

RFB NO. 314029



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. 314029 CARD ACCESS SYSTEM REPLACEMENT DANE COUNTY JOB CENTER OFFICE 1819 ABERG AVENUE MADISON, WISCONSIN

Due Date / Time: **THURSDAY, NOVEMBER 20, 2014 / 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:

SCOTT CARLSON, PROJECT MANAGER
TELEPHONE NO.: 608/266-4179
FAX NO.: 608/267-1533
E-MAIL: CARLSON.SCOTT@COUNTYOFDANE.COM

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Plot drawings on 11" x 17" (ANSI B) paper for correct scale or size.
Figure 1 - Floor Plan

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., THURSDAY, NOVEMBER 20, 2014

REQUEST FOR BIDS NO. 314029

CARD ACCESS SYSTEM REPLACEMENT

DANE COUNTY JOB CENTER OFFICE

1819 ABERG AVENUE

MADISON, WISCONSIN

Dane County is inviting Bids for construction services to install a new card reader access system & to remove the existing one. System engineering, configuration & components shall be furnished by others. Only firms with capabilities, experience & expertise with similar projects should obtain this Request for Bids document & submit Bids.

Request for Bids document may be obtained after **2:00 p.m. on Thursday, October 30, 2014** by downloading it from countyofdane.com/pwbids. Please call Scott Carlson, Project Manager, at 608/266-4179, or our office at 608/266-4018, for any questions or additional information.

All Bidders must be a registered vendor with Dane County & pay an annual registration fee before award of Contract. Complete Vendor Registration Form at danepurchasing.com/registration or obtain one by calling 608/266-4131.

A pre-bid facility tour will be held Wednesday, November 12, 2014 at 8:30 a.m. at the Job Center Office, starting in Training Room 3, next to the western bldg entry on the Aberg Ave. side. Bidders are strongly encouraged to attend this tour.

**PUBLISH: OCTOBER 30 & NOVEMBER 6, 2014 - WISCONSIN STATE JOURNAL
 OCTOBER 30 & NOVEMBER 6, 2014 - THE DAILY REPORTER**

INSTRUCTIONS TO BIDDERS

**Card Access System Replacement
Dane County Job Center Office
1819 Aberg Avenue
Madison, Wisconsin**

1. SECURING DOCUMENTS

- A. Construction Documents may be obtained at countyofdane.com/pwbids.
- B. Bidder is responsible to check back regularly at the web site for Addenda.

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:

Scott Carlson, Public Works Project Manager
Dane County Department of Public Works, Highway & Transportation
1919 Alliant Energy Center Way, Madison, Wisconsin 53713
Fax: 608/267-1533
Email: carlson.scott@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 Facility Manager, Greg Brockmeyer, 608/845-1244.
- B. A bidders facility tour will be held on November 12, 2014 at 8:30 a.m. at the Dane County Job Center, 1819 Aberg Ave., Madison, starting in Training Room 3, next to the western bldg entry on the Aberg Ave. side. This tour will go until approximately 9:30 a.m. Bidders are strongly encouraged to attend this tour, however attendance is optional.

5. ALTERNATES

- A. Each bidder shall carefully read requests for alternate bids. Thoroughly examine Drawings and Specifications to determine to what extent various changes and conditions affect Bids. Base Bid shall be considered void if alternate bids are not submitted in space available on Bid Form. Award of Contract shall be based on amount of lowest qualified Base Bid and additive Owner accepted alternates.
- B. Bidders shall state amount to be added or deducted from Base Bid for making changes, including all incidentals, omissions, additions, and adjustments as may be necessary of required by stated alternates.
- C. See Bid Form, Section 01 00 00 - Basic Requirements, and indicated specification sections for alternates included in this project.

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 by January 5, 2015.
- B. Work shall be completed by February 27, 2015.

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.

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Name of Bidding Firm: _____

BID FORM

BID NO. 314029

**PROJECT: CARD ACCESS SYSTEM REPLACEMENT
DANE COUNTY JOB CENTER OFFICE**

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

BASE BID - LUMP SUM:

Dane County is inviting Bids for construction services to install a new card reader access system & to remove the existing one. System engineering, configuration & components shall be furnished by others. Only firms with capabilities, experience & expertise with similar projects should obtain this Request for Bids document & submit Bids. 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

ALTERNATE BID 1 - LUMP SUM:

Add price for providing seven (7) additional card readers to be included in the project.

_____ and _____ /100 Dollars
Written Price

\$ _____
Numeric Price (circle: Add or Deduct)

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

Addendum No(s). _____ through _____

Dated _____

Dane County Department of Human Services must have this project completed by February 27, 2015. Assuming this Work can be started by January 5, 2015, 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 sixty (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
 Project Experience / Reference Summary

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

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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 submitted a bid, application or proposal for a contract or agreement 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.

Include this completed Certification with your bid, application or proposal.

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COUNTY OF DANE

PUBLIC WORKS CONSTRUCTION CONTRACT

Contract No. _____ Bid No. 314029

Authority: 2014 RES - _____

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 install Card Access System Replacement at the Dane County Job Center Office [including Alternate Bid[s] X, Y & Z] ("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 bill of materials, maps, plats, plans, and other drawings and printed or written explanatory matter thereof, and the specifications therefore as prepared by Environmental Systems, Inc. (ESI) (hereinafter referred to as "the Engineer"), and as enumerated in the Project Manual Table of Contents, 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. NOT USED

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 .

(Witness) (Principal) (Seal) (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):

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.

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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 Manager, 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 Manager 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

Manager 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 Manager's approval of Shop Drawings, Product Data, Samples and similar submittals unless the Contractor has specifically informed the Public Works Project Manager in writing of such deviation at the time of submittal and the Public Works Project Manager 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 Manager'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 Manager 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 Public Works website, www.countyofdane.com/pwbids.

5. CONTRACT PROVISIONS

- A. **Acceptance Constitutes Contract.** Written acceptance by the Public Works Project Manager 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 Manager.
- 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 Manager, 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 the 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 Manager.
- F. **Cancellations.** A contract may be canceled or voided by the Public Works Project Manager 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 Manager's opinion, is beyond the control of the Contractor. Under such circumstances, however, the Public Works Project Manager 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 Manager shall direct all required laboratory tests. The decision of the Public Works Project Manager 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), 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) 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) 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) 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 Manager 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 Manager. 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, anytime 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 Manager find that the progress of the Work corresponds with the construction progress schedule. If the Architect / Engineer and Public Works Project Manager 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 Manager, 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 Manager 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 Manager'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 Manager.
- 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. 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.

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

1.2 SUMMARY OF THE WORK

- A. Project Description:
 - 1. Perform the Work as specified and detailed in Construction Documents package.
 - 2. Contractor to install new card access system and remove existing system.
 - 3. Contractor to maintain operation of existing card access system until new card access system is complete & operating trouble-free. Owner shall certify in writing when existing system is ready to be removed.
 - 4. Contractor to modify or replace door hardware as required.
 - 5. Contractor to repair, patch & paint (to match existing) all doors, door frames & walls where existing system components are removed and / or new work is required.
- B. Work by Owner:
 - 1. Negotiated work with Systems Integrator (Division 25) under separate contract.
- C. 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) original copies with “wet” signatures 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 CHANGE PROCEDURES

- A. Contractor's costs for Products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead and profit will be included in Change Orders authorizing expenditure of funds from the contingency allowance.

1.6 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:
 - 1. Additional Card Readers.
 - a. Seven (7) additional card readers to be included in the project. Figure 1 shows these locations.

1.7 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.

1.8 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.

1.9 CONFERENCES

- A. Owner will schedule a preconstruction conference after Award of Contract for all affected parties.
- B. Contractor shall submit Construction Schedule at the pre-construction meeting.
- C. When required in individual Specification section, convene a pre-installation conference at project site prior to commencing work of the section.

