

RFB NO. 316037



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. 316037 JAIL SHOWERS & SPLIT PODS IMPROVEMENTS REBID PUBLIC SAFETY BUILDING 115 WEST DOTY STREET MADISON, WISCONSIN

Due Date / Time: **TUESDAY, MARCH 7, 2017 / 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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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:

TUESDAY, MARCH 7, 2017, 2:00 P.M.

REQUEST FOR BIDS NO. 316037

JAIL SHOWERS & SPLIT PODS IMPROVEMENTS - REBID

DANE COUNTY PUBLIC SAFETY BUILDING

115 WEST DOTY STREET

MADISON, WISCONSIN

Dane County is inviting Bids for construction services to improvements to the jail split pods & shower rooms. Work consists of fabrication of stainless steel shower inserts, installation of new security wall shower fixtures, stripping & resealing shower room floors, painting, changing carpeting & other tasks. 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 January 31, 2017** 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 & must be pre-qualified as a Best Value Contractor before award of Contract. Complete Vendor Registration Form at danepurchasing.com/Account/Login? or obtain one by calling 608/266-4131. Complete Pre-qualification Application for Contractors at countyofdane.com/pwht/BVC_Application.aspx or obtain one by calling 608/266-4029.

A pre-bid facility tour will be held February 28, 2017 at 10:30 a.m. at the Public Safety Building, starting in the main lobby. Bidders are strongly encouraged to attend this tour. Background Check Forms must be submitted by February 16, 2017 & are mandatory for all who would tour the facility.

PUBLISH: JANUARY 31 & FEBRUARY 7, 2017 - WISCONSIN STATE JOURNAL
JANUARY 31 & FEBRUARY 7, 2017- THE DAILY REPORTER



County Executive
Joseph T. Parisi

DANE COUNTY DEPARTMENT of PUBLIC WORKS, HIGHWAY and TRANSPORTATION

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

Commissioner / Director
Gerald J. Mandli

BEST VALUE CONTRACTING APPLICATION

CONTRACTORS / LICENSURE APPLICANTS

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

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

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

EXEMPTIONS

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

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

SIGNATURE SECTION

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

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

Signature

Date

Printed or Typed Name and Title

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

REMEMBER!

Return all to forms and attachments, or questions to:

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

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

APPENDIX A

APPRENTICEABLE TRADES

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

INSTRUCTIONS TO BIDDERS

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1. GENERAL

- A. Before submitting Bid, bidder shall thoroughly examine all Construction Documents. Successful Bidder shall be required to provide all the Work that is shown on Drawings, set forth in Specifications, or reasonably implied as necessary to complete Contract for this project.
- B. Bidder shall visit site to become acquainted with adjacent areas, means of approach to site, conditions of actual site and facilities for delivering, storing, placing, and handling of materials and equipment.
- C. Pre-bid meeting is scheduled on February 28, 2017 at 10:30 a.m., at the Public Safety Building, 115 West Doty Street, Madison, in entrance lobby. Attendance by all bidders is optional, however bidders and subcontractors are strongly encouraged to attend. Background Check Forms must be submitted by February 16, 2017 & are mandatory for all who would tour the facility. See Supplemental Conditions Section.
- D. Failure to visit site or failure to examine any and all Construction Documents will in no way relieve successful Bidder from necessity of furnishing any necessary materials or equipment, or performing any work, that may be required to complete the Work in accordance with Drawings and Specifications. Neglect of above requirements will not be accepted as reason for delay in the Work or additional compensation.

2. DRAWINGS AND SPECIFICATIONS

- A. Drawings and Specifications that form part of this Contract, as stated in Article 1 of General Conditions of Contract, are enumerated in Document Index of these Construction Documents.
- B. Complete sets of Drawings and Specifications for all trades will be available to all Bidders, irrespective of category of work to be bid on, in order that all Bidders may be familiar with work of other trades as they affect their bid.

3. INTERPRETATION

- A. No verbal explanation or instructions will be given in regard to meaning of Drawings or Specifications before Bid Due Date. Bidders shall bring inadequacies, omissions or conflicts to Owner or Architect / Engineer's attention at least ten (10) calendar days before Bid Due Date. Prompt clarification will be available to all bidders by Addendum.
- B. Failure to so request clarification or interpretation of Drawings and Specifications will not relieve successful Bidder of responsibility. Signing of Contract will be considered as implicitly denoting that Contractor has thorough understanding of scope of the Work and comprehension of Construction Documents.
- C. Owner or Engineer will not be responsible for verbal instructions.

4. QUALIFICATIONS OF BIDDER (CONTRACTOR AND SUBCONTRACTOR)

- A. Before award of Contract can be approved, Owner shall be satisfied that Bidder involved meets following requirements:
 - 1. Has completed at least one (1) project of at least fifty percent (50%) of size or value of Division of work being bid and type of work completed is similar to that being bid. If greater magnitude of experience is deemed necessary, other than size or value of work, such requirements will be described in appropriate section of Specifications.
 - 2. Maintains permanent place of business.
 - 3. Can be bonded for terms of proposed Contract.
 - 4. Has record of satisfactorily completing past projects. Criteria which will be considered in determining satisfactory completion of projects by bidder will include:
 - a. Completed contracts in accordance with drawings and specifications.
 - b. Diligently pursued execution of work and completed contracts according to established time schedule unless Owner grants extensions.
 - c. Fulfilled guarantee requirements of construction documents.
 - d. Is not presently on ineligible list maintained by County's Department of Administration for noncompliance with equal employment opportunities and affirmative action requirements.
 - e. Authorized to conduct business in Wisconsin. By submitting Bid, bidder warrants that it has: complied with all necessary requirements to do business in State of Wisconsin; that persons executing contract on its behalf are authorized to do so; and, if corporation, that name and address of bidder's registered agent are as set forth in Contract. Bidder shall notify Owner immediately, in writing, of any change in its

registered agent, their address, and bidder's legal status. For partnership, term "registered agent" shall mean general partner.

- B. County's Public Works Project Engineer will make such investigations as are deemed necessary to determine ability of bidder to perform the Work, and bidder shall furnish to County's Public Works Project Engineer or designee all such information and data for this purpose as County's Public Works Project Engineer may request. Owner reserves right to reject Bid if evidence submitted by, or investigation of, bidder fails to satisfy Owner that bidder is responsible and qualified to carry out obligations of Contract and to complete the Work contemplated therein.

