification sections.

1.21 PARKING

- A. Arrange for temporary parking areas to accommodate construction personnel. Parking shall be available at the Work site.

1.22 STAGING AREAS

- A. Coordinate staging areas with Public Works Project Engineer prior to starting the Work.
- B. On-site space for use as staging areas and storage of materials is limited and will be apportioned among the various Contractors as their needs dictate with due regard for storage requirements of each Contractor. Each Contractor shall be responsible for safety of equipment and materials that are stored on site.

1.23 OCCUPANCY DURING CONSTRUCTION AND CONDUCT OF WORK

- A. Areas of existing facility will be occupied during period when the Work is in progress. Work may be done during normal business hours (6:00 am to 4:30 pm), but confer with Owner, schedule work and store materials so as to interfere as little as possible with normal use of premises. Notify Owner when coring or similar noise making work is to be done and obtain Owner's written approval of schedule. If schedule is not convenient for Owner, reschedule and resubmit new times for Owner approval. Coring of floor along with other noisy work may have to be done on second and third shifts.
- B. Work shall be done and temporary facilities furnished so as not to interfere with access to any occupied area and so as to cause least possible interference with normal operation of facility or any essential service thereof.

- C. Contractor shall, at all times, provide approved, safe walkways and facility entrances for use by Owner, employees and public.
- D. Contractor shall provide adequate protection for all parts of facility, its contents and occupants wherever the Work under this contract is to be performed.
- E. Each Contractor shall arrange with Owner to make necessary alterations, do new work, make connections to all utilities, etc., at such times as will not cause interruption of utility services to facility. Contractor doing this work shall protect, cap, cut off and / or replace and relocate existing pipes, electrical work and other active utilities encountered which may interfere with new construction work.
- F. New work in extension of existing work shall correspond in all respects with that to which it connects or similar existing work unless otherwise indicated or specified.
 - 1. Existing work shall be cut, altered, removed or replaced as necessary for performance of contract obligations.
 - 2. Work remaining in place, damaged or defaced by reason of work done under this contract shall be restored equal to its condition at time of Award of Contract.
 - 3. If removal of work exposes discolored or unfinished surfaces or work out of alignment, such surfaces shall be refinished or materials replaced as necessary to make continuous work uniform and harmonious.

1.24 PROTECTION

- A. Contractor shall protect from injury all trees, shrubs, hedges, walks and driveways and pay for any damage to same resulting from insufficient or improper protection.
- B. Guard Light: Contractor shall provide and maintain guard lights at all barricades, railings, obstructions in streets, roads or sidewalks and at all trenches adjacent to public walks or roads.

1.25 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in clean and orderly condition.

1.26 PRODUCTS

- A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work, but does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components specifically identified for reuse.
- B. Do not use materials and equipment removed from existing premises, except as specifically identified or allowed by Construction Documents.

1.27 TRANSPORTATION, HANDLING, STORAGE AND PROTECTION

- A. Transport, handle, store and protect Products in accordance with manufacturer's instructions.

1.28 PRODUCT OPTIONS

- A. Where definite material is specified, it is not intention to discriminate against "equal" product made by another manufacturer. Intention is to set definite standard of material quality. Should bidder choose to bid materials other than those specified, bidder shall submit said materials specifications to Department of Public Works, Highway & Transportation for approval at least seven (7) days prior to Bid Due Date.
- B. Products and materials that are not specified, but have been approved for use by Public Works Project Engineer shall be identified in addenda to all bidding contractors.
- C. Requests for material or product substitutions submitted after Due Date may be considered. Dane County reserves right to approve or reject substitutions based on Specification requirements and intended use.

1.29 SUBSTITUTIONS

- A. Public Works Project Engineer shall consider requests for Substitutions only within fifteen (15) days after date of Public Works Contract.
- B. Document each request with complete data substantiating compliance of proposed Substitution with Construction Documents.
- C. Submit three (3) copies of requests for Substitution for consideration. Limit each request to one (1) proposed Substitution.
- D. Substitutions shall not change contract price established at Due Date.

1.30 STARTING SYSTEMS

- A. Provide written notification prior to start-up of each equipment item or system.
- B. Ensure that each piece of equipment or system is ready for operation.
- C. Execute start-up under supervision of responsible persons in accordance with manufacturers' instructions.
- D. Submit written report that equipment or system has been properly installed and is functioning correctly.

1.31 DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate operation and maintenance of Products to Owner's personnel prior to date of final inspection.

- B. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at agreed-upon times, at designated location.
- C. Owner may choose to videotape demonstration session; demonstration and demonstrator shall be to level of satisfaction of Owner.

1.32 CONTRACT CLOSEOUT PROCEDURES

- A. Submit written certification that Construction Documents have been reviewed, the Work has been inspected, and the Work is complete in accordance with Construction Documents and ready for Public Works Project Engineer's inspection.
- B. Submit final Application for Payment identifying total adjusted Contract Sum / Price, previous payments, and amount remaining due.

1.33 FINAL CLEANING

- A. Execute final cleaning prior to final inspection.
- B. Clean interior and exterior surfaces exposed to view.
- C. Remove waste and surplus materials, rubbish, and construction facilities from site.

1.34 ADJUSTING

- A. Adjust operating Products and equipment to ensure smooth and unhindered operation.

1.35 OPERATION AND MAINTENANCE DATA

- A. Provide operation and maintenance data for all mechanical and electrical equipment supplied and installed in project.

1.36 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Provide Products, spare parts, maintenance and extra materials in quantities specified in individual Specification Sections.
- B. Deliver to the Work site and place in location as directed.

1.37 RECORD DRAWINGS AND SPECIFICATIONS

- A. Contractor-produced Drawings and Specifications shall remain property of Contractor whether Project for which they are made is executed or not. Contractor shall furnish Public Works Project Engineer with original tracings of drawings and prints of specifications in reproducible format, one set of Drawings and Specifications and one set of record drawings in AutoCAD 2010 or lower format and entire record specification in Word 2010 (or lower) format on CD.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 74 19

RECYCLING

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Waste Management Goals
 - 2. Waste Management Plan
 - 3. Reuse
 - 4. Recycling
 - 5. Materials Sorting and Storage On Site
 - 6. Lists of Recycling Facilities Processors and Haulers
 - 7. Waste Management Plan Form

- B. Related Sections:
 - 1. Section 01000 - Basic Requirements

1.2 WASTE MANAGEMENT GOALS

- A. Dane County requires that as many waste materials as possible produced as result of this project be salvaged, reused or recycled in order to minimize impact of construction waste on landfills and to minimize expenditure of energy and cost in fabricating new materials. Additional information may be found in The Dane County Green Building Policy, Resolution 299, 1999-2000.

- B. Contractor shall develop, with assistance of Public Works Project Engineer and Architect / Engineer, Waste Management Plan (WMP) for this project. Outlined in RECYCLING section of this specification are examples of materials that can be recycled or reused as well as recommendations for waste sorting methods.

1.3 WASTE MANAGEMENT PLAN

- A. Contractor shall complete WMP and include cost of recycling / reuse in Bid. WMP will be submitted to Public Works Project Engineer within fifteen (15) days of Notice to Proceed date. Copy of blank WMP form is in this Section. Submittal shall include cover letter and WMP form with:
 - 1. Information on:
 - a. Types of waste materials produced as result of work performed on site;
 - b. Estimated quantities of waste produced;
 - c. Identification of materials with potential to be recycled or reused;
 - d. How materials will be recycled or reused;
 - e. On-site storage and separation requirements (on site containers);
 - f. Transportation methods; and
 - g. Destinations.

1.4 REUSE

- A. Contractors and subcontractors are encouraged to reuse as many waste materials as possible. Salvage should be investigated for materials not reusable on site.

1.5 RECYCLING

- A. These materials can be recycled in Dane County area:
 1. Wood.
 2. Wood Pallets.
 3. Fluorescent Lamps.
 4. Foam Insulation & Packaging (extruded and expanded).
 5. PVC Plastic (pipe, siding, etc.).
 6. Asphalt & Concrete.
 7. Bricks & Masonry
 8. Corrugated Cardboard.
 9. Metal.
 10. Carpet Padding.
 11. Gypsum Drywall.
 12. Shingles.
 13. Barrels & Drums.
 14. Solvents.

1.6 MATERIALS SORTING AND STORAGE ON SITE

- A. Contractor shall provide separate containers for recyclable materials. Number of containers will be dependent upon project and site conditions.
- B. Contractor shall provide on-site locations for subcontractors supplied recycling containers to help facilitate recycling.

1.7 LISTS OF RECYCLING FACILITIES PROCESSORS AND HAULERS

- A. Web site www.countyofdane.com/pwht/recycle/categories.aspx lists current information for Dane County Recycling Markets. Contractors can also contact Dane County's Recycling Manager at 608/267-8815, or local city, village, town recycling staff listed at site www.countyofdane.com/pwht/recycle/contacts.aspx. Statewide listings of recycling / reuse markets are available from UW Extension at www4.uwm.edu/shwec/wrmd/search.cfm.

1.8 WASTE MANAGEMENT PLAN FORM

A. Contractor Information:

Name: _____

Address: _____

Phone No.: _____ Recycling Coordinator: _____

MATERIAL	ESTIMATED QUANTITY	DISPOSAL METHOD (CHECK ONE)		RECYCLING / REUSE COMPANY OR DISPOSAL SITE
Salvaged & reused building materials	_____ cu. yds. _____ tons	_____ Recycled	_____ Reused	Name: _____
Glass	_____ cu. yds. _____ tons	_____ Recycled	_____ Reused	Name: _____
Wood	_____ cu. yds. _____ tons	_____ Recycled	_____ Reused	Name: _____
Wood Pallets	_____ units	_____ Recycled	_____ Reused	Name: _____
Fluorescent Lamps	_____ cu. ft. _____ lbs.	_____ Recycled	_____ Reused	Name: _____
Foam Insulation	_____ cu. ft. _____ lbs.	_____ Recycled	_____ Reused	Name: _____
Asphalt & Concrete	_____ cu. ft. _____ lbs.	_____ Recycled	_____ Reused	Name: _____
Bricks & Masonry	_____ cu. ft. _____ lbs.	_____ Recycled	_____ Reused	Name: _____
PVC Plastic	_____ cu. ft. _____ lbs.	_____ Recycled	_____ Reused	Name: _____
Corrugated Cardboard	_____ cu. ft. _____ lbs.	_____ Recycled	_____ Reused	Name: _____
Metals	_____ cu. yds. _____ tons	_____ Recycled	_____ Reused	Name: _____
Carpet Padding	_____ cu. ft. _____ lbs.	_____ Recycled	_____ Reused	Name: _____
Gypsum / Drywall	_____ cu. yds. _____ tons	_____ Recycled	_____ Reused	Name: _____

Shingles	_____ cu. yds. _____ tons	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Barrels & Drums	_____ units	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Solvents	_____ gallons	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Other	_____	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Other	_____	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Other	_____	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Other	_____	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Other	_____	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 03 31 00

CONCRETE, FORMS AND REINFORCEMENT

PART 1 - GENERAL

1.01 Section Includes

- A. Formwork for cast-in-place concrete.
- B. Steel reinforcing for cast-in-place concrete.
- C. Cast-in-place concrete.
- D. Curing and Sealing.