1.10 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.

1.11 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.

1.12 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.

1.13 SHOP DRAWINGS

- A. Submit number of copies that Contractor requires, plus two (2) copies that shall be retained by Public Works Project Manager.

1.14 PRODUCT DATA

- A. Submit number of copies that Contractor requires, plus two (2) copies that shall be retained by Public Works Project Manager.
- 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.

1.15 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 Manager's selection.

1.16 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.

1.17 MANUFACTURERS' CERTIFICATES

- A. When specified in individual Specification sections, submit manufacturers' certificate to Public Works Project Manager 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.

1.18 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.

1.19 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 Manager before proceeding.

1.20 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.

1.21 PROTECTION OF INSTALLED WORK

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

1.22 PARKING

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

1.23 STAGING AREAS

- A. Coordinate staging areas with Public Works Project Manager 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.

1.24 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 (7:00 am to 5:30 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. Contractor is not responsible for providing & maintaining temporary toilet facilities.
- F. 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.
- G. 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.

1.25 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. Contractor shall provide and maintain barricades & signage to prohibit public access to construction site or work.

1.26 PROGRESS CLEANING

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

1.27 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.

1.28 TRANSPORTATION, HANDLING, STORAGE AND PROTECTION

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

1.29 PRODUCT OPTIONS

- A. Where definite material is specified, it is not intentional 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 Public Works Project Manager 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 Manager shall be identified in addenda to all bidding contractors.
- C. Requests for material or product substitutions submitted after Bid Due Date shall not be considered. Owner reserves right to approve or reject substitutions based on Specification requirements and intended use.

1.30 SUBSTITUTIONS

- A. Public Works Project Manager shall consider requests for Substitutions only up to seven (7) days prior to date of Bid Due Date.
- B. Document each request with complete data substantiating compliance of proposed Substitution with Construction Documents.
- C. Submit two (2) copies of requests for Substitution for consideration. Limit each request to one (1) proposed Substitution.
- D. Substitutions shall not change contract price established at Bid Due Date.

1.31 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.

1.32 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.

1.33 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 Manager's inspection.
- B. Submit final Application for Payment identifying total adjusted Contract Sum / Price, previous payments, and amount remaining due.

1.34 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.

1.35 ADJUSTING

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

1.36 OPERATION AND MAINTENANCE MANUAL

- A. Provide operation and maintenance manual for all mechanical and electrical equipment and systems supplied and installed in the Work.

1.37 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.

1.38 AS-BUILT AND 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 System Integrator (Division 25 Contractor) with original marked up redlines of Construction Documents' drawings and specifications that shall include all Addendums, Change Orders, Construction Bulletins, on-site changes, field corrections, etc. These are the project As-Built Drawings & Specifications.
- B. System Integrator shall update the original Construction Documents to include all Addendums & any other changes including those provided by the Contractor in the As-Built Drawings & Specifications. These updates are the project Record Drawings & Specifications.
- C. System Integrator shall furnish the Public Works Project Manager with Record Drawings.

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 01 00 00 - 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 Manager 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 Manager 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 Special Projects & Materials Manager at 608/266-4990, 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
Glass	_____ cu. yds. _____ tons	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	
Wood	_____ cu. yds. _____ tons	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	
Wood Pallets	_____ units	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	
PVC Plastic	_____ cu. ft. _____ lbs.	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	
Corrugated Cardboard	_____ cu. ft. _____ lbs.	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	
Metals	_____ cu. yds. _____ tons	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	
Other	_____	_____ Recycled	_____ Reused	Name: _____
		_____ Landfilled	_____ Other	

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 25 00 00

INTEGRATED ACCESS CONTROL SYSTEM (IACS)

PART 1 GENERAL

1.1 SUMMARY

- A. **This Section is provided for informational purposes only. The Systems Integrator work associated with this Section shall NOT be bid as part of the Division 28 scope of work.**
- B. This section describes the Systems Integrator (SI) scope of work for the access control system project. This section also coordinates the responsibilities of the Division 28 - Access Control System Peripheral Device (ACS-PD) (electrical trade contractors) pertaining to control products or systems, furnished by each trade, that will be integrated by this Division.
- C. All labor, material, equipment and software not specifically referred to herein or on the plans, that are required to meet the functional intent of this specification, shall be provided without additional cost to the Owner.

1.2 SYSTEM DESCRIPTION

- A. The Integrated Access Control System (IACS) shall be comprised of enterprise level server/software, master access control modules (ACM) with network connectivity; two door expansion units (ACEM) connected to master control modules via an RS-485 and power trunk; card readers, door status devices, request to exit devices, emergency door releases and electronic locking hardware that in turn are connected to either master access control modules or expansion modules; power supplies and back up batteries that support the electronic locking hardware as required. The ACM shall connect to the owner's local or wide area network, depending on configuration. Access to the system, either locally in each building, or remotely from a central site or sites, shall be accomplished through standard web browsers, via the Internet and/or local area network. Each ACM shall be capable of communicating with a Niagara^{AX} Building Automation System server and enterprise level software.
- B. The SI shall provide all ACMs, ACEMs, control module enclosures, wiring riser, termination diagrams, access credentials (card or fobs), programming, and training for the IACS.
- C. The Division 28 ACS-PD Contractor shall provide (furnish and install) all peripheral devices including but not limited to: electronic locking hardware (EL), door status sensors (DSS), proximity card readers (PCR), request to exit devices (REX), emergency door releases (EDR), fire alarm system interface (FASI), surge suppressors (SS), power supplies (PS), back up batteries, cable, cable support and labor for mounting all enclosures/devices (including Division 25 enclosures), installation of all cabling,

termination of all devices (including Division 25 devices) and 120VAC power installation as needed.

1.3 SYSTEM INTEGRATOR QUALIFICATIONS

- A. General:
1. The SI shall have a successful history in the design and installation of open control systems with browser based wide area network connectivity.
 2. The SI shall have an office that is staffed with trained engineers and technicians fully capable of providing instruction and routine emergency maintenance service on all system components within 24 hours of notification.
 3. Contractor Service:
 - a. The SI shall have a local service facility within a 90-mile radius of the job site, staffed with qualified service personnel, fully capable of providing instructions and routine or emergency maintenance service.
 - b. **Prequalified SI currently under contract with Owner:
Environmental Systems, Inc., 262-544-8860**

1.4 SUBMITTAL

- A. Two (2) hard copies and one (1) soft copy of shop drawings of the IACS shall be submitted to Owner and one (1) hard copy and one (1) soft copy shall be submitted to Division 28 Contractor. These shop drawings (or SI's Project Drawing Set) shall consist of a complete list of equipment and materials, including manufacturers catalog data sheets and installation instructions. Shop drawings shall also contain complete wiring and schematic diagrams, software descriptions, calculations, and any other details required to demonstrate that the system has been coordinated and will properly function as a system. Terminal identification for all control wiring shall be shown on the shop drawings.
- B. Submittal shall include a network cable schematic diagram depicting, control panel locations and a description of the communication type, media and protocol.
- C. Upon completion of the Work, SI shall provide a complete set of Record Drawings, Operation & Maintenance (O&M) Manuals and application software on compact disk to Owner. Drawings shall be provided as AutoCAD™ or Visio™ compatible files. O&M Manuals shall be provided in Word and pdf files. Two (2) hard copies of the Record Drawings and O& M Manuals shall be provided in addition to the documents on compact disk. Division 28 and 25 contractors shall provide as-builts for their portions of work to the SI. Division 25 contractor shall be responsible for as-builts pertaining to overall IACS architecture and network diagrams.