5. BID GUARANTEE

- A. Bank certified check, cashier's check or Bid Bond, payable to County in amount not less than five percent (5%) of maximum bid, shall accompany each Bid as guarantee that if Bid is accepted, Bidder will execute and return proposed Contract and Performance and Payment Bonds within ten (10) business days after being notified of acceptance of Bid. Company issuing bonds must be licensed to do business in Wisconsin.
- B. Any bid, which is not accompanied by bid guarantee, will be considered "No Bid" and will not be read at Bid Due Date.
- C. If successful Bidder so delivers Contract, Certificate of Insurance, and Performance and Payment Bonds, check will be returned to Bidder. In case Bidder fails to deliver such Contract, insurance, and bond, amount of bid guarantee will be forfeited to County as liquidated damages.
- D. All checks tendered as bid guarantee, except those of three (3) lowest qualified, responsible bidders, will be returned to their makers within three (3) business days after Bid Due Date. All such retained checks will be returned immediately upon signing of Contract and Performance and Payment Bonds by successful Bidder.

6. WITHDRAWAL OF BIDS

- A. Bids may be withdrawn by written request received from bidder or authorized representative thereof prior to time fixed for Bid Due Date, without prejudice to right of bidder to file new Bid. Withdrawn Bids will be returned unopened. Negligence on part of bidder in preparing their Bid confers no right for withdrawal of Bid after it has been opened.
- B. No Bid may be withdrawn for period of sixty (60) calendar days after Bid Due Date.
- C. If Bid contains error, omission or mistake, bidder may limit liability to amount of bidder's guarantee by giving written Notice of Intent not to execute Contract to Owner within seventy-two (72) hours of Bid Due Date.

7. CONTRACT FORM

- A. Sample copy of contract that successful Bidder will be required to enter into is included in these Construction Documents and bidders are required to familiarize themselves with all conditions contained therein.

8. CONTRACT INTERESTS BY COUNTY PUBLIC OFFICIALS

- A. In accordance with Wisconsin Statute 946.13, county official may not bid for or enter into any contract involving receipts or disbursements of more than \$15,000.00 in a year, in which they have private pecuniary interest, direct or indirect if at same time they are authorized to take official action with respect to making of this Contract. Any contract entered into in violation of this Statute is void and County incurs no liability thereon. This subsection does not affect application and enforcement of Wisconsin Statute 946.13 by state prosecutors in criminal courts of this state.

9. EMERGING SMALL BUSINESS PROVISIONS

- A. **Emerging Small Business Definition.** For purposes of this provision, ESB is defined as:
1. Independent business concern that has been in business minimum of one year;
 2. Business located in State of Wisconsin;
 3. Business comprised of less than twenty-five (25) employees;
 4. Business must not have gross sales in excess of three million dollars (\$3,000,000.00) over past three years; and
 5. Business does not have history of failing to complete projects.
- B. **Emerging Small Business (ESB) Involvement.** Bidder shall make good faith effort to award minimum of ten percent (10%) of the Work to ESBs. Bidder shall submit report to Dane County Contract Compliance Officer within ten (10) business days of Bid Due Date demonstrating such efforts. Good faith efforts means significant contact with ESBs for purposes of soliciting bids from them. Failure to make or demonstrate good faith efforts will be grounds for disqualification.
- C. **Emerging Small Business Report.** Emerging Small Business Enterprise Report is to be submitted by Bidder in separate envelope marked "Emerging Small Business Report". This report is due by 2:00 p.m. following specified ten (10) business days after Bid Due Date. Bidder who fails to submit Emerging Small Business Report shall be deemed not responsive.
- D. **ESB Goal.** Goal of this project is ten percent (10%) ESB participation. ESB utilizations are shown as percentage of total Bid. If Bidder meets or exceeds specified goal, Bidder is only required to submit Form A - Certification, and Form B - Involvement. Goal shall be met if Bidder qualifies as ESB.
- E. **Report Contents.** Following award of Contract, Bidder shall submit copies of executed contracts for all Emerging Small Businesses. Emerging Small Business Report shall consist of these:
1. Form A - Certification;
 2. Form B - Involvement;
 3. Form C - Contacts;
 4. Form D - Certification Statement (if appropriate); and

5. Supportive documentation (i.e., copies of correspondence, telephone logs, copies of advertisements).
- F. **ESB Listing.** Bidders may solicit bids from this ESB listing:
pdf.countyofdane.com/commissions/2013-2015_Targeted_Business_Directory.pdf.
- G. **ESB Certification.** All contractors, subcontractors and suppliers seeking ESB certification must complete and submit Emerging Small Business Report to Dane County Contract Compliance Program.
- H. **Certification Statement.** If ESB firm has not been certified by County as ESB prior to submittal of this Bid, ESB Report cannot be used to fulfill ESB goal for this project unless firm provides "Form D - Certification Statement". Certification statement must be completed and signed by ESB firm.
- I. **Questions.** Questions concerning Emerging Small Business provisions shall be directed to:
- Dane County Contract Compliance Officer
City-County Building, Room 421
210 Martin Luther King, Jr. Blvd.
Madison, WI 53703
608/266-5623
- J. **Substituting ESBs.** In event of any significant changes in subcontract arrangements or if need arises to substitute ESBs, Bidder shall report such proposed changes to Contract Compliance Officer to making any official changes and request authorization to substitute ESB firm. Bidder further agrees to make every possible effort to replace ESB firm with another qualified ESB firm.
- K. **Good Faith Efforts.** Good faith efforts can be demonstrated by meeting all of these obligations:
1. Selecting portions of the Work to be performed by ESBs in order to increase likelihood of meeting ESB goal including, where appropriate, breaking down Contract into smaller units to facilitate ESB participation.
 2. Advertising in general circulation, trade associations and women / minority focus media concerning subcontracting opportunities.
 3. Providing written notices to reasonable number of specific ESBs that their interest in Contract was being solicited in sufficient time to allow ESBs to participate effectively.
 4. Following up on initial solicitations of interest by contacting ESBs within five (5) business days prior to Bid Due Date to determine with certainty whether ESB were interested, to allow ESBs to prepare bids.
 5. Providing interested ESB with adequate information about Drawings, Specifications and requirements of Contract.
 6. Using services of available minority, women and small business organizations and other organizations that provide assistance in recruitment of MBEs / WBEs / ESBs.
 7. Negotiating in good faith with interested ESBs, not rejecting ESBs as unqualified without sound reason based on thorough investigation of their capabilities.

8. Submitting required project reports and accompanying documents to County's Contract Compliance Officer within twenty-four (24) hours after Bid Due Date.

L. **Appeals Disqualification of Bid.** Bidder who is disqualified may appeal to Public Works & Transportation Committee and Equal Opportunity Commission.

10. METHOD OF AWARD - RESERVATIONS

A. Following will be basis of award of Contract, providing cost does not exceed amount of funds then estimated by County as available to finance Contract(s):

1. Lowest dollar amount submitted by qualified responsible bidder on Base Bid for all work comprising project, combined with such additive Owner accepted alternates.
2. Owner reserves right to reject all bids or any bid, to waive any informality in any bid, and to accept any bid that will best serve interests of County.
3. Unit Prices and Informational Bids will not be considered in establishing low bidder.