1.02 References

- A. ACI 117-90 - Standard Tolerance for Concrete Construction Materials.
- B. ACI 301-96 - Structural Concrete for Buildings.
- C. ACI 305R-91 - Hot Weather Concreting.
- D. ACI 306R-88 - Cold Weather Concreting.
- E. ACI 308-92 - Standard Practice for Curing Concrete.
- F. ACI 318-95 - Building Code Requirements for Reinforced Concrete.
- G. ACI 347-94 - Guide to Formwork for Concrete.
- H. ASTM A82 - Steel Wire, Plain, for Concrete Reinforcement.
- I. ASTM A185 - Steel Welded Wire Fabric, Plain, for Concrete Reinforcement.
- J. ASTM A615 - Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
- K. ASTM C31 - Making and Curing Concrete Test Specimens in the Field.
- L. ASTM C33 - Standard Specification for Concrete Aggregates.
- M. ASTM C39 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
- N. ASTM C94 - Standard Specification for Ready-Mixed Concrete.
- O. ASTM C143 - Standard Test Method for Slump of Hydraulic Cement Concrete.
- P. ASTM C150 - Standard Specifications for Portland Cement.
- Q. ASTM C171 - Sheet Materials for Curing Concrete.
- R. ASTM C172 - Standard Practice for Sampling Freshly Mixed Concrete.
- S. ASTM C231 - Standard Test Method for Air Content of Freshly Mixed Concrete.
- T. ASTM C260 - Air Entraining Admixtures for Concrete.
- U. ASTM C309 - Specification for Liquid Membrane-Forming Compounds for Curing Concrete.

- V. ASTM C494 - Chemical Admixtures for Concrete.
- W. ASTM C618 - Coal Fly Ash and Raw or Calcinated Natural Pozzolan for Use in Concrete.
- X. ASTM C1116 - Specification for Fiber-Reinforced Concrete and Shotcrete.
- Y. ASTM C1315 - Specification for Liquid Membrane-Forming Compunds Having Special Properties for Sealing and Curing Concrete.
- Z. ASTM D1751 - Performed Expansion Joint Filler for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types).
- AA. ASTM D1752 - Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.

1.03 Quality Assurance

- A. Perform formwork in accordance with ACI 347.
- B. Perform reinforcement work in accordance with ACI 318.
- C. Perform concrete work in accordance with ACI 301.
- D. Conform to ACI 305R when concreting in hot weather and ACI 306R when concreting in cold weather.

1.04 Submittals

- A. Concrete
 - 1. Mix Design
 - a. Provide dry weight of cement, saturated-surface dry weight of aggregate, brand name, type, and quantity of admixtures, and pounds of water per cubic yard of concrete.
 - b. Test data supporting the portions of the design mixes based on laboratory trial batches in accordance with ACI 318. Test data supporting the proportions of the design mixes based on past field experience in accordance with ACI 318 may be provided in lieu of the laboratory data.
 - c. Design mixes shall be approved by Engineer a minimum of five working days prior to delivery of concrete to the Site.
 - 2. Admixtures: Submit manufacturer's literature and certifications.
 - 3. Delivery Tickets: With each load of concrete delivered, duplicate delivery tickets shall be provided which give the following information:
 - a. Name of ready-mix batch plant.
 - b. Serial number of ticket
 - c. Date.
 - d. Truck number.
 - e. Name of contractor.
 - f. Name and location of job.
 - g. Class or designation of concrete.
 - h. Amount of concrete in cubic yards.
 - i. Time loaded or of first mixing of cement and aggregate.
 - j. Water added at jobsite and initials of person authorizing addition.
 - k. Admixtures, if added.

1.05 Delivery

- A. Deliver reinforcement in bundles with metal tags indicating bar size and length.

1.07 Coordination

- A. Coordinate placement of formwork, formed openings, and placement of accessories and attachments.

PART 2 - PRODUCTS

2.01 Forms

- A. Wood Forms
 - 1. Plywood: PS1, BB grade, Class 1.
 - 2. Clean straight lumber, dressed on face and edges, 2-inch nominal thickness.
- B. Preformed Steel Forms: Minimum 16 gauge matched, tight fitting, stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of finished surfaces.

2.02 Formwork Accessories

- A. Form Release Agent: Colorless mineral oil which will not stain concrete, or absorb moisture, or impair natural bonding of coating intended for use on concrete.
- B. Nails, Spikes, Lag Bolts, Through Bolts, Anchorages: Sized as required, of sufficient strength and character to maintain formwork in place while placing concrete.

2.03 Reinforcement

- A. Reinforcing Steel: ASTM A615; Grade 60, deformed, unfinished.
- B. Welded Steel Wire Fabric: ASTM A185: flat sheets, unfinished.

2.04 Reinforcement Accessories

- A. Tie Wire: Minimum 16 gage annealed type.
- B. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for strength and support of reinforcement during concrete placement conditions.
- C. Splice Devices: Sized to develop 125 percent yield strength of bar.

2.05 Concrete Materials

- A. Portland Cement: ASTM C150, Type 1.
- B. Aggregate: ASTM C33.
- C. Water: Clean and not detrimental to concrete.
- D. Flyash: ASTM C618, Class C.
- E. Fiber: 100 percent virgin fibrillated polypropylene fibers containing no reprocessed olefin materials and specifically engineered and manufactured for use in concrete as per ASTM C1116, Type III as secondary reinforcement. Fibers shall be a blend of 1/2" and 3/4" length. FRC Industries Blend 300 or equal.

2.06 Concrete Admixtures

- A. Air Entrainment: ASTM C260.
- B. Water Reducing: ASTM C494; Type A, Water Reducing.
- C. Retarding: ASTM C494. Type D, Water Reducing and Retarding.
- D. Accelerating: ASTM C494 Type C Accelerating (non-chloride); Type E, Water Reducing and Accelerating (non-chloride).

2.07 Accessories

- A. Non-Shrink Grout: Premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents; capable of developing minimum compressive strength of 2,400 psi in 48 hours and 7,000 psi in 28 days.

2.08 Concrete Mix Design

- A. Mix and deliver concrete in accordance with ASTM C94.
- B. Select proportions in accordance with ACI 301.
- C. Provide concrete in accordance with the following requirements:
1. Concrete Mixes

Concrete Mixes		
Class	Compressive Strength at 28 days, psi	Maximum Water-Cement Ratio, by Weight
Plain Concrete		
C	3,500	.62
Air-Entrained Concrete		
D	4,000	.48

2. Air Content: Total air content (entrained and entrapped) for air-entrained concrete shall be in accordance with the following table:

Air Content	
Nominal Max. Size Aggregate	Air Content
¾"	6% ± 1
1"	6% ± 1
1 ½"	5% ± 1

3. In any mix, up to 20 percent of the cement (on a pound per pound basis) may be replaced with flyash.
4. Exterior slabs shall contain 1.5 lbs. of fiber per cubic yard of concrete.
5. Concrete Schedule: Unless otherwise indicated in the Contract Documents provide concrete in accordance with the following schedule.

Concrete Schedule	
Concrete Class	Location
Class C	Footings Exterior walls Interior walls Interior slabs-on-grade
Class D	Exterior slabs Retaining walls Curb & gutter and sidewalk Other similar exterior concrete

- D. Slump:

Location	Slump, Inches	
	Slump	Tolerance
Footings	5	± 1
Beams, columns and interior walls	4	± 1
Reinforced foundation walls, exterior walls	3	± 1
Exterior slab on grade	3	± 1
Pavements, sidewalk, curb and gutter	3	± 1
Retaining walls	3	± 1

2.09 Curing Materials

A. Curing/Sealing Material:

1. An acrylic resin curing, sealing, and hardening compound for exterior freshly placed concrete that provides a durable, long-lasting moisture impermeable finish that improves resistance to chemicals, grease, and de-icing salts.
2. Meet requirements of ASTM C1315, Type 1, Class B and ASTM C309, Type 1, Classes A and B.
3. Manufacturer: AS-1 Achro Seal 1315 OTC, TK Products; Seal Cure 309-30, W.R. Meadows; or equal.

PART 3 - EXECUTION

3.01 Form Construction

A. General

1. Construct forms to produce concrete sections of the size, shape lines and dimensions indicated and as required to obtain accurate alignment, location, grade, level and plumbness.
2. Provide for anchorages, inserts and other required features.

B. Fabrication

1. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush plates or wrecking plates where stripping may damage concrete surfaces.
2. Butt joints tight and provide back-up materials as necessary to prevent leakage of concrete paste.

C. Provisions for Other Trades

1. Accurately and securely support items to be built into the forms. Other trades shall provide items to be installed and shall provide instructions and supervision as necessary.

D. Installation of Embedded Items

1. Set and build into the work, anchorage devices and other embedded items required for work by others that is attached to or supported by cast-in-place concrete. Use shop drawings, diagrams, templates and/or instructions provided by suppliers or other trades.
2. Thoroughly brace embedded items to prevent movement during concrete placement. Lace items whenever possible.
3. Conduits, pipes and their fittings shall be installed below slabs whenever possible. When it is necessary to embed them within a slab, they shall not be larger than 1/3 the thickness of the slab. Do not place adjacent conduits, or pipes closer than three times the O.D. of the smallest element.
4. Do not cut or move reinforcement to accommodate embedded items without approval of Engineer.

H. Edge Forms: Set edge forms or bulkheads and intermediate screwed strips for slabs to obtain required elevations and contours in the finished slab surface.

I. Cleaning and Tightening:

1. Thoroughly clean forms and adjacent surfaces immediately prior to pouring concrete.
2. Apply form release agent at the rate recommended by the manufacturer.
3. Re-tighten forms immediately after concrete placement as required to eliminate mortar leaks.

3.02 Form Removal

- A. Formwork not supporting concrete, such as beams, walls, columns and similar items, may be removed after curing at not less than 50 degrees F for 24 hours after placement, provided concrete is sufficiently hard to not be damaged by form removal. Protection and curing shall be maintained after form removal.

3.03 Reuse of Forms

- A. Clean and repair surface of forms to be used. Split, frayed, delaminated or otherwise damaged form-facing material shall not be reused.

3.04 Formwork Tolerances

- A. Tolerances shall meet requirements of ACI 347.

3.05 Reinforcement Installation

A. Steel Surface Condition

1. Remove dirt, grease, oil, loose mill scale, excessive rust, or foreign matter that may reduce bonding with concrete.
2. Steel with rust or mill scale may be used, provided minimum dimensions, including height of

deformations and weight of hand wire-brushed test specimen, are not less than applicable ASTM specification.

B. Bends

1. Inside diameter of bend, other than for stirrups and ties in sizes No. 3 through No. 5, shall not be less than values in ACI 318, Table 7.2.
2. Inside diameter of bend for stirrups and ties shall not be less than 4 x diameter for No. 5 bars and smaller. For bars larger than No. 5, diameter of bend shall be in accordance with Table 7.2.