1.5 SPECIFICATION NOMENCLATURE

- A. Acronyms used in this specification are as follows:
1. ACS Access Control System
 2. ACM Access Control Module
 3. ACEM Access Control Expansion Module
 4. ACS-PD Access Control System-Peripheral Device

5.	AWG	American Wire Gauge
6.	BAS	Building Automation System
7.	DSS	Door Status Sensor
8.	EDR	Emergency Door Release
9.	EL	Electronic Locking Hardware
10.	FA SI	Fire Alarm System Interface
11.	FMCS	Facility Management Control System
12.	IACS	Integrated Access Control System
13.	IOM	Input/Output Module
14.	LAN	Local Area Network
15.	NS	Network Supervisor
16.	PCR	Proximity Card Reader
17.	PD	Peripheral Device
18.	PR	Proximity Card Reader
19.	PS	Power Supply
20.	REX	Request to Exit Device
21.	SI	Systems Integrator
22.	SSI	Sub System Interface
23.	WAN	Wide Area Network

1.6 DIVISION OF WORK

- A. The SI shall be responsible for furnishing all ACMs, ACEMs, control panels, controller programming, controller programming software, enterprise level servers and wiring diagrams.
- B. The SI shall be responsible for integration sequences between the ACS and BAS, global supervisory control applications as may be required, system integration and coordination of the point to point check out with the Division 28 ACS-PD Contractor.
- C. The point of demarcation for the products to be provided by the SI shall be up to and including the ACMs, ACEMs, enterprise level software/licensing and associated enclosures.

1.7 WORK INCLUDED

- A. Furnish and install the following application software as outlined in this section.
 - 1. User Interface software
 - 2. License upgrade software
- B. The following will be coordinated with the Owner:
 - 1. Provide set-up and development of the software to provide the functional and performance requirements specified herein.
 - 2. Provide development of access levels, time schedule, naming conventions, user rights and integration sequences as may be required.

1.8 AGENCY AND CODE APPROVALS

- A. All products of the IACS shall be approved by the FCC, Part 15, Subpart J, Class A Computing Devices. Approval verifications shall be submitted with the O& M Manuals. Systems or products not approved are not acceptable.

1.9 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 28 10 00, ACS-PD Contractor:
 - 1. Providing peripheral devices and interfaces including but not limited to:
 - a. Proximity Card Readers
 - b. Electronic Locking Hardware
 - c. Door Status Sensors
 - d. Request to Exit Devices
 - e. Emergency Door Releases
 - f. Surge Suppression
 - g. Fire Alarm System Interface
 - h. Power Supplies
 - i. Sub-System Interface
 - j. Cabling
 - k. Installation Labor
 - l. Device Wiring Terminations

1.10 SOFTWARE LICENSE AGREEMENT

- A. The Owner shall own the manufacturer's standard software and firmware licensing agreement as a result of the Work. Such license shall grant use of all programs and application software to Owner as defined by the manufacturer's license agreement, but shall protect manufacturer's rights to disclosure of trade secrets contained within such software.
- B. It is the Owner's expressed goal to implement an IACS that shall allow access control and occupancy data to be integrated into a FMCS in order to provide improved energy management and security. The Owner shall be the named license holder of all software associated with any and all incremental work on the project(s). In addition, the Owner shall receive use of all job specific configuration documentation, data files, and application-level software developed for the project. This shall include all custom, job specific software code and documentation for all configuration and programming that is generated for a given project and/or configured for use with the ACM and any related LAN / WAN / Intranet and Internet connected routers and devices. Any and all required IDs and passwords for access to any component or software program shall be provided to the Owner.

1.11 DELIVERY, STORAGE AND HANDLING

- A. Provide factory-shipping cartons for each piece of equipment and control device. Maintain cartons through shipping, storage, and handling as required to prevent equipment damage. Store equipment and materials inside and protected from weather.

1.12 JOB CONDITIONS

- A. Cooperation with other trades: Coordinate the work of Division 25 with that of other Divisions to insure that the Work will be carried out in an orderly fashion. It shall be the SI's responsibility to check the Construction Documents for possible conflicts between their work and that of other trades in equipment location, conduit runs, electrical feeds and structural or architectural features.

PART 2 PRODUCTS

2.1 GENERAL

- A. IACS shall be comprised of a network of interoperable, stand-alone ACMs/ACEMs, servers, operator workstations, network devices and other devices as specified herein.
- B. The installed system shall provide secure password access to all features, functions and data contained in the overall IACS.

2.2 OPEN, INTEROPERABLE, INTEGRATED ARCHITECTURES

- A. The intent of this specification is to provide a peer-to-peer networked, stand-alone, distributed access control system with the capability to integrate to the existing FMCS via Ethernet using one of the following protocols: BACnet IP, oBIX, or Niagara^{AX} Fox.
- B. The supplied system must incorporate the ability to access all data using standard web browsers without requiring proprietary operator interface and configuration programs and shall employ component-oriented technology (COT) for representation of all data and control devices within the system. In addition, adherence to industry standards is required to assure interoperability between all system components. For each BACnet ANSI / ASHRAE™ Standard 135-2004 system, the system supplier must provide a PICS document showing the installed systems compliance level. Physical connection of BACnet devices shall be via Ethernet using BACnet/IP. BACNet MSTP shall not be acceptable as a means to integrate the IACS with a FMCS or BAS
- C. A hierarchical topology is required to assure reasonable system response times and to manage the flow and sharing of data without unduly burdening the customer's internal Intranet network. Systems employing a "flat" single tiered architecture shall not be acceptable.

2.3 NETWORKS

- A. The Local Area Network (LAN) shall be a 100 Mbps minimum Ethernet network for maximum flexibility for integration of building data with enterprise information systems and providing support for multiple ACMs, user workstations and, when required, a local server.
- B. Local area network minimum physical and media access requirements:
 - 1. Ethernet: IEEE standard 802.3

2. Cable: 10 Base-T, UTP-8 wire, category 5E or 6
3. Minimum throughput: 10 MB, with ability to increase to 1 GB

2.4 NETWORK ACCESS

A. Remote Access

1. For this LAN installations, there already exists access to the LAN from a remote location, via the Internet. The Owner has a connection to the Internet to enable this access via high-speed cable modem, asynchronous digital subscriber line (ADSL) modem, ISDN line, T1 Line or via the Owner's Intranet, to a corporate server providing access to an Internet Service Provider (ISP). Owner pays for connection and ISP.

2.5 ACCESS CONTROL MODULE (ACM)

- A. The SI shall supply one or more ACMs as part of the Work. The number of ACMs required is dependent on the type, location and quantity of peripheral devices provided under Section 28 10 00. It is the responsibility of the SI to coordinate with the Section 28 10 00 ACS-PD Contractor to determine the quantity and type of devices.
- B. The ACM shall be a Tridium Vykon model SEC-J-601 or equal.
- C. The ACM shall provide the interface between the LAN/WAN, ACEMs and remote input/output devices as well as provide global supervisory access control functions over the all devices connected to the ACM. The ACM shall provide multiple user access to the system. The ACM shall support standard web browser access via the Intranet/Internet.
- D. The ACM shall be capable of executing common application control programs to provide:
 1. Calendar functions
 2. Scheduling
 3. Event and Credential database reporting
 4. Alarm monitoring and routing
 5. Time synchronization
 6. Integration via BACnet, Niagara^{AX} Fox or Obix
- E. The ACM must provide the following hardware features as a minimum:
 1. IBM/AMCC PowerPC 405EP 266 MHz processor or equal
 2. 128MB SDRAM & 64MB NAND Flash
 3. Two (2) Ethernet ports – 10/100 Mbps
 4. One (1) RS-485 port
 5. Capable to operate over a temperature range of +35F to +122F (+2C to +50C) and a humidity range of 0 to 95% RH, non-condensing.
 6. Optional Autodial 56 Kbps modem slot
 7. Support fifteen (15) additional remote modules, mix and match any combination of ACEMs and Input/Output Modules (IOM).
 8. Support two (2) card readers, 6 supervised inputs, 4 digital output relays, 1 unsupervised input for cabinet tamper detection, 1 unsupervised input for

external power source AC power fail and 1 unsupervised input for battery low detection.