11. SECURITY FOR PERFORMANCE AND PAYMENTS

- A. Simultaneous with delivery of signed Contract, Bidder shall be required to furnish Performance and Payment Bonds as specified in Article 29 of General Conditions of Contract, "Contract Security". Surety Company shall be licensed to do business in Wisconsin. Performance and Payment Bonds must be dated same date or subsequent to date of Contract. Performance and Payment Bonds must emulate information in Sample Performance and Payment Bonds in Construction Documents.
- B. Provide certified copy of power of attorney from Surety Company showing that agent who signs Bond has power of attorney to sign for Surety Company. Secretary or Assistant Secretary of company must sign this certification, not attorney-in-fact. Certification must bear same or later date as Bond. Power of Attorney must emulate model power of attorney information detailed in Sample Performance and Payment Bonds.
- C. If Bidder is partnership or joint venture, State certified list, providing names of individuals constituting partnership or joint venture must be furnished. Contract itself may be signed by one partner of partnership, or one partner of each firm comprising joint venture, but Performance and Payment Bonds must be signed by all partners.
- D. If Bidder is a corporation, it is necessary that current certified copy of resolution or other official act of directors of corporation be submitted showing that person who signs Contract is authorized to sign contracts for corporation. It is also necessary that corporate seal be affixed to resolution, contract, and performance and payment bonds. If your corporation has no seal, it is required that above documents include statement or notation to effect that corporation has no seal.

12. TAXES

A. Wisconsin Statute 77.54 (9m) allows building materials that become part of local unit government facilities to be exempt from sales & use tax. Vendors & materials suppliers may not charge Bidders sales & use tax on these purchases. This does not include highways,

streets or roads. Any other Sales, Consumer, Use & other similar taxes or fees required by law shall be included in Bid.

- B. In accordance with Wisconsin Statute 71.80(16)(a), successful nonresident bidder, whether incorporated or not, and not otherwise regularly engaged in business in this state, shall file surety bond with State of Wisconsin Department of Revenue payable to Department of Revenue, to guarantee payment of income taxes, required unemployment compensation contributions, sales and use taxes and income taxes withheld from wages of employees, together with any penalties and interest thereon. Amount of bond shall be three percent (3%) of Contract or subcontract price on all contracts of \$50,000 or more.

13. SUBMISSION OF BIDS

- A. All Bids shall be submitted on standard Bid Form bound herein and only Bids that are made on this Bid Form will be considered. Entire Bid Form and other supporting documents, if any, shall be removed or copied from Construction Documents, filled out, and submitted in manner specified hereinafter. Submit completed Bid Bond with Bid as well.
- B. No bids for any subdivision or any sub-classification of this Work, except as indicated, will be accepted. Any conditional Bid, amendment to Bid Form or appended item thereto, or inclusion of any correspondence, written or printed matter, or details of any nature other than that specifically called for, which would alter any essential provision of Construction Documents, or require consideration of unsolicited material or data in determining award of Contract, will disqualify Bid. Telecommunication alterations to Bid will not be accepted.
- C. Bidders must submit single Bid for all the Work.
- D. Bid amounts shall be inserted in words and in figures in spaces provided on Bid Form; in case of conflict, written word amounts will govern.
- E. Addenda issued after Bid Letting shall become part of Construction Documents. Bidders shall acknowledge receipt of such addenda in appropriate space provided on Bid Form. Bid may be rejected if receipt of any particular addendum applicable to award of Contract has not been acknowledged on Bid Form.
- F. Bids shall be signed, placed in envelope, sealed and delivered before due time to place designated in Invitation to Bid, and identified with project name, bid number, location, category of work being bid upon, Bid Due Date, name and address of bidder.
- G. Bidder shall be responsible for sealed Bid being delivered to place designated for Bid Due Date on or before date and time specified. Bids received after time of closing will be rejected and returned to bidder unopened.
- H. Bid will be considered invalid and will be rejected if bidder has not signed it.
- I. Faxed or emailed Bids will not be accepted.
- J. Bidder's organization shall submit completed with Bid, Fair Labor Practices Certification form, included in these Construction Documents.

14. SUBCONTRACTOR LISTING

- A. Bidders shall be required to submit list of major subcontractors for General Construction, Plumbing, HVAC, and Electrical work proposed for this project to include committed prices for each subcontractor. List shall be placed in separate sealed envelope that must be clearly identified as “Major Subcontractor List”, for named project and name of Bidder submitting it. County must receive envelope no later than date by which successful Bidder is required to submit his or her signed Contract, as established in Construction Documents.

15. ALTERNATE BIDS

- A. Bidder shall carefully read requests for Alternate Bids, and thoroughly examine Drawings and Specifications to determine extent various changes and conditions will affect Bid.
- B. Space is provided in Bid Form for requested Alternate Bids. Failure to submit bid for any requested Alternate Bids may result in rejection of entire Bid.
- C. Bidder shall state amount to be added / subtracted to Base Bid for providing alternates, including all incidentals, omissions, additions, and adjustments as may be necessary or required by such changes. If there is no difference in price, Bidder shall state, “No Change”.
- D. Descriptions of requested Alternate Bids are as set forth in Construction Documents.

16. INFORMATIONAL BIDS

- A. Not Applicable.

17. UNIT PRICES

- B. Not Applicable.

18. COMMENCEMENT AND COMPLETION

- A. Successful Bidder shall commence work when schedule and weather permit, but no later than stated in Bid Form. Contractor shall pursue the Work regularly and continuously at reasonable rate to insure completion of the Work within time stated in Bid.
- B. Should it be found impossible to complete the Work on or before time specified for completion, written request may be submitted for extension of time setting forth reasons believed to justify granting of such request. Refer to Article 20 of General Conditions of Contract, titled “Time for Completion”.

19. WORK BY OWNER

- A. This work will be accomplished by Owner or will be let under separate contracts and will not be included under this Contract:
 - 1. Clean HVAC coils when Contractor is cleaning ductwork.
 - 2. Provide low voltage wiring & transformers for plumbing fixture solenoid valves.
 - 3. Replace restroom lighting fixtures.

4. Paint restrooms.
 5. Furnish door lock hardware for plumbing chase access doors.
 6. Paint new plumbing chase access doors in Large Pods.
- B. Refer to Basic Requirements, Section 01 00 00 - 1.2.B. & 1.6.C. for additional information regarding Base Bid & Alternate Bids.

20. SPECIAL HAZARDS COVERAGE

- A. Not Applicable.

FORM A

**DANE COUNTY
EMERGING SMALL BUSINESS REPORT - CERTIFICATION**

In accordance with General Conditions of Contract, submit this Emerging Small Business Report within ten (10) days after Bid Due Date.