ACI 318, Table 7.2	
Bar Size	Min. Diameter
No. 3 - No. 8	6 x diam.
No. 9 - No. 11	8 x diam.
No. 14 and No. 18	10 x diam.

C. Hooks: Bends for hooks shall be in accordance with the following table.

Bends	
Bar Size	Min. Diameter
No. 3 - No. 8	4 x diam.
No. 9 - No. 11	5 x diam.
No. 14 and No. 18	6 x diam.

D. Placement

1. Accurately place and adequately secure reinforcement in position with concrete or metal chairs and spacers.
2. Place slab reinforcement in the upper one-third of the slab.
3. Clear distance between bars or layers of bars shall not be less than one inch or less than 1 1/3 times the maximum size aggregate, whichever is greater.
4. Move within tolerances to avoid interference with other reinforcing steel or embedded items.
5. Do not move bars beyond allowable tolerances without approval of Engineer.
6. Do not heat, bend or cut bars without approval of Engineer.
7. Place slab reinforcement in the upper one-third of the slab.

E. Splices

1. Stagger splices in adjacent bars.
2. Lap bars at least 6 inches or 44 bar diameters, whichever is greater.
3. Securely wire so that contact is maintained over entire length of splice.
4. Install splice devices in accordance with manufacturer's instructions.

F. Wire Fabric

1. Install in longest practical length.
2. Lap adjoining pieces one full mesh and tie.
3. Do not make end laps midway between supporting beams or directly over beams of continuous structures.
4. Offset laps in adjacent sheets.
5. Extend to within two inches of edge of slab.

G. Fastening: Tie bars at all intersections where spacing is one foot or greater. Where spacing is less than one foot, tie alternate sections.

H. Protection: Keep reinforcing steel in proper position during concrete placement.

I. Approval: All reinforcing shall be approved by the Engineer or his designated representative prior to placing concrete.

3.06 Reinforcement Tolerances

A. Fabrication

1. Sheared length: ± 1 inch.
 2. Depth of truss bars: $+0$ inch to $-1/2$ inch.
 3. Stirrups, ties and spirals: $\pm 1/2$ inch.
 4. All other bends: ± 1 inch.
- B. Placement
1. Concrete cover to formed surface: $\pm 1/4$ inch.
 2. Minimum spacing between bars: $\pm 1/4$ inch.
 3. Top bars in slabs and beams
 - a. Eight inches deep or less: $\pm 1/4$ inch.
 - b. Eight inches but not over two feet: $\pm 1/4$ inch.
 - c. More than two feet deep: $\pm 1/2$ inch.
 - d. Crosswise members: Spaced evenly within ± 2 inches.
 - e. Lengthwise members: ± 2 inches.
- C. Maximum bar movement to avoid interference with other reinforcing or embedded items: one bar diameter.
- B. Minimum Concrete Cover:
- | | |
|--|--------------|
| 1. Concrete cast against and permanently exposed to earth: | 3 inches |
| 2. Concrete exposed to earth or weather: | |
| a. No. 6 through No. 18 bars..... | 2 inches |
| b. No. 5 bar, W31 or D31 wire, and smaller..... | 1-1/2 inches |
| 3. Concrete not exposed to weather or in contact with ground: | |
| a. Slabs, walls, joists: | |
| 1) No. 14 and No. 18 bars..... | 1-1/2 inches |
| 2) No. 11 bar and smaller..... | 3/4 inches |
| b. Beams, columns: | |
| 1) Primary reinforcement, ties, stirrups, spirals..... | 1-1/2 inches |
| c. Shells, folded plate members: | |
| 1) No. 6 bar and larger..... | 3/4 inches |
| 2) No. 5 bar, W31 or D31 wire, and smaller..... | 1/2 inches |

3.07 Preparation for Concrete Placement

- A. Check grades and placement of forms.
- B. Remove debris, water, excess form oil etc. from forms.
- C. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, and anchored securely.
- D. Prepare previously placed concrete by cleaning with steel brush and applying bonding agent.
- E. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert dowels and pack solid with non-shrink grout.

3.08 Delivery

- A. Deliver and discharge concrete within 90 minutes or before 300 drum revolutions, whichever comes first, after the addition of water to the cement.
- B. Do not add water to the mix after the initial introduction of water without the approval of the Engineer. If water is added at the jobsite, the concrete shall be mixed a minimum of 30 drum revolutions. Any water added shall not bring the total water in the mix to an amount above the specified water-cement ratio.
- C. The temperature of the concrete as delivered shall not exceed a temperature of 90°F .
- D. When the average of the highest and lowest temperature during the period from midnight to midnight is expected to drop below 40°F for more than three successive days, concrete shall be delivered to meet the

following temperature immediately after placement:

Minimum Concrete Temperature	
Section Size	Min. Temperature
<12"	55 ⁰ F
12"-36"	50 ⁰ F
36"-72"	45 ⁰ F
>72"	40 ⁰ F

3.09 Placing Concrete

- A. Place concrete in accordance with ACI 318.
- B. Notify Engineer a minimum of 24 hours prior to concrete placement.
- C. Ensure reinforcement, inserts, embedded parts, formed expansion joints and contraction joints are not disturbed during concrete placement.
- D. Install vapor retarder under interior slabs on grade. Lap joints a minimum of six inches and seal watertight by taping edges and ends.
- E. Deposit concrete as close as practical to its final position. Do not drop concrete more than five feet vertically.
- F. Place concrete continuously between predetermined construction joints.
- G. Do not interrupt the placement. Do not permit cold joints.
- H. Thoroughly consolidate concrete by suitable means during placement. Thoroughly work concrete around reinforcement and embedded items and into corners of forms.
- I. Install joint devices in accordance with manufacturer's instructions.

3.10 Joints

- A. Expansion Joints: Joints that separate or isolate slabs from other parts of the structure such as walls, footings, columns, and equipment bases and drives and sidewalks from stairs, walls, light poles and other obstructions.
 1. Separate slabs on grade from vertical concrete surface with 3/4 inch preformed joint filler. Extend joint filler to within 1/8 inch of finished slab surface.
- B. Control Joints: Joints in slabs to create planes of weakness so that cracks will occur at desired locations.
 1. Provide joints to form panels or patterns as indicated on the Drawings. If joints are not shown, consult Engineer for joint placement.
 2. Sawed Joints (Normal): Saw joints as soon after concrete is set sufficiently to preclude raveling during sawing and before shrinkage cracking takes place. Saw joints no later than 24 hours after concrete placement. Joints shall be 1/8 inch wide and one-fourth the slab thickness (one inch minimum).
 3. Sawed Joints (Early Entry): Saw joints using the "SOFF-CUT System" or equal. Cut as soon as the slab will support the weight of the saw and the operator (normally within two hours). Joints shall be 1/8 inch wide and ten percent of the slab thickness (depth shall be at least equal to the largest aggregate size).

3.11 Concrete Finishing

A. Provide finishes in accordance with ACI 301, Section 5.

Type	Finish	Comments
1	Screed off	
2	Rough form finish	Patch tie holes and defects. Chip or rub off fins exceeding ¼ in. in height. Leave surfaces with the texture imparted by form.
3	Smooth form finish	Patch tie holes and defects. Remove all fins completely. Comply with rubbed finish.
4	Smooth rubbed finish	Remove forms as early as permitted and perform necessary patching. Produce finish no later than day following form removal. Wet surface and rub with carborundum brick or other abrasive until uniform color and texture are produced. Use no cement grout.
5	Floated finish	Place, consolidate, strike off, and level concrete. Float with hand float, bladed power float with flat shoes, or power disk float when bleed water sheen has disappeared and surface has stiffened sufficiently to allow floating.
Type	Finish	Comments
6	Troweled finish	Float surface, then hand or power trowel. Hand trowel surface smooth and free of trowel marks. Continue until ringing sound is produced as surface is troweled.
7	Broom finish	Immediately after surface has been floated, give the surface a course scored texture using a broom.

1. Finish Schedule: Unless otherwise indicated in the Contract Documents, finish concrete surfaces as follows:

Surface	Finish
Buried foundations, footings and footing walls	1 and 2
Buried walls	2
Exposed exterior walls and retaining walls	3
Exterior slabs, steps, ramps, and sidewalks	7

3.12 Curing and Protection

A. General:

1. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
2. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
3. Cover concrete with polyethylene if rain is eminent.
4. Cure concrete in accordance with ACI 308.

B. Curing/Sealing Material:

1. Use for sidewalk and exterior slabs.
2. Cure and seal concrete with a uniform coating of membrane curing/sealing compound.
3. Apply with sprayer in accordance with the manufacturer's printed instructions.
4. Apply two coats at right angles to each other.
5. Do not apply if the temperature of the concrete is less than 40°F.

3.14 Field Quality Control

- A. Sampling and testing shall be the responsibility of the Contractor.
- B. Provide free access to Work and cooperate with testing personnel.
- C. Four concrete test cylinders will be taken for every 75 or less cubic yards of each class of concrete placed in

one day. Test cylinders will be lab cured. One test cylinder will be broken at 7 days, two at 28 days and one will be held.

- D. Owner's Representative may cast additional test cylinders for field curing cold or hot weather may affect curing.
- E. One slump test, one air test and the concrete temperature will be taken for each set of test cylinders taken.
- F. Sampling and testing will be performed in accordance with the following:
 - 4. Concrete samples: ASTM C172.
 - 5. Test cylinders: ASTM C31.
 - 6. Slump tests: ASTM C143.
 - 7. Air test: ASTM C231.
- G. In addition to providing test results to the Engineer, provide the test results to the concrete supplier.

3.15 Patching

- A. Allow Owner's Representative to inspect concrete surfaces immediately upon removal of forms.
- B. Honeycomb, embedded debris, and tie holes are not acceptable.
- C. Patch imperfections in accordance with ACI 301, Section 5.

3.16 Defective Concrete

- A. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.
- B. Repair or replacement of defective concrete will be determined by the Owner's Representative.

END OF SECTION

SECTION 04 05 13

MORTAR AND GROUT

PART 1 - GENERAL

1.01 Section Includes

- A. Mortar and grout for masonry.

1.02 References

- A. ASTM C91 - Standard Specification for Masonry Cement.
- B. ASTM C144 - Standard Specification Aggregate for Masonry Mortar.
- C. ASTM C150 - Standard Specification for Portland Cement.
- D. ASTM C207 - Standard Specification for Hydrated Lime for Masonry Purposes.
- E. ASTM C270 - Standard Specification for Mortar for Unit Masonry.
- F. ASTM C387 - Standard Specification for Packaged, Dry, Combined Materials for Mortar and Concrete.
- G. ASTM C404 - Standard Specification for Masonry Grout.

1.03 Delivery, Storage and Handling

- A. Deliver and store manufactured products in original unopened containers.
- B. Store cementitious ingredients in weather-tight enclosure.
- C. Stockpile and handle aggregates in such a manner so as to prevent segregation and contamination.
- D. Protect admixtures from excessive temperature changes.

1.04 Environmental Requirements

- A. Heat mixing water when air temperature is below 40⁰ F and heat aggregates when air temperature is below 32⁰ F, to assure mortar temperatures between 40⁰ F and 120⁰ F until used.
- B. Produce subsequent mortar batches within 10⁰ F of first batch.
- C. Do not heat water or sand above 120⁰ F.