9. The ACM shall provide an integrated battery backup to provide sufficient time for an orderly system shutdown in the event of a power failure. The NSC shall provide a minimum 4 hours backup operation to the IACS while operating on battery backed power.
10. The ACM shall be mounted in a key locked, tamper switch protected metal enclosure with the following requirements:
 - a. The cabinet shall be suitable for wall mounting and contain a removable door for ease of installation.
 - b. The cabinet shall be suitably sized to allow installation of the controller and additional expansion modules if required.

2.6 ACCESS CONTROL EXPANSION MODULE

- A. The SI shall furnish one or more ACEMs as part of the Work. The number of ACEMs required is dependent on the type, location and quantity of devices provided under Section 28 10 00. It is the responsibility of the SI to coordinate with the Section 28 10 00 ACS-PD Contractor to determine the quantity and type of devices.
- B. The ACEM shall be Tridium Vykon model SEC-R2R or equal.
- C. The ACEM shall support 2 access control reader ports, 4 supervised inputs and 2 digital output relays.
- D. The ACEM shall communicate with the ACM via an RS-485 bus.
- E. The ACEM shall be capable of operation over a temperature range of +35F to +122F (+2C to +50C) and a humidity range of 0 to 95% RH, non-condensing.

2.7 INPUT/OUTPUT MODULE (IOM)

- A. The IOM shall be Tridium Vykon model SEC-RIO or equal.
- B. The IOM shall provide inputs and outputs to monitor and control non-reader-based system points, such as door contacts, motion sensors, gate actuators, etc.
- C. The IOM shall support 8 supervised four-state inputs (open, closed, short and cut), 8 digital output Form C relays, 1 alarm input point for cabinet tamper detection and 1 alarm input point for external power source AC fail / battery low detection.
- D. The IOM shall communicate with the ACM via an RS-485 bus.
- E. The IOM shall be capable of operation over a temperature range of +35F to +122F (+2C to +50C) and a humidity range of 0 to 95% RH, non-condensing.

2.8 BACKUP BATTERIES

- A. Backup battery power shall be provided for all system components such that the entire system will function normally for a period of no less than 4 hours from the loss of AC power.

2.9 WEB BROWSER CLIENTS

- A. The system shall be capable of supporting no less than ten (10) concurrent users and up to twenty-five (25) with the use of a network supervisor, using a standard web browser such as Internet Explorer™, Mozilla Firefox™, etc. Systems requiring additional software (to enable a standard web browser) to be resident on the client machine, or manufacturer-specific browsers shall not be acceptable.
- B. The web browser software shall run on any operating system and system configuration that is supported by the web browser. Systems that require specific machine requirements in terms of processor speed, memory, etc., in order to allow the web browser to function with the IAS, shall not be acceptable.
- C. The web browser client shall support at a minimum, the following functions:
 - 1. User log-on identification and password shall be required. If an unauthorized user attempts access, a blank web page shall be displayed. Security using Java authentication and encryption techniques to prevent unauthorized access shall be implemented.

2.10 NETWORK SUPERVISOR FUNCTIONS AND HARDWARE

- A. A Network Supervisor (NS) shall be provided, if not already existing, where more than two ACMs are applied to an enterprise application. The NS shall support all ACMs connected to the control LAN/WAN.
- B. Local connections shall be via an Ethernet LAN. Remote connections can be via ISDN, ADSL, T1 or owner-approved connection to the owner's WAN.
- C. It shall be possible to provide access to all ACMs via a single connection to the NS.
- D. The NS shall provide the following functions, at a minimum:
 - 1. Global Data Access: The NS shall provide complete access to distributed data defined anywhere in the system.
 - 2. Distributed Control: The NS shall provide the ability to execute global control strategies based on control and data objects in any ACM in the network, local or remote.
 - 3. The NS shall include a master clock service for its subsystems and provide time synchronization for all ACMs.
 - 4. The NS shall accept time synchronization messages from trusted precision Atomic Clock Internet sites and update its master clock based on this data.
 - 5. The NS shall provide scheduling for all ACMS and their ACEMs.

6. The NS shall provide central alarm management for all ACMs supported by the NS. Alarm management shall include:
 - a. Routing of alarms to display, printer, email and pagers
 - b. View and acknowledge alarms
 - c. Query alarm logs based on user-defined parameters
 7. The NS shall provide central management of log data for all ACMS supported by the NS. Log data shall include process logs, runtime and event counter logs, audit logs and error logs. Log data management shall include:
 - a. Viewing and printing log data
 - b. Exporting log data to other software applications
 - c. Query log data based on user-defined parameters
- E. NS Hardware Requirements: The NS hardware platform shall have the following requirements:
1. The computer platform shall comply with the current server standards as defined by the Owner's Information Management Division.
 2. When attaching the NS to the Owner's WAN, the NS must be equipped with Network Client software that conforms to the Owner's Information Management Division standard.
 3. The NS operating system shall be Microsoft Windows XP Professional. Include Microsoft Internet Explorer 6.0 or later.
 4. Connection to the IAS network shall be via an Ethernet network interface card, 100Mbps.

2.11 INTEGRATION TO EXISTING NIAGARA^{AX} IACS SERVER

- A. An existing Niagara^{AX} Security Supervisor server is located at Dane County Human Services Northport Office Building, 1202 Northport Drive, Madison WI 53704. The server supports the existing access control integration on the Dane County WAN. The Niagara^{AX} NICS statement shall be as follows:
- ```

accept.station.in="*"
accept.station.out="*"
accept.wb.in="*"
accept.wb.out="*"

```
- B. The SI for the existing access control and BAS systems is Environmental Systems Inc. (ESI), 3410 Gateway Drive, Brookfield, Wisconsin 53045.
- C. The SI role for the Work shall be executed by Environmental Systems Inc.

## 2.12 ENTERPRISE SYSTEM CAPACITIES

- A. The IACS software shall support the following features and be configured for a minimum of the following:
1. 1,000,000 Personnel Records
  2. 50,000 Buffered Transactions of System Events
  3. 16 Programmable Wiegand Card Formats
  4. 25,000 Access Levels (15 per card holder)
  5. 25,000 Access Zones

6. 1,500 Schedules
7. 6 ACM Supported (Max 500)

## PART 3 EXECUTION

### 3.1 INSTALLATION

- A. All work described in this Section shall be performed by an SI that has a successful history in the design and installation of IACS.
- B. Install system and materials in accordance with manufacturer's instructions, and as detailed on the SI's Project Drawing Set.
- C. SI's Project Drawing Set of IACS network are diagrammatic only and any apparatus not shown, but required to make the system operative to the complete satisfaction of the Owner shall be furnished and installed without additional cost.
- D. Line and low voltage electrical connections to control equipment shown specified or shown on the control diagrams shall be provided by the Division 28 ACS-PD Contractor in accordance with the specifications in Section 28 10 00.

### 3.2 WIRING

- A. All electrical control wiring and power wiring to the ACMs/ACEMs, computers and network components (routers, hubs, switches, etc.) shall be the responsibility of the Section 28 10 00, ACS-PD Contractor.
- B. All wiring shall be in accordance with the National Electrical Code and any applicable local codes. All IACS wiring shall be installed in the conduit types required by the National Electrical Code or applicable local codes. Where IACS plenum rated cable wiring is allowed it shall be run parallel to or at right angles to the structure, properly supported and installed in a neat and workmanlike manner.