PROJECT NAME: _____

BID NO.: _____ BID DUE DATE: _____

BIDDER INFORMATION

COMPANY NAME: _____

ADDRESS: _____

TELEPHONE NO.: _____

CONTACT PERSON: _____

EMAIL ADDRESS: _____

FORM B

Page ___ of ___

DANE COUNTY

(Copy this Form as necessary to provide complete information)

EMERGING SMALL BUSINESS REPORT - INVOLVEMENT

COMPANY NAME: _____

PROJECT NAME: _____

BID NO.: _____ BID DUE DATE: _____

ESB NAME: _____

CONTACT PERSON: _____

ADDRESS: _____

PHONE NO & EMAIL.: _____

Indicate percentage of financial commitment to this ESB: _____ % Amount: \$ _____

ESB NAME: _____

CONTACT PERSON: _____

ADDRESS: _____

PHONE NO & EMAIL.: _____

Indicate percentage of financial commitment to this ESB: _____ % Amount: \$ _____

FORM C

Page ___ of ___

DANE COUNTY

(Copy this Form as necessary to provide complete information)

EMERGING SMALL BUSINESS REPORT - CONTACTS

COMPANY NAME: _____

PROJECT NAME: _____

BID NO.: _____ BID DUE DATE: _____

	<u>ESB FIRM NAME CONTACTED</u>	<u>DATE</u>	<u>PERSON CONTACTED</u>	<u>DID ESB BID?</u>	<u>ACC- EPT BID?</u>	<u>REASON FOR REJECTION</u>
1)	_____	_____	_____	_____	_____	_____
2)	_____	_____	_____	_____	_____	_____
3)	_____	_____	_____	_____	_____	_____
4)	_____	_____	_____	_____	_____	_____
5)	_____	_____	_____	_____	_____	_____
6)	_____	_____	_____	_____	_____	_____
7)	_____	_____	_____	_____	_____	_____
8)	_____	_____	_____	_____	_____	_____

FORM D

**DANE COUNTY
EMERGING SMALL BUSINESS REPORT - CERTIFICATION STATEMENT**

I, _____, _____ of
Name Title

_____ certify to best of my knowledge and
Company

belief that this business meets Emerging Small Business definition as indicated in Article 9 and
that information contained in this Emerging Small Business Report is true and correct.

Bidder's Signature

Date

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Name of Bidding Firm: _____

BID FORM

BID NO. 316037

**PROJECT: JAIL SHOWERS & SPLIT PODS IMPROVEMENTS - REBID
PUBLIC SAFETY BUILDING**

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

**NOTE: WISCONSIN STATUTE 77.54 (9M) ALLOWS FOR NO SALES & USE TAX ON
THE PURCHASE OF MATERIALS FOR COUNTY PUBLIC WORKS PROJECTS.**

BASE BID - LUMP SUM:

Work consists of fabrication of stainless steel shower inserts, installation of new security wall shower fixtures, stripping & resealing shower room floors, painting, changing carpeting & other tasks. This work is for Split Pods 3I, 3G & 3E. 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

The undersigned agrees to add the alternate(s) portion of the Work as described, for the following addition(s) to or subtraction(s) from the Base Bid, as stipulated below.

ALTERNATE BID 1 - LUMP SUM:

Add price for providing improvements to Split Pod 3C. Refer to Section 01 00 00 - 1.6.

_____ and _____ /100 Dollars
Written Price

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

ALTERNATE BID 2 - LUMP SUM:

Add price for providing improvements to Split Pods 4G & 4E. Refer to Section 01 00 00 - 1.6.

_____ and _____ /100 Dollars
Written Price

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

ALTERNATE BID 3 - LUMP SUM:

Add price for providing improvements to Split Pod 4I. Refer to Section 01 00 00 - 1.6.

_____ and _____ /100 Dollars
Written Price

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

ALTERNATE BID 4 - LUMP SUM:

Add price for providing improvements to Split Pod 4C. Refer to Section 01 00 00 - 1.6.

_____ 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 Sheriff's Department must have the Base Bid of this project completed by August 25, 2017. Assuming this Work can be started by May 16, 2017, what dates can you commence and complete this job?

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

If Alternate Bid(s) is (are) selected for inclusion, the Completion Date will be negotiated & extended based on the number of additional split pods to be completed & the approximate amount of time required to complete a split pod.

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) calendar days from date of Award of Contract.

SIGNATURE: _____
(Bid is invalid without signature)

Print Name: _____ Date: _____

Title: _____

Address: _____

Telephone No.: _____ Fax No.: _____

Email Address: _____

Contact Person: _____

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

BID CHECK LIST:

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

Bid Form

Bid Bond

Fair Labor Practices Certification

BIDDERS SHOULD BE AWARE OF THE FOLLOWING:

DANE COUNTY VENDOR REGISTRATION PROGRAM

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

www.danepurchasing.com/registration

DANE COUNTY BEST VALUE CONTRACTING PRE-QUALIFICATION

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

www.countyofdane.com/pwht/BVC_Application.aspx

EQUAL BENEFITS REQUIREMENT

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

www.danepurchasing.com/partner_benefit.aspx

FAIR LABOR PRACTICES CERTIFICATION

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

- A. That he or she is an officer or duly authorized agent of the above-referenced BIDDER, APPLICANT or PROPOSER, which has 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.nlrb.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. 316037

Authority: 2016 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 provide Jail Showers & Split Pods Improvements-Rebid, Public Safety Building [including Alternate Bid[s] X, Y & Z (if applicable)] ("the Project"); and

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

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

1. CONTRACTOR agrees to construct, for the price of \$ _____ the Project and at the CONTRACTOR'S own proper cost and expense to furnish all materials, supplies, machinery, equipment, tools, superintendence labor, insurance, and other accessories and services necessary to complete the Project in accordance with the conditions and prices stated in the Bid Form, General Conditions of Contract, the drawings which include all maps, plats, plans, and other drawings and printed or written explanatory matter thereof, and the specifications therefore as prepared by Dane County Dept. of Public Works, Highway & Transportation & Select Plumbing Design (hereinafter referred to as "the Architect / 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 General Conditions of Contract, and to make payments on account thereof as provided in Article entitled, "Payments to Contractor" of the General 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) business days of the effective date of this Contract. During the term of this Contract CONTRACTOR shall also provide copies of all announcements of employment opportunities to COUNTY'S Contract Compliance Office, and shall report annually the number of persons, by race, ethnicity, gender, and disability status, which apply for employment and, similarly classified, the number hired and number rejected.