1.05 Submittals

- A. Submit product data for premixed mortar.
- B. Submit mix design for mortar types to be mixed at the site.

PART 2 - PRODUCTS

2.01 Materials

- A. Portland Cement: ASTM C150, Type I.

- B. Masonry Cement: ASTM C91.
- C. Mortar Aggregate: ASTM C144; clean, dry, and free of foreign matter, meeting following gradation:

Mortar Aggregate Gradation		
Sieve Size	Percent Passing	
	Natural Sand	Manufactured Sand
No. 4	100	100
No. 8	95 - 100	95 - 100
No. 16	70 - 100	70 - 100
No. 30	40 - 75	40 - 75
No. 50	10 - 35	20 - 40
No. 100	2 - 15	10 - 25
No. 200	0 - 5	0 - 10

- D. Grout Aggregate: ASTM C404, maximum 3/8 inch size.
- E. Hydrated Lime: ASTM C207, Type S.
- F. Premix Mortar: ASTM C387.
- G. Clean and potable.

2.02 Mortar Color

- A. Mineral oxide pigment; Western Lime and Cement, Medusa or equivalent. Color to be selected by Owner.

2.03 Admixtures

- A. None permitted.

2.04 Mortar Mixes

- A. Meet requirements of ASTM C270. Provide types in accordance with the following table.

Selection of Masonry Mortars		
Location	Building Segment	Mortar Type
Exterior, above grade	Load bearing wall	N
	Non-load bearing wall	N
	Parapet wall	N
Exterior, at or below grade	Foundation wall, retaining wall, manholes, sewers, pavements, walks	M

2.05 Mixing Mortar

- A. Thoroughly mix mortar ingredients in quantities needed for immediate use in accordance with ASTM C270.
- B. Add mortar color, if required, in accordance with the manufacturer’s instructions. Provide uniformity of mix and coloration.
- C. Add water repellent admixture when mortar is to be used for concrete block in exterior walls or at wet locations.
- D. Use mortar within two hours after mixing.

PART 3 - EXECUTION

3.01 Installation

- A. Install mortar as indicated in individual masonry sections.

END OF SECTION

SECTION 04 21 13

BRICK MASONRY

PART 1 - GENERAL

1.01 Section Includes

- A. Brick masonry assemblies and accessories.
- B. Stone caps.

1.02 Related Sections

- A. Section 04 05 13 - Mortar and Grout.

1.03 References

- A. ASTM A82 - Standard Specification for Steel Wire, Plain, for Concrete Reinforcement.
- B. ASTM C97 - Standard Specification for Absorption and Bulk Specific Gravity of Dimension Stone.
- C. ASTM C170 - Standard Specification for Compressive Strength of Dimension Stone.
- D. ASTM C216 - Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale).
- E. ASTM C568 - Standard Specification for Limestone Dimension Stone.
- F. ASTM C880 - Standard Specification for Flexural Strength of Dimension Stone.

1.04 Allowance

- A. Allow the sum of \$550/M net invoice cost F.O.B. jobsite for face brick. Allowance does not include uncrating, storage, or installation.
- B. Final contract price will be adjusted for the cost of the brick chosen by the Owner.

1.05 Submittals

- A. Submit samples showing size, color, and texture. Show extreme variations in color and texture.
- B. Submit certificates attesting compliance with applicable specifications for grade, type, and class.

1.06 Quality Assurance

- A. Installer: Company specializing in performing the work of this section with a minimum five years experience.

1.07 Delivery, Storage, and Handling

- A. Receive, store, and handle masonry units to prevent damage and contamination from mud, dust, or other materials likely to cause staining or other defects.
- B. Store brick above ground on level platforms, which will allow air to circulate under stacked units.
- C. Cover to protect against wetting and contamination.

D. Protect anchors, ties, and reinforcement from elements.

1.08 Cold Weather Protection

- A. Preparation
 - 1. Remove ice or snow formed on masonry bed by carefully applying heat until top surface is dry to touch.
 - 2. Remove frozen or damaged masonry.
 - 3. Sprinkle with heated water when brick suction exceeds 30 gm/min./30 sq.in.
 - a. When bricks are above 32⁰F, heat water to 70⁰F.
 - b. When bricks are below 32⁰F, heat water above 70⁰F.
 - 4. Use dry masonry units. Do not use frozen units.
- B. Protection Requirements During Laying
 - 1. Air temperature 25⁰F to 20⁰F:
 - a. Use heat source on both sides of wall.
 - b. Use wind breaks when wind exceeds 15 mph.
 - 2. Air temperature 20⁰F and below:
 - a. Provide enclosure and auxiliary heat to maintain air temperature at 32⁰F.
 - b. Minimum temperature of units when laid of 20F.
- C. Protection Requirements of Completed Masonry and Masonry Not Being Worked On:
 - 1. Mean daily temperature of 48⁰F to 32⁰F: Protect masonry from rain or snow for 24 hours by covering with nonstaining weather-resistant membrane.
 - 2. Mean daily temperature of 32⁰F to 25⁰F: Completely cover masonry with insulated blankets or equal protection for 24 hours.
 - 3. Mean daily temperature of 25⁰F and below: Maintain masonry temperature above 32⁰F for 24 hours by enclosure and auxiliary heat, electric blankets, infrared lamps or other acceptable methods.
 - 4. Cover top of walls with nonstaining waterproof covering at end of each day or shutdown.
 - 5. Cover partially completed walls with nonstaining waterproof covering when work is not in progress.

1.09 Hot Weather Protection

- A. Protect masonry construction from direct exposure to wind and sun when erected in ambient air temperatures of 99⁰F in the shade with a relative humidity less than 50 percent.

PART 2 - PRODUCTS

2.01 Brick

- A. Texture and Color: As selected by Owner.
- B. Do not exceed variations in texture and color of samples approved by Owner.
- C. Facing Brick: ASTM C216, Grade SW, Type FBS; modular size, 3-5/8" x 2-1/4" x 7-5/8".

2.03 Mortar

- A. Provide mortar in accordance with Section 04 05 13.

2.04 Stone Caps

- A. Natural Limestone Cap:
 - 1. Nominal Size: 2'-4" x 2'-4" x 4".
 - 2. Finish:
 - a. Top and Bottom: Smooth.
 - b. Edges: Rough.
 - 3. Properties for limestone complying with ASTM C568:
 - a. Maximum absorption rate tested in accordance with ASTM C97: 3 percent.

- b. Minimum density tested in accordance with ASTM C97: 2,560 kg per cubic meter.
- c. Minimum compressive strength tested in accordance with ASTM C170: 55 Mpa.
- d. Minimum flexural strength tested in accordance with ASTM C 880: 8.27 Mpa.

PART 3 - EXECUTION

3.01 Examination

- A. Inspect foundation to assure surfaces to support brick are as follows:
 - 1. To proper grade.
 - 2. Free of dirt and other deleterious material.
 - 3. All surfaces not properly prepared have been corrected.

3.02 Preparation

- A. Reduce initial absorption of brick exceeding 30 gm/min./30 sq.in. by wetting thoroughly with clean water 24 hours prior to placement.
- B. Remove all dirt, ice, loose rust, and scale prior to installation of anchors, ties, and reinforcement.

3.03 Coursing

- A. Place masonry to lines and levels indicated.
- B. Maintain masonry courses to uniform width. Make vertical and horizontal joints of uniform thickness.
- C. Unless otherwise indicated on the Drawings, lay brick masonry units in running bond. Course three bricks and three mortar joints to equal eight inches.
- D. Unless otherwise indicated on the Drawings, tool joint surfaces when thumb-print hard with round jointer for a concave joint.

3.04 Placing and Bonding

- A. Dampen substrate as required to reduce excessive suction.
- B. Apply mortar to a thickness of 1/2 inch to 3/4 inch.
- C. Do not spread more than a workable area of 5 to 10 square feet, so mortar will not set before stone is applied.
- D. Do not place cracked, broken, or chipped masonry units.
- E. Lay brick units in full bed of mortar coverage on horizontal and vertical faces.
- F. Buttering corners of joints or furrowing of mortar joints are not permitted.
- G. Provide sufficient mortar to fill head joints.
- H. Remove excess mortar as work progresses.
- I. Unless stacked bond is required, interlock intersections and exterior corners.
- J. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustments must be made, remove mortar and replace.
- K. Do not pound corners or jambs to fit stretcher units after setting in place.
- L. When joining fresh masonry to set or partially set masonry, remove loose brick and mortar, and clean and lightly wet exposed masonry prior to laying fresh masonry.

- M. Use masonry saws for jobsite cutting. Provide straight, clean, unchipped edges. Avoid use of less than half-size units.

3.05 Protection

- B. Remove misplaced mortar immediately.
- C. Protect face materials from staining.
- D. Protect corners from damage during construction.

3.06 Tolerances

- A. Maximum Variation from Plumb
 - 1. In lines and surfaces of walls, columns:
 - a. 1/4-inch in 10 feet.
 - 2. For external corners and other conspicuous lines:
 - a. 1/4 inch in 20 feet.
 - 3. Head joints:
 - a. Plus or minus 1/4 inch in 10 feet.
- B. Maximum Variation from Level
 - 1. 1/4-inch in any bay or 20 feet maximum.
- C. Variation From Plan Lines
 - 1. 1/2-inch in 20 feet maximum.
- D. Variation in Cross Section: Minus 1/4 inch, plus 1/2 inch.
- E. Variation in Mortar Thickness: Plus or minus 1/8 inch.

3.07 Cleaning

- A. Remove excess mortar, sharp burrs and edges, and smears.
- B. Replace defective mortar. Match adjacent work.
- C. Rake out mortar at control joints and prepare for caulking.
- D. Dry-brush unglazed masonry surface after mortar has set at the end of each day's work and after final pointing.
- E. Upon completion of the work clean all exposed surfaces with fiber brushes and water. Cleaning solution may be used.
- F. If cleaning by water does not produce satisfactory results a cleaning agent may be used. Do not use chemical cleaners utilizing acid or strong alkali based materials. Do not use harsh physical methods such as high pressure water jetting or sand blasting. Contractor is responsible for damage caused by any cleaning agent or method.
- G. Protect glass, aluminum finishes, stone and other materials during cleaning. Contractor is responsible for any damage done during cleaning.

END OF SECTION

SECTION 04 43 13

STONE MASONRY

PART 1 - GENERAL

1.01 Section Includes

- A. Stone veneer for concrete piers.
- B. Stone caps.

1.02 Related Sections

- A. Section 04 05 13 - Mortar and Grout.

1.03 References

- A. ASTM C97 - Standard Specification for Absorption and Bulk Specific Gravity of Dimension Stone.
- B. ASTM C170 - Standard Specification for Compressive Strength of Dimension Stone.
- C. ASTM C568 - Standard Specification for Limestone Dimension Stone.
- D. ASTM C880 - Standard Specification for Flexural Strength of Dimension Stone.
- E. ACI 530.1/ASCE 6/TMS 602 - Specifications for Masonry Structures.