### 3.3 WARRANTY

- A. Equipment, materials and workmanship incorporated into the work shall be warranted for a period of one year from the time of system acceptance.
- B. Within this period, upon notice by the Owner, any defects in the work provided under this Section due to faulty materials, methods of installation or workmanship shall be promptly (within 48 hours after receipt of notice) repaired or replaced by the SI at no expense to the Owner.

### 3.4 WARRANTY ACCESS

- A. The Owner shall grant to the SI, reasonable access to the IACS during the warranty period. The Owner shall allow the contractor to access the IACS from a remote location

for the purpose of diagnostics and troubleshooting, via the Internet, during the warranty period.

### 3.5 ACCEPTANCE TESTING

- A. Upon completion of the installation, the SI shall load all system software and start-up the system. The ACS-PD Contractor (Section 28 10 00) shall perform all necessary testing and de-bugging and perform all required operational checks to insure that the system is functioning in full accordance with these specifications. The ACS-PD Contractor (Section 28 10 00) and the SI (Section 25 00 00) are to coordinate the checkout of the system such that each Division has a representative present during system checkout.
- B. The ACS-PD Contractor shall perform tests to verify proper performance of components and points. Repeat tests until proper performance results. This testing shall include a point-by-point log to validate 100% of the input and output points of the IACS operation. The SI shall have a representative present during system checkout by the ACS-PD Contractor. The SI shall coordinate and comply with the start-up and checkout schedule of the ACS-PD Contractor. The ACS-PD Contractor shall give a minimum of two (2) weeks advance notice to the SI, of the startup schedule and plan.
- C. Upon completion of the performance tests described above, repeat these tests, point by point as described in the validation log above in presence of Owner's Representative, as required. Properly schedule these tests so testing is complete at a time directed by the Owner's Representative. Do not delay tests so as to prevent delay of occupancy permits or building occupancy.
- D. System Acceptance: Satisfactory completion is when the ACS-PD Contractor and the SI have successfully performed all the required testing to show performance compliance with the requirements of the Construction Documents to the satisfaction of the Owner's Representative. System acceptance shall be contingent upon completion and review of all corrected deficiencies.

### 3.6 OPERATOR INSTRUCTION, TRAINING

- A. The SI shall provide a minimum of four (4) hours of instruction to the Owner's designated personnel on the operation of the IACS and describe its intended use with respect to the programmed functions specified. Operator orientation of the IACS shall include, but not be limited to; the overall operation program, equipment functions (both individually and as part of the total integrated system), commands, systems generation, advisories, and appropriate operator intervention required in responding to the system's operation.
- B. The training shall be in two sessions as follows:
  - 1. Initial Training: One part-day session (2 hours minimum) after system is started up and at least one week before first acceptance test.
  - 2. Follow-Up Training: One part-day session (2 hours minimum) approximately two weeks after final system commissioning. This session will deal with more advanced topics and answer questions as requested by the Owner. Topics covered will include but are not limited to: how to add credentials/users, create

time schedules and access levels, generate user activity reports, etc. Training will continue past minimum requirements until Owner is satisfied with sessions.

#### PART 4 SEQUENCE OF OPERATION - SPECIAL

##### 4.1 SUMMARY

- A. The SI shall determine what level of control functionality the ACM / NS, must provide. It is the responsibility of the SI to coordinate control functions, such as scheduling and supervisory-level global control with the Owner and ACS-PD Contractor.
- B. The SI shall meet with the Owner's designated personnel at least two (2) times during the programming phase to determine levels of access for building users and occupants. This programming shall be completed to Owner's satisfaction.

END OF SECTION

## SECTION 28 10 00

### ACCESS CONTROL AND INTRUSION DETECTION

#### PART 1 GENERAL

##### 1.1 SCOPE OF WORK

- A. A complete access control system shall be identified and specifications found under Division 28 (Access Control) and Division 25 (Integrated Automation).
- B. The access control system shall be an extension of the existing building automation system.
- C. The Division 28 Access Control System Peripheral Device (ACS-PD) Contractor shall provide all peripheral devices (PD) including but not limited to; electronic locking hardware (EL), door status sensors (DSS), proximity card readers (PCR), request to exit devices (REX), emergency door releases (EDR), fire alarm system interface (FASI), surge suppressors (SS), power supplies (PS), back up batteries (Batt), sub system interfaces (SSI) including but not limited to fire alarm systems, cable, cable support and labor for mounting all enclosures/devices (including Division 25 enclosures), installation of all cabling, termination of all devices (including Division 25 devices) and 120VAC power installation as needed.
- D. The Division 25 Systems Integrator Contractor shall furnish all access control modules, access control module enclosures, access control system management software, access credentials, system programming and training.
- E. Both Division 28 and Division 25 contractors shall be responsible and present for a complete point to point checkout and commissioning of the system.
- F. All labor, material and equipment not specifically referred to herein or on the plans, that are required to meet the functional intent of this specification, shall be provided without additional cost to the Owner.
- G. Installation of all devices and components shall be in compliance with and conform to NFPA 70, NFPA 101 and NFPA 731.

##### 1.2 SYSTEM DESCRIPTION

- A. The Access Control System (ACS) shall be comprised of: master access control modules (ACM) with network connectivity; two door expansion units (ACEM) connected to master control modules via an RS-485 and power trunk; card readers; door status devices; request to exit devices; emergency door releases and electronic locking hardware that in turn are connected to either master access control modules or expansion modules; power supplies and back up batteries which support the electronic locking hardware as required.

- B. The ACS-PD Contractor shall include all Ethernet network wiring required to create a control LAN/WAN that shall connect all ACMs, operator workstations, servers, routers, switches and other network devices as indicated on the riser diagram. If available and applicable the ACS-PD Contractor shall extend or connect to a customer provided LAN/WAN.

### 1.3 CONTRACTOR QUALIFICATIONS

- A. General:
  - 1. The Division 28 ACS-PD Contractor shall have a successful history in the installation of access control systems based wide area network connectivity and shall provide evidence of this history as a condition of acceptance of bid.
  - 2. The ACS-PD Contractor shall have an office that is staffed with trained technicians fully capable of providing instruction and routine emergency maintenance service on all peripheral system components within 24 hours of notification.
  - 3. Contractor Service:
    - a. ACS-PD Contractor shall have a local service facility within a 90-mile radius of the job site, staffed with qualified service personnel, fully capable of providing instructions and routine or emergency maintenance service.
    - b. Experience (Submit the following information as part of the Bid):
      - 1) Submit a list of no less than three similar projects that have access control systems devices installed by the ACS-PD Contractor. Include proper references and contact numbers.

### 1.4 SPECIFICATION NOMENCLATURE

- A. Acronyms used in this specification are as follows:
  - 1. ACS Access Control System
  - 2. ACM Access Control Module
  - 3. ACEM Access Control Expansion Module
  - 4. ACS-PD Access Control System-Peripheral Device
  - 5. AWG American Wire Gauge
  - 6. BAS Building Automation System
  - 7. DSS Door Status Sensor
  - 8. EDR Emergency Door Release
  - 9. EL Electronic Locking Hardware
  - 10. FASI Fire Alarm System Interface
  - 11. IACS Integrated Access Control System
  - 12. IOM Input/Output Module
  - 13. LAN Local Area Network
  - 14. PCR Proximity Card Reader
  - 15. PD Peripheral Device
  - 16. PR Proximity Card Reader
  - 17. PS Power Supply
  - 18. REX Request to Exit Device
  - 19. SSI Sub System Interface
  - 20. WAN Wide Area Network

## 1.5 DIVISION OF WORK

- A. The ACS-PD Contractor shall provide all input/output wiring, power wiring (120VAC), interlock/safety wiring and Ethernet LAN/WAN wiring, where applicable to all peripheral devices and Division 25 enclosures.
- B. The ACS-PD Contractor shall be responsible for the installation and mounting of all ACS peripheral devices, cabling, cabling support and Division 25 enclosures.
- C. The Division 25 System Integrator shall be responsible for providing the ACMs and ACEMs to which all peripheral devices shall be connected, servers, software, programming of the ACMs/ACEMs, global supervisory control applications and system integration.