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

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

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

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

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

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

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

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

* * * * *

FOR CONTRACTOR:

Signature Date

Printed or Typed Name and Title

Signature Date

Printed or Typed Name and Title

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

* * * * *

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

FOR COUNTY:

Joseph T. Parisi, County Executive Date

Scott McDonell, County Clerk Date



AIA Document A310™ – 2010

Bid Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)

BOND AMOUNT:**PROJECT:**

(Name, location or address, and Project number, if any)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

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

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner 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. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

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

Signed and sealed this _____ day of _____

_____	<i>(Contractor as Principal)</i>	<i>(Seal)</i>
<i>(Witness)</i>	_____	<i>(Title)</i>
_____	<i>(Surety)</i>	<i>(Seal)</i>
<i>(Witness)</i>	_____	<i>(Title)</i>

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

AIA[®] Document A312[™] – 2010

Performance Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status 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 Section 16

CONTRACTOR AS PRINCIPAL

Company: _____
(Corporate Seal)

SURETY

Company: _____
(Corporate Seal)

Signature: _____

Name _____
and Title: _____

(Any additional signatures appear on the last page of this Performance Bond.)

Signature: _____

Name _____
and Title: _____

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

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

AIA Document A312–2010 combines two separate bonds, a Performance Bond and a Payment Bond, into one form. This is not a single combined Performance and Payment Bond.

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

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

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

- .1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
- .2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
- .3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

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

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

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

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

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

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

- .1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
- .2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

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

- .1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- .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 Section 5; and
- .3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

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

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

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

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum 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 page on which their signature appears.

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

§ 14 Definitions

§ 14.1 **Balance of the Contract Price.** The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance 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.

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

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

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

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

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

§ 16 Modifications to this bond are as follows:

Sample

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

CONTRACTOR AS PRINCIPAL

SURETY

Company: _____

(Corporate Seal)

Company: _____

(Corporate Seal)

Signature: _____

Name and Title: _____

Address _____

Signature: _____

Name and Title: _____

Address _____

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



AIA® Document A312™ – 2010

Payment Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

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

AIA Document A312-2010 combines two separate bonds, a Performance Bond and a Payment Bond, into one form. This is not a single combined Performance and Payment Bond.

CONSTRUCTION CONTRACT

Date:

Amount:

Description:

(Name and location)

BOND

Date:

(Not earlier than Construction Contract Date)

Amount:

Modifications to this Bond: None See Section 18

CONTRACTOR AS PRINCIPAL

Company: *(Corporate Seal)*

SURETY

Company: *(Corporate Seal)*

Signature: _____

Name _____
and Title: _____

Signature: _____

Name _____
and Title: _____

(Any additional signatures appear on the last page of this Payment Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:**OWNER'S REPRESENTATIVE:**

(Architect, Engineer or other party:)

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

- .1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
- .2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

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

§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

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

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

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

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 16 Definitions

§ 16.1 Claim. A written statement by the Claimant including at a minimum:

- .1 the name of the Claimant;
- .2 the name of the person for whom the labor was done, or materials or equipment furnished;
- .3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
- .4 a brief description of the labor, materials or equipment furnished;
- .5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- .6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
- .7 the total amount of previous payments received by the Claimant; and
- .8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "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.

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

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

§ 16.5 **Contract Documents.** All the documents that comprise the agreement between the Owner and Contractor.

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

§ 18 Modifications to this bond are as follows:

(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 _____

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

EQUAL BENEFITS COMPLIANCE PAYMENT CERTIFICATION FORM

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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GENERAL CONDITIONS OF CONTRACT

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1. CONSTRUCTION DOCUMENTS

- A. Construction Documents, listed in Table of Contents of this Specification volume shall form part of this Contract and provisions of Construction Documents shall be as binding upon parties as if they were fully set forth in Contract itself.
- B. These shall also be considered as part of Construction Documents: Addenda, including additions and modifications incorporated in such addenda before execution of Contract; requests for information; construction bulletins; change orders; and written interpretations by Architect / Engineer or Public Works Project Manager that are made after execution of Contract.
- C. Construction Documents are complementary, and what is required by one shall be as binding as if required by all. Intent of Construction Documents is to include all labor, materials and equipment necessary for proper execution of the Work.

2. DEFINITIONS

- A. These terms as used in this Contract are respectively defined as follows:
 - 1. All uses of term “County” in Construction Documents shall mean Dane County.
 - 2. All uses of term “Department” in Construction Documents shall mean Department of Public Works, Highway & Transportation, which is a unit of Dane County government. Department is County agency overseeing Contract with Contractor.
 - 3. Public Works Project Manager is appointed by and responsible to Department. Public Works Project Manager has authority to act on behalf of Department and will sign change orders, payment requests and other administrative matters related to projects.
 - 4. Public Works Project Manager is responsible for supervision, administration and management of field operations involved in construction phase of this Work.
 - 5. Term “Work” includes all labor, equipment and materials necessary to produce project required by Construction Documents.
 - 6. Term “Substantial Completion” is date when project or specified area of project is certified by Architect / Engineer that construction is sufficiently completed, in accordance with Construction Documents, and as modified by any subsequent changes agreed to by parties, so that County may occupy project or specified area of project for use for which it was intended subject to permit approval for occupancy.
 - 7. Contractor is person, firm, or corporation with whom County makes Contract. Though multiple contracts may be involved, Construction Documents treat them throughout as if each were of singular number.

3. ADDITIONAL INSTRUCTIONS AND DRAWINGS

- A. Contractor may be furnished additional instructions and detail drawings as necessary to carry out the Work included in Contract. Additional drawings and instructions thus supplied to Contractor will coordinate with Construction Documents and will be so prepared that they can be reasonably interpreted as part thereof. Contractor shall carry out the Work in accordance with additional detail drawings and instructions.

4. SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- A. Unless otherwise specified, Contractor shall submit three (3) copies of all Shop Drawings 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.
- B. Contractor shall submit, on an on-going basis and as directed, Product Data such as brochures that shall contain catalog cuts and specifications of all furnished mechanical and electrical equipment. After Architect / Engineer's approval, one (1) copy shall remain in Architect / Engineer's file, one (1) kept at Department's office and one (1) kept at job site by Contractor for reference purposes.
- C. Samples shall consist of physical examples furnished by Contractor in sufficient size and quantity to illustrate materials, equipment or workmanship, and to establish standards to compare the Work.
 - 1. Submit Samples in sufficient quantity (minimum of two (2)) to permit Architect / Engineer to make all necessary tests and of adequate size showing quality, type, color range, finish, and texture. Label each Sample stating material, type, color, thickness, size, project name, and Contractor's name.
 - 2. Submit transmittal letter requesting approval, and prepay transportation charges to Architect / Engineer's office on samples forwarded.
 - 3. Materials installed shall match approved Samples.
- D. Contractor shall review Shop Drawings and place their dated stamp thereon to evidence their review and approval and shall submit with reasonable promptness and in orderly sequence to cause no delay in the Work or in work of any other contractor. At time of submission, Contractor shall inform Architect / Engineer in writing of any deviation in Shop Drawings or Samples from requirements of Construction Documents. Architect / Engineer will not consider partial lists.
- E. Architect / Engineer will review and approve or reject Shop Drawings with reasonable promptness to cause no delay. Architect / Engineer's approval shall not relieve Contractor from responsibility for errors or omissions in Shop Drawings.
- F. Contractor shall not commence any work requiring Shop Drawing, Product Data or Sample submission until Architect / Engineer has approved submission. All such work shall be in accordance with approved Shop Drawings, Product Data and Samples.
- G. Contractor shall keep on site of the Work, approved or conformed copy of Shop Drawings and shall at all times give Department access thereto.
- H. By stamping and submitting Shop Drawings, Product Data and Samples, Contractor thereby represents that he or she has or will determine and verify all field measurements, field construction criteria, materials, catalog numbers, and similar data and that he or she has checked and coordinated each Shop Drawing, Product Data and Sample with requirements of the Work and of Construction Documents. Architect / Engineer shall return without examination, Shop Drawings, Product Data and Samples not so noted.
- I. All Shop Drawings from any one Contractor should be numbered consecutively and on cover sheet shall bear name and location of project, name of Contractor, date of submittal and date of each correction or revision and associated Specification section and page number.