1.04 Submittals

- A. Product data for natural dimensional stone.
- B. Selection Samples: For each stone product specified, submit two samples, minimum size 6 inches long, representing color range, surface, and texture.

1.05 Quality Assurance

- A. Manufacturer's qualifications: Company owning and operating stone quarry and specializing in quarrying, cutting, and dressing natural stone for masonry assemblies with 5 years minimum successful experience.
- B. Installer qualifications: Company specializing in performing stone masonry work with 5 years documented, successful experience.
- C. Mock-Up: Provide a mock-up for evaluation of the stone, mortar color, and application workmanship. Mock-up shall be the same size as one surface of the concrete pier.

1.06 Delivery, Storage, and Handling

- A. Deliver, store, and handle stone units in a manner to avoid chipping, breakage, marring faces, and contact with contaminating materials.
- B. Store stone on wood pallets and store on dry, level surface. Cover pallets with tarps. Do not stack pallets or allow them to sit in standing water.

1.07 Environmental Requirements

- A. Maintain materials and surrounding air temperature to following limits prior to, during, and 24 hours after completion of masonry veneer.
 - 1. Minimum 40⁰ F.
 - 2. Maximum 90⁰ F.
- B. Hot and Cold Weather Requirements: In accordance with ACI 530.1/ASCE 6/TMS 602 Specifications for Masonry Structures.
- C. . When ambient temperature falls below 50⁰ F, heat mortar mixing water

PART 2 - PRODUCTS

2.01 Acceptable Manufacturers

- A. Acceptable Stone Quarrier: Buechel Stone Corporation; 800.236.4473 or equal.

2.02 Natural Limestone Veneer

- A. Fond du Lac Rustic:
 - 1. Nominal size range:
 - a. Length: 6 inches 18 inches.
 - b. Height: 1 3/4 to 3 1/4 inches.
 - c. Width: 3 to 5 inches
 - 2. Color range: brown, buff, tan, and gold.
 - 3. Color consistency: consistent.
 - 4. Ends: square.
 - 5. Properties for limestone complying with ASTM C568:
 - a. Maximum absorption rate tested in accordance with ASTM C97: 3 percent.
 - b. Minimum density tested in accordance with ASTM C97: 2,560 kg per cubic meter.
 - c. Minimum compressive strength tested in accordance with ASTM C170: 55 Mpa.
 - d. Minimum flexural strength tested in accordance with ASTM C 880: 8.27 Mpa.

2.03 Natural Limestone Cap

- A. Natural Limestone Cap:
 - 1. Nominal Size: 2'-4" x 2'-4" x 4".
 - 2. Finish:
 - a. Top and Bottom: Smooth.
 - b. Edges: Rough.
 - 3. Color: Match limestone veneer.
 - 4. Properties for limestone complying with ASTM C568:
 - a. Maximum absorption rate tested in accordance with ASTM C97: 3 percent.
 - b. Minimum density tested in accordance with ASTM C97: 2,560 kg per cubic meter.
 - c. Minimum compressive strength tested in accordance with ASTM C170: 55 Mpa.
 - d. Minimum flexural strength tested in accordance with ASTM C 880: 8.27 Mpa.

PART 3 -- EXECUTION

3.01 Preparation

- A. Clean surfaces thoroughly.
- B. Prepare surfaces in accordance with manufacturer's recommendations.

3.02 Installation

- A. Install stone and mortar in accordance with the manufacturer's instructions and in accordance with ACI 530.1
- B. Stone installation:
 - 1. Layout work area in advance and distribute color range of stone uniformly over total work area.
 - 2. Coursing patterns: To match approved mock-up. Arrange stone pattern to provide color and uniformity, visual variations, blend of sizes, and regularity and neat appearance of joints. Exercise care to avoid concentration of any one color on any one wall surface. Do not use stacked vertical joints.
 - 3. Joints: Lay stone with 1/2 inch approximate mortar joints.
 - a. Fill joints with grouting mortar. Pack and work into voids.
 - b. When thumb-print hard, neatly tool surface to concave joint with round jointer slightly larger than joint width.
- C. Remove excess mortar as work progresses to prevent staining.
- D. Remove units disturbed after laying, clean, and relay with fresh mortar. If adjustments are required, remove units, clean off mortar, and reset with fresh mortar.
- E. Exercise care that wet mortar is not splashed onto stone face during installation. Excess or splashed mortar shall be cleaned from face with dry burlap wipe. Remove excess mortar after mortar becomes hard enough not to smear but prior to mortar setting.
- F. Ensure that sealant materials are not smeared onto stone faces. Remove as recommended by manufacturer.
- G. Joining Work: Where fresh masonry joins partially set masonry.
 - 1. Remove loose stone and mortar.
 - 2. Clean and lightly wet surface of set masonry.
 - 3. To avoid a horizontal run of masonry, rack back 1/2 the length of stone in each course.
 - 4. Tothing is not permitted.

3.03 Cleaning

- A. Keep face of stone free of mortar as work progresses.
- B. Remove excess mortar and mortar smears as work progresses.
- C. Allow walls to air dry. Brush off mortar with stiff fiber brush. Do not use metallic tools for cleaning.
- D. Contact stone manufacturer for detailed cleaning if chemicals are required.

3.04 Protection

- A. Protect installed products until completion of project.
- B. Cover the top of unfinished stone masonry work at the end of each workday to protect it from the weather.
- C. Touch-up, repair or replace damaged products before substantial completion.

END OF SECTION

SECTION 06 10 10

HEAVY TIMBER AND LUMBER PRODUCTION

PART 1 - GENERAL

1.01 Section Includes

- A. Production of rough sawed heavy timbers and lumber from logs provided by Dane County Parks.

1.02 Quality Assurance

- A. A firm with a minimum of five years experience in the rough sawing of heavy timber and lumber.

1.03 Storage

- A. Store rough sawn heavy timber and lumber covered with temporary corrugated roof.
- B. Provide wood strips in between each layer to provide good air flow.
- C. Immediately after sawing apply end seal to the timbers and boards.
 - 1. End Seal: A polymer and petroleum wax designed for sealing the ends of logs and lumber.
 - 2. Anchor 2® Hybrid End Sealer or equal.

PART 2 - PRODUCTS

2.01 General

- A. Check logs for metal both visually and magnetically. Clean mud from logs.

2.02 Heavy Timber and Lumber

- A. Finish: Rough sawn.
- B. Length: Minimum 8 to 12 feet.
- C. Rough Sawn Dimensions:
 - 1. Heavy Timber (5" x 5" and greater): Rough sawn dimensions shall be 1 inch all around greater than the finished dimensions.
 - 2. Lumber (less than 5" x 5"): Rough sawn dimensions shall be 3/8 inch all around greater than the finished dimensions.

2.03 Species

- A. Use logs of the following species:
 - 1. Heavy Timber: Douglas fir-larch, red oak, white oak, basswood, black walnut, black cherry, hard maple, or hickory.
 - 2. Lumber: Red oak, white oak, ash, basswood, black walnut, black cherry, hard maple, soft maple, or hickory.

PART 3 - EXECUTION

3.01 Performance

- A. Choose logs of the appropriate species for the material to be processed.
- B. Coordinate with milling facility to determine amount and size of logs required for fabrication of timber frame shelter building materials.
- C. Provide quantity of sizes and lengths as necessary to construct shelter per plans and specifications.
- D. Choose logs for the most efficient timber and lumber production.
- E. Pick up stockpiled logs and transport them from designated county site (Brigham Park) to a manufacturing facility for milling and temporary dry storage for no longer than 6 months.
- F. Store timbers and lumber in accordance with 1.03 above and at the location designated by the Owner.

3.02 Clean Up

- A. Clean up saw site from all waste wood products and saw dust.

END OF SECTION

SECTION 06 13 26

HEAVY TIMBER CONSTRUCTION

PART 1 - GENERAL

1.01 Section Includes

- A. Fabrication and installation of heavy timber beams, columns, & trusses.
- B. Perform all work required to properly complete the heavy timber work as shown on the drawings and as specified herein.
- C. Provide all labor, staging, scaffolding, temporary bracing, crane, hoists, rigging, equipment, and services necessary to perform the Work of this Section. The work includes, but is not necessarily limited to the following:
 - 1. Timber components of every description, including beams, girts, columns, plates, braces, ties, pegs, webs.
 - 2. Miscellaneous hardware for heavy timber construction, including but not limited to connectors and bolts.

1.02 [Related Sections]

- A. [06 10 10 - Heavy Timber and Lumber Production.]

1.03 References

- A. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, Threaded Rod 60,000 PSI Tensile Strength.

1.04 Submittals

- A. Shop Drawings: Submit shop drawings in accordance with Section 3 of the Conditions of Contract. Shop Drawings shall include the following:
 - 1. Small scale plans and elevations showing all truss members, joints and methods of assembly. Shop Drawings shall include details for every member and connection and shall show connector plates, pegs, mortises, tenons, lengths, angles of cut, etc.

1.03 Measurements

- A. Verify all measurements and conditions at the building as required for the proper installation of the work. Contractor shall be responsible for the accuracy and fit of the various parts of his work

1.04 Delivery, Storage, and Handling

- A. Protect materials and keep under cover in transit and at the job site. Stack to ensure proper ventilation and drainage. Store under cover in a well ventilated area. Materials damaged in shipment or at the job site shall be repaired or replaced at no cost to the Owner.

PART 2 - PRODUCTS

2.01 Wood Materials

- A. [Provide rough timbers and lumber in accordance with Section 06 10 10.]
- B. [Dane County Parks will provide rough sawed heavy timbers and lumber]
- C. Rough Heavy Timber and Lumber Dimensions:
 - 1. Heavy Timber (5" x 5" or greater): 1" wider on all four sides than finished dimensions.

2. Lumber (less than 5" x 5"): 3/8" wider on all four sides than finished dimensions.
- D. Grading: Visually grade timbers and lumber and use only material that meets the following grades.
1. Heavy Timbers: No.2 - Well-spaced knots of any quality up to 2", with one hole up to 1-1/4" per 2' lineal. Wane and skips are included.
 2. Lumber: No. 3 - Knots of any quality can be up to 2-1/2", with one hole up to 1-3/4" per lineal foot. Wane and skips are included.
- E. Mill to required finished dimensions. Provide S4S.

2.02 Pegs

- A. Peg material shall be straight grained, all heartwood, knot free, and reaction free from oak.

2.03 Miscellaneous Hardware

- A. Bolts and Rods: Galvanized Steel, ASTM A307.
- B. Washers and Nuts: Galvanized steel.
- C. Connectors: Timberlinx or equal.

2.04 Finish

- A. An oil modified water base urethane manufactured with Nano Particle technology to provide protection against abrasion, UV light, and moisture and water and dirt repellency.
- B. Rain Wet Sheen by Rymer Industries (sold by Sherwin Williams) or equal.
- C. Color: To be selected by Owner.

PART 3 - EXECUTION

3.02 Truss Fabrication

- A. Shop fabricate trusses in accordance with the Drawings, the approved Shop Drawings, code requirements, and the best trade practices.
- B. All joinery shall be accurately cut so as to make a neat, snug fit.
- C. Disassemble the trusses for shipment to job site.