## 1.6 RELATED WORK SPECIFIED ELSEWHERE

- A. Division 25 System Integration:
  - 1. Providing Access Control Modules
  - 2. Providing Access Control Expansion Modules
  - 3. Providing Access Control Software
  - 4. Providing I/O Expansion Modules
  - 5. Global supervisory control sequences
  - 6. Integration of Owner's existing control system (if applicable)

## 1.7 DELIVERY, STORAGE AND HANDLING

- A. Provide factory-shipping cartons for each piece of equipment and peripheral device. Maintain cartons through shipping, storage, and handling as required to prevent equipment damage. Store equipment and materials inside and protected from weather.

## 1.8 JOB CONDITIONS

- A. Cooperation with other trades: Coordinate the work of this Section with that of other Sections to insure that the Work will be carried out in an orderly fashion. It shall be this Contractor's responsibility to check the Construction Documents for possible conflicts between their work and that of other crafts in equipment location, structural and architectural features and compatibility between systems, equipment and components.

## 1.9 SUBMITTAL

- A. Two (2) hard copies and one (1) soft copy of shop drawings of the Division 28 work shall be submitted to Owner and two (2) hard copy and one (1) soft copy shall be submitted to Division 25 Contractor (Systems Integrator). Shop drawings shall consist of a complete list of equipment and materials, including manufacturers catalog data sheets and installation instructions. Shop drawings shall also contain complete wiring and schematic diagrams, calculations, and any other details required to demonstrate that the system has been coordinated and will properly function as a system.

- B. The ACS-PD Contractor shall provide catalog data sheets and wiring diagrams to the Section 25 System Integrator for proper coordination of work.
- C. Upon completion of the Work, provide a complete hard copy set of “as-built” drawings to Division 25 Contractor (Systems Integrator). Drawings shall be converted by Systems Integrator in to Record Drawings.

## PART 2 PRODUCTS

### 2.1 GENERAL

- A. The Access Control System Peripheral Devices (ACS-PD) shall include but not limited to; electronic locking hardware (EL), door status sensors (DSS), proximity card readers (PCR), request to exit devices (REX), emergency door releases (EDR), fire alarm system interface (FASI), surge suppressors (SS), power supplies (PS), back up batteries (Batt), cable, cable support and labor for; mounting all enclosures/devices (including Division 25 enclosures), installation of all cabling, termination of all devices (including Division 25 devices) and 120VAC power installation as needed.

### 2.2 PROXIMITY CARD READERS (PCR)

- A. All card readers shall be HID Corporation 125kHz proximity type - (no substitutes).
  - 1. One gang - ThinLine II style (1G) shall be 53695CG100.
  - 2. Mullion style - MiniProx (M) shall be 5365EGT00 or 5365EGP00.
  - 3. Small platform – ProxPoint Plus (SP)
- B. The mounting height of all proximity card readers shall conform with ADA guidelines.

### 2.3 DOOR STATUS SENSOR (DSS)

- A. Door status sensors shall be either integral to the electronic locking hardware (latch bolt monitoring – LBM) or through stand-alone devices (magnetic contacts).
- B. All stand-alone door status sensors shall be of the magnetic reed type and obtained from GE Security or approved equal.
  - 1. 1” Diameter Steel Door Recessed Sensor (DPDT): 1076D
  - 2. 1” Diameter Steel Door Recessed Sensor (N/O): 1078W
  - 3. ¾” Diameter Steel Door Recessed Sensor (N/O): 1078C
  - 4. Press fit rare earth magnet: 1840-N
  - 5. Roller Plunger (hinge side of door only – N/O): 3008  
Use only where a recessed sensor will not function properly. Prior approval from both the Systems Integrator and Owner must be obtained before installation.
  - 6. Commercial Steel Door Surface mounted Sensor (N/O): 1045  
Use only where a recessed sensor will not function properly. Prior approval from both the Systems Integrator and Owner must be obtained before installation.

- C. Sensors of the recessed type shall adhere to the following installation standards:
  1. When installed at the top of the door the sensor shall not be installed no closer than 2” and no further than 10” from the latch side of the door.
  2. When installed on the latch side surface of the door the sensor shall not be installed closer than 2” of either the bottom or top of the door.
  3. When a recessed sensor is utilized at the top of an aluminum door where the door has a recessed channel an 1840-N or similar magnet shall be used. The construction of field expedient assemblies to utilize a standard press fit magnet will not be allowed.
- D. Sensors of the plunger type shall adhere to the following installation standards:
  1. A plunger sensor shall only be used when a recessed sensor cannot be utilized on the latch side or top of a door.
  2. Plunger sensors shall only be used on the hinge side of a door.
  3. A plunger sensor shall be installed no closer than 2” from the bottom or top of the door.
  4. A plunger sensor shall have sufficient spacers applied to cause the switch to operate when the door has moved no further than 5” from the closed position.
- E. Sensor of the surface mount type shall adhere to the following installation standards:
  1. A surface mounted switch shall be installed no closer than 1” and no further than 3” from the latch side of the door.
  2. Armored cable shall be installed to protect the integrity of the cable where accessible by human or mechanical contact.
- F. All door status sensors shall have an end of line supervision device installed at the device within 12” of the sensor. The end of line supervision device shall be furnished to the ACS-PD Contractor by the Division 25 Contractor.

#### 2.4 REQUEST TO EXIT DEVICE (REX)

- A. Request to exit devices, when applicable, may be indicated on the System Integrator’s Project Drawing Set as either motion (REX-M), wireless (REX-WL), button (REX-B) or integral to the electrified lockset (REX-INT).
  1. Passive Infrared Motion (REX-M): Bosch DS150i/DS151i or approved equal.
  2. Wireless (REX-W): Linear DXR-71 or DXR-702 (Receivers), DXT-41, DXT-42 or DXT-21 (Transmitters) or approved equal.
  3. Button (REX-B): Momentary push button, SPDT, 4amps @ 28VDC or equal. Unit shall include a mountable enclosure to support wiring terminations.
  4. Integral to Lockset (REX-INT): specific to electronic locking hardware.
- B. All RTE devices shall be electronically wired as normally open circuits (NO) to allow for T-Tapping or parallel circuit connections for multiple REX devices on a single door.

## 2.5 EMERGENCY DOOR RELEASE (EDR)

- A. Emergency door release devices, if applicable, shall be of either the manual pull station (EDR-MP) or pneumatic time delay (EDR-P) type.
  - 1. Manual Pull Station (EDR-MP): Security Door Controls 492 or approved equal.
  - 2. Pneumatic Time Delay (EDR-P): Alarm Controls Corporation TS-14 or approved equal.

## 2.6 ELECTRONIC LOCKING HARDWARE (EL)

- A. Electronic locking hardware shall operate on 24 VDC unless otherwise noted.
- B. Electronic strikes, electrified locksets or electrified crash bars are the preferred technologies for electronic locking hardware. Magnet locks are not the preferred method and will require written approval prior to installation.
- C. Electronic locking hardware shall meet ANSI/BHMA Grade 1 standards.
- D. Magnetic locking hardware, when approved, shall support a holding force of between 1,650 and 2,700 pounds.
- E. Electronic locking hardware applied to fire rated door assemblies shall be listed for the intended use. Electronic locking hardware for use with fire rated door assemblies shall be UL 10C, NFPA-252 and ASTM-E 2074 listed.