5. CUTTING AND PATCHING

- A. Contractor shall be responsible for all cutting, fitting or patching required to complete the Work or to make its parts fit together properly.
- B. Contractor shall not damage or endanger portion of the Work or fully or partially completed construction of County or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. Contractor shall not cut or otherwise alter such construction by County or separate contractor except with written consent of County and of such separate contractor; such consent shall not be unreasonably withheld. Contractor shall not withhold unreasonably from County or separate contractor, Contractor's consent to cutting or otherwise altering the Work.

6. CLEANING UP

- A. Contractor shall keep premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under Contract. Contractor shall remove from and about the Work waste materials, rubbish, Contractor's tools, construction equipment, machinery, and surplus materials at completion of the Work. Contractor shall maintain streets and sidewalks around the Work site in clean condition. Contractor shall remove all spillage and prevent tracking of spillage arising from performance of the Work, into, out of, and within the Work site. Contractor shall establish regular maintenance program of sweeping, vacuuming and / or hosing to minimize accumulation of dirt and dust upon such areas.
- B. If Contractor fails to clean up as directed in Construction Documents, County may do so and shall charge Contractor cost thereof.
- C. Contractor shall be responsible for broken windows and glass, and at completion of the Work shall replace such damaged or broken windows and glass. After replacing damaged or broken windows and glass, Contractor shall remove all labels, wash and polish both sides of all windows and glass.
- D. In addition to general cleaning (sweeping, vacuuming and / or hosing, as is appropriate to work surface), Contractor shall perform following final cleaning for all trades at completion of the Work:
 - 1. Remove temporary protections;
 - 2. Remove marks, stains, fingerprints and other soil or dirt from painted, decorated and finished woodwork and wall surfaces;
 - 3. Remove spots, plaster, soil and paint from ceramic tile, marble and other finished materials, and wash or wipe clean;
 - 4. Clean fixtures, cabinet work and equipment, removing stains, paint, dirt and dust, and leave same in undamaged, new condition;
 - 5. Clean aluminum in accordance with recommendations of manufacturer; and
 - 6. Clean resilient floors thoroughly with well-rinsed mop containing only enough moisture to clean off any surface dirt or dust and buff dry by machine to bring surfaces to sheen.

7. USE OF SITE

- A. Contractor shall provide County access to the Work under all circumstances.

- B. Contractor shall confine operations at site to areas permitted by County, law, ordinance, permits and Construction Documents and shall not unreasonably encumber site with materials or equipment. Contractor shall assure free, convenient, unencumbered, direct and safe access to all properties adjacent to the Work for County, its employees, invitees and guests.

8. MATERIALS AND WORKMANSHIP

- A. Contractor shall perform all work and furnish all supplies and materials, machinery, equipment, facilities and means, necessary to complete the Work required by this Contract, within time specified, in accordance with provisions of Construction Documents.
- B. All equipment and materials incorporated in the Work covered by this Contract are to be new; use recycled and / or recovered materials to extent that such use is technically and economically feasible. Recovered materials are products recovered from solid waste in form identical to original form for use that is same as, or similar to original use. Recycled materials are products manufactured from solid waste.
- C. If requested, Contractor shall furnish satisfactory evidence as to kind and quality of construction materials proposed or used. Contractor shall furnish to Architect / Engineer, for approval, manufacturer name and model, performance capacities and other pertinent information of machinery, mechanical, electrical or other types of equipment, which Contractor plans to install.
- D. If not otherwise provided, materials and labor called for in this Contract shall be provided and performed in accordance with established practice and standards recognized by Architects, Engineers, Department, and construction industry.
- E. Reference to “Standard” specifications of any association or manufacturer, or codes of County authorities, intends most recent printed edition or catalog in effect on date that corresponds with date of Construction Documents.
- F. Whenever reference is made in Specifications that work shall be “performed”, “applied”, in accordance with “manufacturer’s directions or instructions”, Contractor to whom those instructions are directed shall furnish three (3) printed copies of such instructions to Architect / Engineer before execution of the Work.

9. CONTRACTOR’S TITLE TO MATERIALS

- A. Contractor or any subcontractor shall not purchase materials or supplies for the Work subject to any chattel mortgage or under conditional sale contract or other agreement by which seller retains interest. Contractor warrants that all materials and supplies used in the Work are free from all liens, claims or encumbrances and Contractor has good title to them.

10. “OR EQUAL” CLAUSE

- A. Whenever equipment or materials are identified on Drawings or in Specifications by reference to manufacturer’s or vendor’s name, trade name, catalog number, and other identifying information, it is intended to establish standards; and any equipment or material of other manufacturers and vendors which will perform adequately duties imposed by general design will be considered equally accepted provided equipment or material so

proposed is, in opinion of Architect / Engineer, of equal substance and function. Architect / Engineer and Department shall provide written approval before Contractor may purchase or install it.