3.03 Finishing

- A. Provide a three coat urethane system on all four sides of the trusses and columns prior to shipment to job site.
- B. Provide a three coat urethane system on the exposed side of the roof decking.
- C. Apply coating in accordance with the manufacturer's printed instructions.

3.04 Erection

- A. Check truss components and assemblies for dimensions and anchorage accuracy before erection.
- B. Temporary bracing and guy lines shall be provided to adequately protect all persons and property and to insure proper alignment.
- C. Padding or non-marking slings shall be used, and corners shall be protected with blocking.
- D. The assembled trusses shall be reasonably straight, plumb, level and square. Portions of the structure not adequately braced by design shall have temporary braces until the decking is applied.
- E. All joints shall be reasonably tight.
- F. Tools used to drive or pull joints together shall not permanently mar the finished surfaces of the trusses.
- G. Install roof decking.

END OF SECTION

SECTION 07 61 13

METAL ROOFING

PART 1 - GENERAL

1.01 Section Includes

- A. Furnishing and installation of metal roofing and accessories.

1.02 References

- A. ASTM A792 - Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
- B. UL 580 - Standard Tests for Uplift Resistance of Roof Assemblies.

1.03 Submittals

- A. Manufacturer's product data including materials, thickness, dimensions, finish, accessories, and installation instructions.
- B. Shop drawings showing roofing layout and details.

1.04 Delivery, Storage, and Handling

- A. Steel panels shall be packaged to prevent damage during shipment.
- B. Handle and store material in such a ways as to prevent damage. Remove damaged material from site.

PART 2 - PRODUCTS

2.01 Roof Panels

- A. Sheet Steel Stock: ASTM A792, aluminum-zinc alloy Coating Designation AZ55, Grade 50.
- B. Roof Panels: Concealed fastener roof panel.
 - 1. Profile: Trapezoidal height of 3"±. McElroy Metal MasterLok 90 or equal.
 - 2. Width: 24"±.
 - 3. Thickness: 24 gauge.
 - 4. Wind Uplift Resistance: UL 580, Class 90.
- C. Finish: None.

2.02 Accessories

- A. Ridge Cap: Manufacturer's standard.
- B. Fasteners: Manufacturer's standard type, finish to match adjacent surfaces. Size to maintain load and weather tightness requirements.
- C. Closure Strips: Manufacturer's standard.
- D. Drip Edge: Galvanized steel, minimum 0.024 in. thick.
- E. Sealants:
 - 1. Sealants for side laps, end laps, accessories, etc. shall be a preformed, butyl rubber based compound. The material shall be non-hardening, non-shrinking and non-corrosive and shall have excellent adhesion to metals, painted surfaces and plastics at temperatures from -30°F to 160°F. These sealants

- shall be in tape mastic form, of shape and size recommended by metal building manufacturer for various applications, and shall have paper backing for easy handling.
2. Tube sealants shall be used to supplement tape mastic sealants and shall be applied in locations indicated by erection instructions. Tube sealant shall be a synthetic, elastomer-based material which becomes tack-free in less than 2 hours at 75°F but retains flexibility.

PART 3 - EXECUTION

3.01 Preparation

- A. Remove debris from roof surface.

3.02 Roof Panel Installation

- A. Install roofing systems in accordance with manufacturer's instructions and details.
- B. Install drip edge.
- C. Provide full length panels. End laps will not be allowed,
- D. Fasten cladding system to roof deck, using fasteners approved by the panel manufacturer. Fasteners shall be aligned, level, and plumb.
- E. Install sealant and gaskets to prevent weather penetration.
- F. Install closure strips.

1.03 Cleaning

- A. Remove strippable coating from panels and trim.
- B. Dry wipe panels as they are installed.

3.04 Protection

- A. Protect installed products from subsequent construction activities.
- B. Replace damaged products.
- C. Repair minor finish scratches in accordance with the panel manufacturer's recommendations. Replace panels that cannot be repaired to Owner's satisfaction.

END OF SECTION

SECTION 07 92 00

JOINT SEALERS

PART 1 - GENERAL

1.01 Section Includes

- A. Preparing substrate surfaces.
- B. Sealant and joint backing.

1.02 References

- A. ASTM C834 - Standard Specification for Latex Sealants.
- B. ASTM C920 - Standard Specification for Elastomeric Joint Sealants.
- C. ASTM D1667 - Standard Specification for Flexible Cellular Materials - Vinyl Chloride Polymers and Copolymers (Closed Cell Foam).

1.03 Submittals

- A. Submit color charts for selection of sealants for exposed areas.
- B. Submit manufacturer's product specifications and installation instructions.

1.04 Quality Assurance

- A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.

1.05 Qualifications

- A. Manufacturer: Company specializing in manufacturing the products specified in this section with a minimum of three years of experience.
- B. Applicator: Person thoroughly skilled in the application of the products specified.

1.06 Environmental Requirements

- A. Do not install solvent curing sealants in enclosed building spaces.
- B. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

PART 2 - PRODUCTS

2.01 Sealants

- A. Exterior Sealant:
 - 1. Vertical Joints: Polyurethane Sealant; ASTM C920, Type S, Grade NS, Class 25, Use NT.
 - 2. Horizontal Joints: Polyurethane Sealant; ASTM C920, Type M, Grade P, Class 25, Use NT.
 - 3. Color: Standard colors matching finished surfaces.

2.02 Accessories

- A. Primer: Non-staining, recommended by sealant manufacturer.
- B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer and compatible

with joint forming materials.

- C. Joint Backing: ASTM D1667; round, closed cell PVC foam rod; oversized 30 to 50 percent larger than joint width.
- D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer.

PART 3 - EXECUTION

3.01 Examination

- A. Verify that substrate surfaces and joint openings are ready to receive work. Allow concrete and mortar to cure 28 days prior to sealant installation.
- B. Verify that joint backing and release tapes are compatible with sealant.

3.02 Preparation

- A. Clean and prime joints in accordance with manufacturer's instructions.
- B. Remove loose materials, dust, moisture, form release agents, waterproofings, and other foreign matter that might impair adhesion of sealant.
- C. Protect elements surrounding the work of this section from damage or disfiguration.

3.03 Installation

- A. Install sealant in accordance with manufacturer's instructions.
- B. Measure joint dimensions and size backing material to achieve required depth/width ratio.
- C. Install joint backing to achieve a neck dimension no greater than one-third of the joint width.
- D. Install bond breaker where joint backing is not used.
- E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.
- F. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.
- G. Tool joints concave.

3.04 Cleaning

- A. Clean adjacent soiled surfaces.
- B. Repair or replace defaced or disfigured finishes caused by work of this section.

END OF SECTION

SECTION 26 05 00

ELECTRICAL SYSTEMS

1.01 Execution Of the Work

- A. These specifications call out certain duties of the Electrical Contractor and his Subcontractors. They are not intended as a material list of items required by the Contract.
- B. Provide all items and work indicated on the Drawings and all items and work called for in this division of the specifications in accordance with the conditions of Contract. This includes all incidentals, equipment, appliances, services, hoisting, scaffolding, supports, tools, supervision, labor, consumable items, fees, licenses, etc., necessary to provide complete systems. Perform start-up and checkout on each item and system to provide fully operable systems.
- C. Comply with all provisions of the Contract Documents including General Conditions, and Supplementary General Conditions of the Specifications.
- D. It is the intent of the Drawings and Specifications to provide a complete workable system ready for the Owner's operation. Any item not specifically shown on the Drawings or called for in the Specifications, but normally required to conform to the intent, are to be considered a part of the Contract.
- E. All materials furnished by the Contractor shall be new and unused (temporary lighting and power products are excluded) and free from defects. All materials used shall bear the Underwriters' Laboratory, Inc. label provided a standard has been established for the material in question.
- F. Except for conduit, conduit fittings, outlet boxes, wire and cable, all items of equipment or material shall be the product of one manufacturer throughout. Multiple manufacturers will not be permitted, except for lighting fixtures.

1.02 Coordination of the Work

- A. Carefully check space requirements with other trades and the physical confines of the area to insure that all material can be installed in the spaces allotted thereto.
- B. Due to the type of the installation, a fixed sequence of operation is required to properly install the complete systems. Coordinate project and schedule work with other trades in accordance with the construction sequence.
- C. The locations of lighting fixtures, outlets, panels and other equipment indicated on the Drawings are approximately correct. Locations are understood to be subject to revision as may be found necessary or desirable at the time the work is installed in consequence of increase or reduction of the number of outlets, or in order to meet field conditions or to coordinate with modular requirements of ceilings, or to simplify the work.
- D. Exercise particular caution with reference to the location of panels, outlets, switches, etc., and have precise and definite locations approved by the Architect/Engineer before proceeding with the installation.

1.03 Cutting, Patching, Etc.

- A. The work shall be carefully laid out in advance. Where cutting, channeling, chasing or drilling of floors, walls, partitions, ceilings or other surfaces is necessary for the proper installation, support or anchorage of raceway, outlets or other equipment, the work shall be carefully done. Any damage to the building, piping, equipment or defaced finish plaster, woodwork, metalwork, etc. shall be repaired by skilled mechanics of the trades involved at no additional cost to the Owner.
- B. The Contractor shall do no cutting, channeling, chasing or drilling of unfinished masonry, tile, etc., unless he first obtains permission from the Architect/Engineer. If permission is granted, the Contractor shall perform this work in a manner approved by the Architect/Engineer.
- C. The various trades in their respective materials will provide slots, chases, openings and recesses through floors, walls, ceilings, and roofs. The trade requiring them shall properly locate such openings and be responsible for any cutting and patching caused by the neglect to do so.

1.04 Cleaning Up

- A. Contractor shall take care to avoid accumulation of debris, boxes, crates, etc., resulting from the installation of his work. Contractor shall remove from the premises each day all debris, boxes, etc., and keep the premises clean, subject to the Architect/Engineer's instructions, which shall be promptly carried out.
- B. Contractor shall clean all fixtures and equipment at the completion of the project.
- C. All panelboards, wireways, cabinets, enclosures, etc. shall be thoroughly vacuumed clean prior to energizing equipment and at the completion of the project. Equipment shall be opened for observation by the Architect/Engineer as required.

1.05 General Installation Procedures

- A. Follow manufacturer's instructions for installing, connecting, and adjusting all equipment. Provide one copy of such instructions to the Architect/Engineer before installing any equipment. Provide a copy of such instructions at the equipment during any work on the equipment. Provide all special supports, connections, wiring, accessories, etc.
- B. Use mechanics skilled in their trade for all work.
- C. Keep all items protected before and after installation.
- D. Perform all tests required by local authorities in addition to tests specified herein, such as life safety systems.
- E. Applicable equipment and materials to be listed by Underwriters' Laboratories and manufactured in accordance with ASME, NEMA, ANSI, or IEEE standards and as approved by local authorities having jurisdiction.
- F. Before commencing work, examine all adjoining, underlying, etc., work on which this work is in any way dependent for perfect workmanship and report any condition, which prevents performance of first class work. Become thoroughly familiar with actual existing conditions to which connections must be made or which must be changed or altered.