## 2.7 SURGE SUPPRESSOR (SS)

- A. Surge suppression shall be provided between each electrified locking hardware device and the access control system controlling relay/power source. One suppressor shall be installed at the electronic locking hardware and one at the power source controlling relay.
  - 1. Capacitor/Transzorb (DC power): Honeywell NC-S4, Diteck DTK-ESS or approved equal.
- B. Where system devices are susceptible to power surges or stray voltages additional surge suppression shall be provided. Examples include but are not limited to card readers located at parking gates or stand-alone sheds.
  - 1. Card Reader Surge Suppressor: Diteck DTK-4LVLP-CR or approved equal.
  - 2. Door Status Sensor: Diteck DTK-2MHLP series or approved equal.
  - 3. Request to Exit Device: Diteck DTK-2MHLP series or approved equal.

## 2.8 POWER SUPPLY (PS)

- A. Power supplies for electronic locking hardware shall be either wall mount or rack mount units depending on the application and available mounting source. Wall wart transformers shall not be allowed for either direct power to field devices or to a power supply distribution panel. Direct, hardwired 120VAC to open frame or like transformer mounted in an enclosure is the preferred method. Line cord connections to a duplex or like outlet for rack mount power supplies shall be deemed acceptable.

- B. Power supplies shall provide back-up battery power sufficient to operate the system components for a minimum of 4 hours. The use of a UPS for rack mount power supplies is preferred over a separate rack mounted battery enclosure.

## 2.9 BACKUP BATTERIES (BATT)

- A. Backup battery power shall be provided for all system components such that the entire system will function normally for a period of no less than 4 hours from the loss of AC power.

## 2.10 CABLING

- A. All cabling shall be rated for the intended use and follows local, State of Wisconsin and National Electrical Code standards.
- B. All cabling shall be supported in a manner which meets local, State of Wisconsin and National Electrical Code Standards.
- C. Component cabling for the following devices shall meet the following the gauge, type and conductor count minimums:
  1. Card Reader – 6 conductor 20AWG stranded shielded
  2. Request to Exit Device – 4 conductor 20AWG stranded
  3. Door Status Device – 2 conductor 22AWG stranded
  4. Electronic Locking Hardware – 2 conductor 18AWG stranded
  5. Emergency Door Release – 2 conductor 18AWG stranded
  6. RS-485 Data between ACM and ACEM – twisted pair 24AWG shielded - no more than 12.5pF
  7. Power between ACM and ACEM – 4 conductor 18AWG stranded shielded
- D. It is the responsibility of the ACS-PD Contractor to calculate the electrical load for each circuit and size the cabling conductors appropriately to facilitate a fully functioning system.

## PART 3 EXECUTION

### 3.1 INSTALLATION

- A. All work described in this Section shall be installed, wired and circuit tested by technicians qualified for this work. The installing office shall have a minimum of three (3) years of installation experience with the manufacturer and shall provide documentation in Bid verifying longevity of the installing company's relationship with the manufacturer. Supervision and checkout of the system shall be by the Division 25 and Division 28 Contractors.
- B. Install system and materials in accordance with manufacturer's instructions and as detailed on the System Integrator's Project Drawing Set.

- C. System Integrator's Project Drawing Set of access control system components are diagrammatic only and any apparatus not shown, such as relays, accessories, etc., but required to make the system operative to the complete satisfaction of the System Integrator and Owner shall be furnished and installed without additional cost.
- D. Line and low voltage electrical connections to system devices specified or shown on the control diagrams shall be provided by the ACS-PD Contractor in accordance with these specifications.
- E. All electrical control wiring and power wiring to the control panels shall be provided by the ACS-PD Contractor.
- F. All wiring shall be in accordance with the National Electrical Code and any applicable local or state codes. All access control system wiring shall be installed in the conduit types allowed by the National Electrical Code or applicable local codes. Where plenum rated cable wiring is required, it shall be run parallel to or at right angles to the structure, properly supported and installed in a neat and workmanlike manner.
- G. Any devices, such as door status contacts and electronic locking hardware, which are applied to fire rated door assemblies shall be installed in a manner which maintains the fire rating of the assembly. All penetrations to the fire door assembly must conform with the manufacturer's specifications and local building codes. The Division 28 Contractor shall provide documentation indicating the fire rating of the assembly has been maintained and is in conformance with local building codes.

### 3.2 WIRING

- A. General Requirements
  - 1. Install low voltage power and access system component wiring in conduit in the following locations regardless of local building code allowances.
    - a. Mechanical rooms
    - b. Electrical rooms
    - c. Vertical risers (exception: fire rated continuous closet like a telephone closet)
    - d. Open Areas where the wiring will be exposed to view or tampering
  - 2. Conceal conduit within finished shafts, ceilings and wall as required. Install exposed conduit parallel with or at right angles to the building walls
  - 3. Tag all equipment, panels, cables, conduits, junction boxes, etc., as called out in the "Identification" sub-section of this Specification and as shown on the System Integrator's Project Drawing Set. Where identification is not provided on the drawings the ACS-PD Contractor shall provide, at a minimum, identification tags on all cabling at both ends of the cable and shall provide documentation of the cable tag numbering with description of the cable use in a spread sheet format.
  - 4. Perform installation of all devices in the manner specified by each manufacturer. Aside from product submittal requirements, provide manufacturer's installation instructions for verification when requested.

5. Where Class 2 wires are in concealed and accessible locations including ceiling return air plenums, approved cables not in raceway may be used provided that:
  - a. Circuits meet NEC Class 2 (current-limited) requirements. (Low-voltage power circuits shall be sub-fused when required to meet Class 2 current-limit.)
  - b. All cables shall be UL listed for application, i.e., cables used in ceiling plenums shall be UL listed specifically for that purpose.
6. Do not install Class 2 wiring in conduit containing Class 1 wiring. Boxes and panels containing high voltage may not be used for low voltage wiring except for the purpose of interfacing the two (e.g., relays and transformers).
7. Where Class 2 wiring is run exposed, wiring to be run parallel along a surface or perpendicular to it, and NEATLY tied at 3m intervals.
8. All wire-to-device connections shall be made at a terminal block, terminal strip or with a crimped connector where the device has a wiring harness. All wire-to-wire connections shall be at a terminal block or with a crimped connector. All wiring within enclosures shall be neatly bundled and anchored to permit access and prevent restriction to devices and terminals.
9. All unused conductors shall be capped by use of a crimp connector or wire nut.
10. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

**B. Ethernet Network Requirements**

1. Wired network communication shall be via channels consisting of Category 5E or Category 6 network cable.
2. Communication conduits or cabling shall not be installed closer than 2m from high power transformers or run parallel within six feet of electrical high power cables. Care shall be taken to route the cable as far from interference generating devices as possible.
3. Ethernet network wiring shall be installed as shown on riser diagram.
4. There shall be no power wiring, in excess of 30 VAC rms, run in conduit with communications wiring.
5. Recommended CAT 5E and CAT 6 Ethernet wiring guidelines shall be followed and in no case shall the distance between any Ethernet switch, NAC or other Ethernet LAN device exceed 100 meters.
6. Ethernet wiring shall be installed and rated for communications to 1 GB.