- B. Equipment or materials of manufacturers, other than those named, may be used only upon following conditions:
1. That, in opinion of Architect / Engineer and Department, proposed material or equipment item is fully equal or superior (in design, materials, construction, workmanship, performance, finish, etc.) to named item. No compromise in quality level, however small, is acceptable.
 2. That, in substituting materials or equipment, Contractor assumes responsibility for any changes in system or for modifications required in adjacent or related work to accommodate such substitution despite Architect / Engineer's and Department's approval, and all costs growing out of approval of "or equal" items shall be responsibility of Contractor. No extra costs resulting from such approval shall become responsibility of Department, Architect / Engineer or any other separate Contractor.
 3. It shall be understood that use of materials or equipment other than those specified, or approved equal by Architect / Engineer and Department, shall constitute violation of Contract, and that Architect / Engineer and Department shall have right to require removal of such materials or equipment and their replacement with specified materials or equipment at Contractor's expense.
 4. Product and manufacturer named first in Specifications or on information shown on Drawings is basis of selection of manufactured items and equipment, particularly mechanical equipment. In using other than first named products or manufacturers, including those specified as additionally approved or acceptable, Contractor assumes responsibility for any changes in system and for modifications in any work required to accommodate them. Architect / Engineer's approval of such additionally acceptable products or manufacturers, either in Specifications or in Addendum, does not relieve Contractor from obligation to coordinate such optional products with other Contractors, whose work may be affected by them, and to pay all additional costs resulting from their inclusion into the Work. Contractor's liability shall include payment of Architect / Engineer's fees for any additional services made necessary by or directly connected to such product changes. No extra costs resulting from such changes shall become responsibility of Department, Architect / Engineer or any other separate Contractor.
- C. No request for approval of "or equal" materials will be entertained except from Contractor. Identify any request for substitution as substitution on Contractor's letter of transmittal and give reasons for substitution. Department may in its sole discretion allow substitutions of materials.

11. PATENTS AND ROYALTIES

- A. If Contractor uses any design, device or material covered by letters, patent or copyright, it is mutually agreed and understood, that, without exception, contract prices shall include all royalties or costs arising from use of such design, device or materials, in any way involved in the Work.
- B. Contractor shall indemnify and save harmless County from any and all claims for infringement by reason of use of such patent or copyright in connection with the Work agreed to be performed under this Contract, and shall indemnify County for any cost, expense or damage which it may be obliged to pay by reason of such infringement at any time during prosecution of the Work or after completion of the Work.

12. SURVEYS, PERMITS, REGULATIONS AND TAXES

- A. Department will furnish to Contractor all site, topography and property surveys necessary for execution of the Work.
- B. Contractor shall procure all permits, licenses and approvals necessary for execution of this Contract.
- C. Contractor shall give all notices and comply with all State of Wisconsin, Federal and local laws, codes, rules and regulations relating to performance of the Work, protection of adjacent property, and maintenance of passageways, guard fences or other protective facilities.
- D. Contractor shall pay all Sales, Consumer, Use and other similar taxes required by law.
- E. Contractor shall promptly notify Architect / Engineer of any variances of Drawings or Specifications with that of any State of Wisconsin, federal or local law, code, rule or regulation. Upon such notification, Architect / Engineer will require correction of variance to comply with applicable law, code, rule or regulation at no additional cost to Contractor.
- F. Work under this Contract shall comply with all applicable State of Wisconsin, Federal and local laws, codes and regulations.
- G. Contractor shall pay charges for water, sewer and other utility connections made by municipalities where required by Specifications.

13. CONTRACTOR'S OBLIGATIONS AND SUPERINTENDENCE

- A. Contractor shall provide and pay for all materials, labor, tools, equipment, transportation and superintendence necessary to execute, complete and deliver the Work within specified time. Contractor agrees to secure at their own expense all personnel necessary to carry out the Work. Such personnel shall not be deemed County employees nor shall they have or be deemed to have any direct contractual relationship with County.
- B. Performance of any work necessary after regular working hours, on Sundays or Legal Holidays shall be without additional expense to County. Performance of any work at site at other than normal working hours must be coordinated with Public Works Project Manager.
- C. Contractor shall furnish, erect, maintain and remove such temporary works as may be required.
- D. Contractor shall observe, comply with, and be subject to all terms, conditions, requirements and limitations of Construction Documents.
- E. At the Work site, Contractor shall give personal superintendence to the Work or shall employ construction superintendent or foreman, experienced in character of work covered by Contract, who shall have full authority to act for Contractor. Understand that such superintendent or foreman shall be acceptable to Architect / Engineer and Department.

- F. Remove from project or take other corrective action upon notice from Architect / Engineer or Department for Contractor's employees whose work is considered by Architect / Engineer or Department to be unsatisfactory, careless, incompetent, unskilled or otherwise objectionable.
- G. Contractor and subcontractors shall be required to conform to Labor Laws of State of Wisconsin and various acts amendatory and supplementary thereto and to other laws, ordinances and legal requirements applicable to the Work.
- H. Presence and observation of the Work by Architect / Engineer or Public Works Project Manager shall not relieve Contractor of any obligations.

14. WEATHER CONDITIONS

- A. In event of temporary suspension of work, or during inclement weather, or whenever Architect / Engineer shall direct, Contractor shall, and shall cause subcontractors to protect carefully all work and materials against damage or injury from weather. If, in opinion of Architect / Engineer or Department, any work or materials that have been damaged or injured due to failure on part of Contractor or any subcontractors so to protect the Work, such materials shall be removed and replaced at expense of Contractor.

15. PROTECTION OF WORK AND PROPERTY

- A. Contractor shall at all times safely guard County's property from injury or loss in connection with this Contract. Contractor shall at all times safely guard and protect the Work, and adjacent property, from damage. Contractor shall replace or make good any such damage, loss or injury unless such is caused directly by errors contained in Contract, or by County, or County's duly authorized representative.
- B. Contractor may act diligently, without previous instructions from Architect / Engineer and / or Department, in emergency that threatens loss or injury of property, or safety of life. Contractor shall notify Architect / Engineer and / or Department immediately thereafter. Promptly submit any claim for compensation by Contractor due to such extra work to Architect / Engineer and / or Department for approval as provided for in Article 18 herein.

16. INSPECTION AND TESTING OF MATERIALS

- A. Authorized representatives and agents of County government shall have access at all times to the Work wherever it is in preparation or progress and Contractor shall provide facilities for such access and for inspection.
- B. Should it be considered necessary or advisable at any time before final acceptance of the Work to make examination of work already completed, by removing or tearing out same, Contractor shall upon request, promptly furnish all necessary facilities, labor and materials. If such work is found to be defective in any aspect, due to fault of Contractor or subcontractors thereof, Contractor shall assume all expenses of such examination and of satisfactory reconstruction. Contractor will be reimbursed for such examination and replacement in accordance with Article 18 - A.3., of these General Conditions of Contract if such work is found to meet requirements of Contract.
- C. If Specifications, Architect / Engineer's, or Public Works Project Manager's instructions require any work to be specially tested or approved, Contractor shall give Architect /

Engineer and Public Works Project Manager timely notice of its readiness for testing or inspection. Test all materials and equipment requiring testing in accordance with accepted or specified standards, as applicable. Architect / Engineer shall recommend laboratory or inspection agency and Department will select and pay for all initial laboratory inspection services. Should retesting be required, due to failure of initial testing, cost of such retesting shall be borne by Contractor.