1.06 Grounding

- A. Ground all components of the electrical system as per "National Electrical Code" requirements and as indicated on the Drawings.
- B. Individual ground wires shall be provided for all feeders and branch circuits. Metallic conduit may not be used as the sole grounding path.

1.07 Required Submittals

- A. Submit five (5) copies of descriptive Drawings to the Engineer within 30 days from the date of "Notice to Proceed", for approval of the following:
 - 1. Combination Meter Sockets and Distribution Panelboards
 - 2. Lighting fixtures.
 - 3. Electrical Devices.
 - 4. Automatic Lighting Controls.

1.08 Service Entrance Meter Socket and Distribution Panelboards

- A. The Electrical Contractor shall be required to Contact and Coordinate a new electrical service for each building with the local Electric Utility. Contractor shall make contact on behalf of the Owner, request a new service, submit load calculations as requested by the Utility, and schedule all work with the Utility.
- B. The Electrical Contractor shall pay all Utility Fees for a normal new service installation. Any special fees, such as easement costs, road crossings, etc. shall be directed to the Owner for review and approval prior to any agreement to proceed with such work.
- C. A combination meter socket with Main Circuit Breaker and minimum of Eight (8) branch circuit breakers shall be used for these projects. The Combination units shall meet the requirements of the local utility and shall include a metal channel for utility conductors to the meter socket. Meter socket shall be rated at 200 amps, 120/240 VAC, single phase, with meter configuration, lugs, and manual bypass as required by the local Utility.
- D. The Main Circuit Breaker shall be a 200 amp, 2-pole, with an AIC rating as required by the local Utility.
- E. The combination meter socket/distribution panel shall be NEMA 3R or 4X rated and suitable for wet locations.
- F. The combination meter socket/distribution panel shall be mounted on a free-standing pedestal provided and installed by the Electrical Contractor. This may be a one-piece metal pedestal or it may be an 8 inch x 8 inch treated wood post. Regardless of pedestal configuration, the pedestal shall be set in a concrete foundation provided and installed by the Electrical Contractor. Concrete foundation shall be poured in a "sonotube" with dimensions of 18 inch diameter by 48" deep in ground. Strike top concrete surface 6 inches above finished grade.
- G. Provide a minimum of seventeen (17) 20 amp, single pole circuit breakers with integral ground fault protection serving branch circuit loads. One circuit shall be used for lighting. The remainder shall be used for convenience receptacles.
- H. Install pedestal and meter socket/distribution panel plumb. Ground service from this location as a separate electrical service per most recent NEC.

1.09 Line Voltage Wiring Method

- A. Service entrance conductors will normally be provided by the Utility. If service entrance conductors are required to be provided by the Electrical Contractor, direct-buried URD aluminum conductors will be acceptable. Bury all URD cable a minimum of 36 inches deep.

- B. Minimum wire size shall be #12 AWG
- C. All branch circuits shall be routed in Schedule 40 PVC conduit with solvent-weld fittings. Multiple circuits may be shared in a common conduit, but the conductors may need to be increased in size per NEC. Each receptacle shall be considered as a 1,000 watt load when sizing branch circuit conductors and conduit.

1.10 Wiring Devices

- A. Receptacles:
 - 1. All receptacles shown on the Drawings shall be duplex receptacles, "Hospital Grade", NEMA 5-20R, 20 amp, 120 volt, 3 wire grounding. Provide all receptacles in gray color.
- B. Mounting Heights - Floor to Center of Device, unless noted otherwise:
 - 1. Install all receptacles at 18 inches above finished floor of the shelter.
- C. Device cover plates:
 - 1. All receptacle cover plates shall be "exterior, weatherproof", with NEMA 3R or 4X rating.
 - 2. Cover plates shall be constructed of die cast metal. Thermoplastic cover plates will not be acceptable.
 - 3. All cover plates shall be suitable for cord connection with cover closed.
 - 4. Intermatic WP1000MX series for similar product.

1.11 Automatic Lighting Controls

- A. Time Switch:
 - 1. All lighting installed under a single shelter canopy shall be automatically controlled, as a group with a single Intermatic T101R time switch.
 - 2. The time switch shall be mounted on the panelboard assembly.

1.12 Lighting Fixtures

- C. All lighting fixtures shown on the Drawings shall be the same fixture.
- D. The lighting fixture provided shall be vandal-resistant, shall be suitable for surface or pendant mounting, shall use only LED light sources with LED drivers enclosed within the common fixture housing, and shall provide 20 footcandles of lighting on the floor, with no obstructions (picnic tables) and no contribution of lighting from adjacent sources. The Contractor shall provide a photometric "point-by-point" printout using the proposed fixture and shall submit such to the Owner for review.
- E. Recommended lighting fixture is a [Kenall MS11-PP-DB-26L40K-120][Lithonia OLWCM36] or equal.

END OF SECTION

SECTION 31 22 00

SITE PREPARATION AND EARTHWORK

PART 1 - GENERAL

1.01 Section Includes

- A. Clearing site of debris, grass, trees and other plant life in preparation for construction.
- B. Protection of existing structures, trees or vegetation to remain.
- C. Stripping of topsoil from areas to be incorporated into the work.
- D. Excavation, filling and compaction for site grading.

1.02 References

- A. ASTM D 1557 - Standard Test Methods Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)).
- B. ASTM D2487 - Classification of Soils for Engineering Purposes.
- C. ASTM D2922 - Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- D. ASTM D3017 - Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

1.03 Submittals

- A. Submit compaction test reports.

PART 2 - PRODUCTS

2.01 Materials

- A. Common Fill: On-site or off-site natural soil free from organic matter, debris, vegetation, stones larger than 6" and frozen material and classified in ASTM D2487 as follows:
 - GW - Well-graded gravels, gravel-sand mixtures, little or no fines.
 - GP - Poorly-graded gravels, gravel-sand mixtures, little or no fines.
 - GM - Silty gravels, gravel-sand-silt mixtures.
 - GC - Clayey gravels, gravel-sand-clay mixtures.
 - SW - Well-graded sands, gravelly sands, little or no fines.
 - SP - Poorly-graded sands, gravelly sands, little or no fines.
 - SM - Silty sands, sand-silt mixture.
 - SC - Clayey sands, sand-clay mixtures.
 - ML - Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
 - CL - Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.

PART 3 - EXECUTION

3.01 Protection

- A. Locate and identify existing utilities that are to remain and protect them from damage.
- B. Protect trees, plants, structures, site improvements and features designated to remain.
- C. Protect bench marks, property corners and other survey monuments from damage or displacement.

3.02 Clearing

- A. Clear area within the clearing limits shown on the Drawings. If no clearing limits are shown, clear five feet outside of the grading limits, but not beyond project property boundaries.
- B. Remove trees, saplings, shrubs, bushes, vines and undergrowth within the clearing limits to the height above ground as follows:
 - 1. Trees over six inch diameter; six inches.
 - 2. Trees, shrubs and bushes under six inch diameter; three inches.
 - 3. Vines and undergrowth; two inches.

3.03 Grubbing

- A. Remove all stumps, main root balls and root systems to the minimum depths indicated:
 - 1. Beneath footings: 18 inches.
 - 2. Beneath paved roads, parking areas and walks: 12 inches below sub-grade.
 - 3. Beneath turf: 8 inches.
 - 4. In fill areas: 12 inches.

3.04 Topsoil Excavation

- A. Cut heavy growths of grass from areas to be stripped.
- B. Strip topsoil from all areas to be excavated, regraded or landscaped to a depth that prevents the intermingling of the topsoil with the subsoil.
- C. Topsoil is defined as surficial soil containing organic matter that sustains plant life.
- D. Stockpile the stripped topsoil on the site for reuse. If stockpile location is not shown on the Drawings, coordinate the location with the Engineer.
- E. Provide erosion protection for all stockpiled topsoil.

3.06 Lines and Grade

- A. Site Grading
 - 1. Construct the finish subgrade to contours shown on the Drawings.
 - 2. The Engineer will provide grade stakes as appropriate for the Work.
 - 3. Contractor may use slope meters or GPS type controls on machines for grade control. However, the contractor is responsible for verifying the finish grade elevations.

3.07 Grading and Subgrade Preparation

- A. Cut and fill to the required grades and cross section and contours.
- B. Scarify surface of cut areas and compact to the degree required for subsequent backfill.
- C. Place fill material in continuous layers not exceeding 8" compacted thickness.
- D. Maintain surface drainage during construction.
- E. Remove excess material from site. If borrow is needed, provide material meeting requirements of 2.01 for common fill.
- F. Prior to placement of topsoil, areas that have been compacted by construction traffic shall be scarified to a minimum depth of 12 inches using a chisel plow or ripper arms on a dozer. Scarifying shall be performed along the contour.

3.08 Compaction

- A. Adjust moisture content of fill material to accomplish the required degree of compaction.
- B. Use a sheepfoot roller for cohesive soils and a smooth drum vibratory roller for granular soils.
- C. Compact to the percent of maximum dry density as listed below in accordance with ASTM D1557.

Compaction Requirements		
Area	Cohesive Soils	Granular Soils
Beneath Turf	85%	85%
Beneath Walks & Curbs	90%	95%
Building Pad Area	90%	95%

3.09 Tolerances

- A. Top Surface of General Grading: Plus or minus 0.1 ft.

3.10 Field Quality Control

- A. Field inspection will be performed by an authorized representative of the Owner.
- B. Contractor is responsible for meeting the compaction requirements. The Contractor shall hire and pay for an independent testing firm to perform compaction tests to confirm the in-place density.
- C. For general grading perform one test per 9,000 square yards or part thereof of fill placed per lift. In addition, perform one test per building lot where fill is placed. For streets perform one test per 1,000 square yards or part thereof of fill placed per lift. Engineer or Owner’s Representative will direct location of tests.
- D. Additional tests may be required if compaction requirements are not being met. The cost of these additional tests are the responsibility of the Contractor.
- E. Determination of moisture content shall be in accordance with ASTM D3017. Determination of density shall be in accordance with ASTM D2922.

3.11 Disposal

- A. Dispose of all plant material off-site at a location meeting state landfill requirements.
- B. Burning at the site will not be permitted.
- C. Dispose of excess soil materials or unsuitable material off-site unless on-site disposal is indicated, or approved by Owner.

END OF SECTION

SECTION 31 23 00

STRUCTURAL EXCAVATION, BACKFILL, AND COMPACTION

PART 1 - GENERAL

1.01 Section Includes

- A. Excavation for structures.
- B. Backfill and compaction for structures.

1.02 References

- A. ASTM D 1557 - Standard Test Methods Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)).
- B. ASTM D2487 - Classification of Soils for Engineering Purposes.
- C. ASTM D2922 - Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- D. ASTM D3017 - Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

1.03 Submittals

- A. None.

PART 2 - PRODUCTS

2.01 Materials

- A. Structural Fill: On-site or off-site natural soil free from organic matter, debris, vegetation, stones larger than 6" and frozen material and described in ASTM D2487 as follows:

- GW - Well-graded gravels, gravel-sand mixtures, little or no fines.
- GP - Poorly-graded gravels, gravel-sand mixtures, little or no fines.
- GM - Silty gravels, gravel-sand-silt mixtures.
- GC - Clayey gravels, gravel-sand-clay mixtures.
- SW - Well-graded sands, gravelly sands, little or no fines.
- SP - Poorly-graded sands, gravelly sands, little or no fines.
- SM - Silty sands, sand-silt mixture.
- SC - Clayey sands, sand-clay mixtures.