**C. Conduit and Fittings**

1. Conduit for Control Wiring, Control Cable and Transmission Cable: Electrical metallic tubing (EMT) with compression fittings, cold rolled steel, zinc coated or zinc-coated rigid steel with threaded connections.
2. Outlet Boxes (Dry Location): Galvanized drawn steel suited to each application, in general, four inches square or octagon with suitable raised cover.
3. Outlet Boxes (Exposed to Weather): Threaded hub cast aluminum or iron boxes with gasket device plate.
4. Pull and Junction Boxes: Size according to number, size, and position of entering raceway as required by National Electrical Codes. Enclosure type shall be suited to location.

5. Plug or cap all unused conduit openings and stub-ups. Do not use caulking compound.
6. Route all conduit to clear beams, plates, footings and structure members. Do not route conduit through column footings or grade beams.
7. Set conduits as follows:
  - a. Expanding silicone firestop material where conduit is run between floors and through walls of fireproof shaft.
  - b. Oakum and lead, sealed watertight penetration through outside foundation walls.
8. Cap open ends of conduits until conductors are installed.
9. Where conduit is attached to vibrating or rotating equipment, flexible metal conduit with a minimum length of 18 inches and maximum length of 36 inches shall be installed and anchored in such a manner that vibration and equipment noise will not be transmitted to the rigid conduit.
10. Where exposed to the elements or in damp or wet locations, waterproof flexible conduit shall be installed. Installation shall be as specified for flexible metal conduit.
11. Provide floor, wall, and ceiling plates for all conduits passing through walls, floors or ceilings. Use prime coated cast iron, split-ring type plates, except with polished chrome-plated finish in exposed finished spaces.

D. Identification

1. Wire Tags
  - a. All multi-conductor cables, including those for all I/O devices, in all pull boxes and terminal strip cabinets shall be uniquely tagged at both ends. Keep a catalog of wire identification in electronic spread sheet form for submittal to the owner at the project's completion.
  - b. Provide professionally manufactured permanent wire tags with a unique identifier on each end of every wire.
2. Conduit Tags
  - a. Provide tagging or labeling of conduit so that it is always readily observable which conduit was installed or used in implementation of the Work.

3.3 WARRANTY

- A. Equipment, materials and workmanship incorporated into the Work shall be warranted for a period of one year from the time of system acceptance.
- B. Within this period, upon notice by the Owner, any defects in the Work provided under this Section due to faulty materials, methods of installation or workmanship shall be promptly (within 48 hours after receipt of notice) repaired or replaced by the ACS-PD Contractor at no expense to the Owner.

3.4 START-UP AND TESTING

- A. It is the responsibility of the ACS-PD Contractor to ensure the proper installation and performance of the peripheral devices as specified in this section and to coordinate the start-up and testing of the access control system with the Division 25 System Integrator to

ensure the networks and attached devices are functioning properly. Once all devices are installed, programmed, configured and powered, the ACS-PD Contractor shall notify the Division 25 System Integrator to schedule a start-up plan. During the start-up, all devices supplied by the ACS-PD Contractor shall be checked for proper communication and function, network connectivity as may be required and network traffic to ensure proper performance. The ACS-PD Contractor shall correct any devices or performance found to be defective.

- B. The system tests, conducted jointly by the ACS-PD Contractor and the Division 25 System Integrator, shall provide the following:
  - 1. Complete end-to-end test and verification for each connected input and output. This includes verification of all point data in graphic displays as may be required and if applicable.
  - 2. Complete functional test of sequences of operation including global control sequences.

### 3.5 ACCEPTANCE TESTING

- A. The ACS-PD Contractor shall verify that all peripheral devices are ready for operation. This inspection shall verify that the following items have been properly installed.
  - 1. Network connections
  - 2. Power connections
  - 3. Proper power supply voltage and types
  - 4. Electrical installation conforms to local code authorities
  - 5. Point to point check of all digital I/O for continuity and correct execution of the functional operation
- B. The System Integrator shall create a Test & Inspection Log. System Integrator & ACS-PD Contractor shall test all systems and fill out the Log together.
- C. Submit Draft Test & Inspection Log to Owner upon completion. Log shall enumerate the above in a check list form for all devices. Indicate corrective action for non-conforming or defective products and/or product installations. Final & Inspection Log shall be included in the O&M Manual.
- D. The ACS-PD Contractor shall perform all necessary testing, de-bugging and perform all required operational checks to insure that the system is functioning in full accordance with these specifications. The ACS-PD and Division 25 Contractor are to coordinate the checkout of the system such that each Division has a representative present during the entire system checkout.
- E. The ACS-PD Contractor shall perform tests to verify proper performance of components and sequences of operation. Repeat tests until proper performance results are obtained. This testing shall include a point-by-point log to validate 100% of the input and output points of the IACS operation. The Division 25 System Integrator shall have a representative present during system checkout by the ACS-PD Contractor.
- F. Upon completion of the performance tests described above, repeat these tests, point by point as described in the validation log above in presence of Owner's Representative, as

required. Properly schedule these tests so testing is complete at a time directed by the Owner's Representative. Do not delay tests so as to prevent delay of occupancy permits or building occupancy.

- G. System Acceptance: Satisfactory completion is when the ACS-PD Contractor has successfully performed all the required testing to show performance compliance with the requirements of the Construction Documents to the satisfaction of the Owner's Representative. System acceptance shall be contingent upon completion and review of all corrected deficiencies.
- H. In conjunction with the work of other trades, thoroughly test all equipment and systems in a dynamic mode simulating all operating sequences including safety unlocks and emergency fire mode where required.

### 3.6 WARRANTY ACCESS

- A. The Owner shall grant to the ACS-PD Contractor, reasonable access to the ACS during the warranty period.

### 3.7 TRAINING

- A. Training on the ACS shall be the responsibility of the Division 25 Contractor.

## PART 4 SITE SPECIFIC INFORMATION

### 4.1 DANE COUNTY JOB CENTER, 1819 ABERG AVE, MADISON, WI 53704

- A. An existing access control system is currently in use on this site. This system shall be removed, however the "panic alarm" system and head end panels will need to remain in service. Access control items existing readers need to be removed and wiring will need to be removed back to the panels if possible.
- B. The existing system manufacturer is Software House and shall remain in place.
- C. The existing system incorporates power supplies and electronic locking hardware. Verify that these devices can be re-used with the new access system. Existing electronic locking hardware and power supplies may be reused where the device is deemed to be in good working condition and meets the functional specification of this document.
- D. None of the existing wiring shall be reused for this project. New wiring will be required for all devices.
- E. Where existing, all door status sensors (DSS) shall be replaced and shall meet the specification of this document. Where DSS do not exist they shall be added.
- F. The existing system must remain functional during the system upgrade. When an access controlled door location is migrated over to the new system it shall not remain off line more than eight (8) hours (during normal business hours).

- G. The existing access control panels and power supplies are located in rooms B015, as noted on Figure 1 - Floor Plan. This room will be utilized for the new access control panels.
- H. The existing card readers are larger than the replacement proximity card readers. The ACS-PD Contractor shall cover or patch areas that are exposed by the reader replacement.
- I. The new base bid system shall consist of a total of twenty-three (23) access control door locations as indicated on the floor plans.
- J. Alternate Bid #1 shall consist of an additional seven (7) access control doors as shown on Figure 1 - Floor Plan.

#### PART 5 SEQUENCE OF OPERATION - SPECIAL

##### 5.1 FRONT DOOR AUTO UNLOCK ON TIME SCHEDULE

- A. The IACS shall automatically initiate an unlocked condition for the assigned doors based on a time schedule to be determined by the Owner.

END OF SECTION

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| REVISIONS |                         |
|-----------|-------------------------|
| 10/30/14  | ISSUED FOR CONSTRUCTION |
|           |                         |
|           |                         |

- Key:**
- Card Readers – Base Bid
  - Card Readers – Alternate Bid 1
  - Tail of arrow is Card Reader side