- B. Common Fill: Same as structural fill plus soils classified in ASTM D2487 as follows:

- ML - Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
- CL - Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.

- C. Sand: Clean, granular material meeting the following gradation:

Sieve Size	Percent Passing by Weight
3/8 Inch	100
No. 4	90 - 100
No. 16	45 - 80
No. 50	10 - 30
No. 100	2 - 10
No. 200	0 - 5

PART 3 - EXECUTION

3.01 Preparation

- A. Identify required lines, elevations and grades.
- B. Protect benchmarks, property corners and grade stakes.
- C. Locate and identify utilities that are to remain and protect them from damage.
- D. Protect plant life, turf, fences, structures and other site improvements from damage.

3.02 Excavation

- A. Excavate structure area to line and grade. Do not excavate below indicated depth except to remove unsuitable material.
- B. Dispose of unsuitable material. Stockpile suitable material for reuse as backfill.
- C. Scarify surface of excavated areas and compact to the degree required for subsequent backfill.
- D. Excavation walls more than five feet in depth shall be shored or cut back to a stable slope. Meet requirements of Department of Labor, Occupational Safety and Health Administration (OSHA).
- E. Provide necessary equipment to remove water from excavation.

3.03 Backfilling and Compaction

- A. Place fill in continuous layers not exceeding 8" compacted thickness.
- B. Maintain optimum moisture content of fill material to accomplish the required degree of compaction.
- C. Do not place frozen material and do not place fill on frozen ground.
- F. Provide fill material as indicated in the schedule.
- G. Compact to the percent of maximum dry density as listed in the schedule in accordance with ASTM D1557.
- H. Schedule

Area	Fill Material	Percent Compaction
Beneath Floor Slabs		
Top 6 Inches	Sand	95
Below 6 Inches	Structural Fill	95
Foundation Walls	Structural Fill	92
Walks & Pavement	Structural Fill	95
Beyond 10 Ft. from Structure	Common Fill	85

3.04 Tolerances

- A. Under Paved Areas: Plus or minus 0.1 ft.
- B. Under Slabs-On-Grade: Plus or minus 0.1 ft.

3.05 Field Quality Control

- A. Field inspection will be performed by an authorized representative of the Owner.
- B. Contractor is responsible for meeting the compaction requirements. The Contractor shall hire an independent

testing firm to perform compaction tests to confirm the in-place density.

- C. Determination of moisture content shall be in accordance with ASTM D3017. Determination of density shall be in accordance with ASTM D2922.

END OF SECTION

SECTION 32 92 19

SOIL PREPARATION AND SEEDING

PART 1 - GENERAL

1.01 Section Includes

- A. Preparation of subsoil.
- B. Placing topsoil.
- C. Fertilizer.
- D. Seeding.
- E. Mulching.

1.02 Quality Assurance

- A. Comply with requirements of state regulations regarding grass seed and fertilizer.
- B. Fertilizer
 - 1. Each container shall be plainly marked with the analysis of the contents showing the minimum percentages of total nitrogen, available phosphorous and soluble potash. Containers or packages shall be new and unopened.
 - 2. When furnished in bulk, each shipment shall be accompanied by an invoice indicating minimum percentages of the contents listed above.
- C. Seed
 - 1. Provide seed mixture in containers showing percentage of seed mix, year of production, net weight, date of packaging and location of packaging. Containers or packages shall be new and unopened.
 - 2. Seed shall not be used later than one year later than the test date appearing on the label.
 - 3. Sampling and testing of seed for purity, germination and weed seed content shall be in accordance with "Rules for Testing Seed" published by the Association of Official Seed Analysts.

1.03 Submittals

- A. Submit composition of fertilizer and seed mixture.
- B. Submit, upon request, manufacturer's certification that materials meet specification requirements.
- C. Submit, upon request, results of seed purity and germination tests.
- D. Submit topsoil test results for all topsoil borrow.

PART 2 - PRODUCTS

2.01 Topsoil

- A. Provide reclaimed topsoil from the site unless the contract documents require topsoil borrow.
- B. Reclaimed Topsoil: Topsoil stripped from the site consisting of loam, sandy loam, silt loam, or silty-clay loam, or clay loam, humus-bearing soil, adapted to sustaining plant life. The soil shall be free of subsoil, foreign matter, plant material, objects larger than one inch in any dimension, and toxic or other substances harmful to plant growth.
- C. Topsoil Borrow: Topsoil from offsite consisting of natural loam, sandy loam, silt loam, or silty-clay loam, or clay loam, humus-bearing soil, adapted to sustaining plant life. The soil shall be free of subsoil, foreign matter, plant material, objects larger than one inch in any dimension, and toxic or other substances harmful to

plant growth. The soil shall have a pH range of 5.5 to 8.0 and a maximum soluble salt level of 500 PPM. Topsoil originating from agricultural fields shall be free of residual herbicide and other contaminants.

2.02 Fertilizer

- A. Standard commercial fertilizer with the following available nutrients by weight:
 - 1. Nitrogen - not less than 10%.
 - 2. Phosphoric Acid - not less than 10%
 - 3. Potash - not less than 10%

2.03 Seed

- A. Seed mixtures shall be [Earth Carpet Madison Parks] [Earth Carpet Shady Place].

2.04 Mulch Materials

- A. Hay: Straw or hay in air-dry condition substantially free from noxious weed seeds or objectionable foreign matter.
- B. Paper Fiber: Mulch consisting of recycled newsprint fibers, wetting agent, deforming agent and green dye with a dry moisture content of 9 to 15 percent.
- C. Wood Cellulose: Wood cellulose fibers manufactured from virgin wood fibers that form a blotter-like ground cover that readily absorbs water and allows infiltration to the underlying soil. Moisture content shall not exceed 15 percent at the time of delivery. The mulch shall be dyed green and shall have the property of becoming dispersed and suspended when agitated in water.
- D. Erosion Control Revegetative Mat: A light duty, organic, non-netted mat with a minimum thickness of 3/8 inch and biodegradable yarn or glue on 12 inch maximum centers in the longitudinal direction. The mat shall be capable of withstanding moderate foot traffic without tearing or puncturing. Acceptable products are those listed in the Wisconsin Department of Transportation, Erosion Control Product Acceptability Lists for Class I, Type Urban mats. Anchoring devices shall be biodegradable, non-splintering and shall last for at least two months and shall substantially degrade in four months.

PART 3 - EXECUTION

3.01 Inspection

- A. Examine area to receive soil preparation to ensure subsoil is ready for finish grading.
- B. Do not proceed with soil preparation until unsatisfactory conditions are corrected.

3.02 Preparation of Subsoil

- A. Eliminate uneven areas or low spots. Make changes in gradual and blend slopes into level areas.
- B. Do not prepare or place frozen soils or soils with excessive moisture.
- C. Remove weeds, roots, trash, debris, concrete, asphalt, crushed aggregate, and any stones larger than two inches in any dimension.
- D. Scarify subsoil to a depth of three inches.

3.03 Placing of Topsoil

- A. Spread topsoil evenly to a compacted depth of four inches.
- B. Place during dry weather.
- C. Grade to eliminate rough or low areas and to ensure positive drainage. Grading shall be approved by the

Engineer.

- D. Remove stones and other objects larger than one inch in any dimension.

3.04 Fertilizing

- A. Apply fertilizer at a rate of seven pounds per 1000 square feet.
- B. Apply fertilizer uniformly, incorporating it into the soil by light disking or harrowing.
- C. Apply fertilizer prior to seeding.

3.05 Seeding

- A. Do not sow seed on frozen soil or when wind exceeds 5 MPH.
- B. Do not use wet seed or seed that is moldy or otherwise damaged in transit or storage.
- C. Seeding Dates:
 - 1. Spring/Summer: April 1 to August 14.
 - 2. Fall: August 15 to October 1.

- D. Application Rate:

Application Rate	
Mixture	Lbs/1000 Sq. Ft.
Madison Parks	4 – 5
Shady Place	4 – 5

- E. Broadcasting
 - 1. Sow seed evenly with a spreader or seeding machine.
 - 2. Do not broadcast or drop seed when wind velocity exceeds 5 MPH.
 - 3. Broadcast one half of seed.
 - 4. Broadcast remaining half of seed at right angles to first seed pattern.
 - 5. Cover seed to a depth of 1/4" by raking, dragging or cultipacting.
 - 6. Roll seeded area with roller weighing a maximum of 150 pounds per foot of roller width.
 - 7. Water seeded area with fine spray, if required, to promote growth.
- F. Drilling
 - 1. Drill seed following elevation contours.
 - 2. Seed to uniform depth.
 - 3. Roll seeded area with roller weighing a maximum of 150 pounds per foot of roller width.
 - 4. Water seeded area with fine spray, if required, to promote growth.

3.06 Mulching

- A. Place mulch on same day that the area is seeded.
- B. Do not place straw or hay mulch or sprayed-on mulches during periods of high wind.
- C. Mulch type and method is the Contractor's option unless a specific type or method is indicated on the Drawings or in the Contract Documents.
- D. Hay/Straw Mulch
 - 1. Method 1 - Spread straw or hay treated with a tackifier over the area using a blowing machine. Spread the material uniformly to a depth of 1/2 to 1 inch using 1 1/2 to 3 tons of material per acre. The amount of tackifier used shall be in accordance with the manufacturer's recommendations.
 - 2. Method 2 - Spread hay or straw over the area by hand or using a blowing machine. Spread the material uniformly to a depth of 1/2 to 1 1/2 inch using 1 1/2 to 3 tons of material per acre. Immediately after

spreading, anchor the mulch into the soil using a mulch tiller.

- E. Paper Fiber: Apply with hydraulic spray equipment in a water slurry at the rate necessary to provide a 1/4 inch layer. Use the color of the material as a metering agent. Take care not to spray material on adjacent surfaces.
- F. Wood Cellulose: Apply with hydraulic spray equipment in a water slurry at the rate of 1500 pounds per acre. Use the color of the material as a metering agent. Take care not to spray material on adjacent surfaces.
- G. Mat: Remove all clods, stones or other materials that could damage the mat. Place mat over seeded area without overlapping. Anchor mat in accordance with the manufacturer's recommendations.

3.07 Establishment

- A. Establishment Period:
 - 1. For areas seeded during the spring or summer planting season the establishment period shall be 90 days.
 - 2. For areas seeded during the fall planting season the establishment period shall be through June 1 of the following year.
- B. Acceptable Establishment: At the end of the establishment period the grass shall be healthy, uniform in density and color, and substantially free of weeds with uniform coverage of at least 70 percent of a representative one square yard plot and bare spots not exceeding 6 inches by 6 inches.
- C. Re-seed areas that fail to grow an acceptable stand of grass.

3.08 Protection

- A. Protect all seeded areas, as necessary, to prevent trampling and/or damage by erecting temporary fences, barriers, signs, etc.

END OF SECTION