- D. Cost of any testing performed by manufacturers or Contractor for substantiating acceptability of proposed substitution of materials and equipment, or necessary conformance testing in conjunction with manufacturing processes or factory assemblage, shall be borne by Contractor or manufacturer responsible.

17. REPORTS, RECORDS AND DATA

- A. Contractor shall submit to Architect / Engineer and Public Works Project Manager such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, invoices, records and other data as either may request concerning work performed or to be performed under this Contract.

18. CHANGES IN THE WORK

- A. Make no changes, except in cases of emergency, in the Work covered by approved Construction Documents without having prior written approval of Department. Charges or credits for the Work covered by approved change shall be determined by one of these methods:
 - 1. Unit bid prices previously approved.
 - 2. Agreed lump sum based on actual cost of:
 - a) Labor, including foremen, and all fringe benefits that are associated with their wages.
 - b) Materials entering permanently into the Work.
 - c) Ownership or rental cost of construction tools and equipment during time of use on extra work.
 - d) Power and consumable supplies for operation of power equipment.
 - e) Workmen's Compensation Insurance, Contractor's Public Liability and Property Damage Insurance, and Comprehensive Automobile Liability Insurance.
 - f) Social Security and old age and unemployment contributions.
 - g) Add to cost under (2), fixed fee to be agreed upon, but not to exceed fifteen percent (15%) of actual cost of work performed with their own labor force. Fee shall be compensation to cover cost of supervision, overhead, bond, profit and any other general expense.
 - h) On that portion of the Work under (2) done under subcontract, Contractor may include not over seven and one-half percent (7½%) for supervision, overhead, bond, profit and any other general expense.
 - i) Department may require correct amount of costs with supporting vouchers; Contractor shall keep and present in such form as directed.
 - 3. Cost-plus work, with not-to-exceed dollar limit, based on actual cost of:
 - a) Labor, including foremen, and all fringe benefits that are associated with their wages.
 - b) Materials entering permanently into the Work.

- c) Ownership or rental cost of construction tools and equipment during time of use on extra work. Rental cost cannot exceed fifty percent (50%) replacement value of rented equipment.
 - d) Power and consumable supplies for operation of power equipment.
 - e) Workmen's Compensation Insurance, Contractor's Public Liability and Property Damage Insurance, and Comprehensive Automobile Liability Insurance.
 - f) Social Security and old age and unemployment contributions.
 - g) To cost under (3), there shall be added fixed fee to be agreed upon but not to exceed fifteen percent (15%) of actual cost of work performed with their own labor force. Fee shall be compensation to cover cost of supervision, overhead, bond, profit, and any other general expense.
 - h) On that portion of the Work under (3) done under subcontract, Contractor may include not over seven and one-half percent (7½%) for supervision, overhead, bond, profit, and any other general expense.
 - i) Contractor shall keep and present, in such form as directed, correct amount of cost together with such supporting vouchers as may be required by Department.
- B. If Contractor claims that by any instructions given by Architect / Engineer, Department, by drawings or otherwise, regarding performance of the Work or furnishing of material under Contract, involves extra cost, Contractor shall give Department written notice of cost thereof within two (2) weeks after receipt of such instructions and in any event before proceeding to execute work, unless delay in executing work would endanger life or property.
- C. No claim for extra work or cost shall be allowed unless it was done in pursuance of written Change Order from Architect / Engineer and approved by Department, as previously mentioned, and claim presented with payment request submitted after changed or extra work is completed.
- D. Negotiation of cost for change in the Work shall not be cause for Contractor to delay prosecution of the Work if Contractor has been authorized in writing by Public Works Project Manager to proceed.

19. EXTRAS

- A. Without invalidating Contract, Department may order extra work or make changes by altering, adding to or deducting from the Work, contract sum being adjusted in accordance with Article 18 herein.

20. TIME FOR COMPLETION

- A. Contractor agrees that the Work shall be prosecuted regularly and diligently and complete the Work as stated in Construction Documents.

21. CORRECTION OF WORK

- A. 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 inspection of Architect / Engineer and Public Works Project Manager who shall be judge of quality and suitability of the Work, materials, and processes of manufacture for purposes for which they are used. Should they fail to meet Architect / Engineer's and Public Works Project Manager's approval they shall

be reconstructed, made good, replaced or corrected, by Contractor at Contractor's expense. Immediately remove all rejected material from site.

- B. If Contractor defaults or neglects to carry out the Work in accordance with Construction Documents or fails to perform any provision of Contract, Department may, after ten (10) business days' written notice to Contractor and without prejudice to any other remedy County may have, make good such deficiencies. In such case, appropriate Change Order shall be issued deducting from Contractor's payments then or thereafter, cost of correcting such deficiencies, including cost of Architect / Engineer's additional services made necessary by such default, neglect or failure.

22. SUBSURFACE CONDITIONS FOUND DIFFERENT

- A. If Contractor encounters subsurface or latent conditions at site materially differing from those shown on Drawings or indicated in Specifications, Contractor shall immediately give notice to Architect / Engineer and Public Works Project Manager of such conditions before they are disturbed. Architect / Engineer will thereupon promptly investigate conditions, and if Architect / Engineer finds that they materially differ from those shown on Drawings or indicated in Specifications, Architect / Engineer will at once make such changes as necessary, any increase or decrease of cost resulting from such changes to be adjusted in manner provided in above Article 18 entitled "Changes in the Work".

23. RIGHT OF DEPARTMENT TO TERMINATE CONTRACT

- A. In event that any provisions of this Contract are violated by Contractor or by any subcontractors, County may serve written notice upon Contractor and Surety of its intention to terminate Contract, such notice to contain reasons for such intention to terminate Contract, and unless within ten (10) business days after serving of such notice upon Contractor, such violation or delay shall cease and satisfactory arrangement or correction be made, Contract shall, upon expiration of said ten (10) business days, cease and terminate.
- B. In event of any such termination, County shall immediately serve notice thereof upon Surety and Contractor, and Surety shall have right to take over and perform Contract subject to County's approval; provided, however, that if Surety does not commence performance thereof within ten (10) business days from date of mailing to such Surety of notice of termination, County may take over the Work and prosecute same to completion by contract, or by force account, at expense of Contractor; Contractor and Surety shall be liable to County for any excess cost occasioned County thereby, and in such event County may take possession of and utilize in completing the Work, such materials and equipment as may be on the Work site and therefore necessary.

24. CONSTRUCTION SCHEDULE AND PERIODIC ESTIMATES

- A. Contractor shall be responsible for Construction Schedule and coordination. Immediately after execution and delivery of Contract and before making first payment, Contractor shall notify all subcontractors to furnish all required information to develop Construction Schedule. Contractor and all subcontractors associated with the Work shall furnish following information from each Division of Specifications:
 - 1. List of construction activities;
 - 2. Start, finish and time required for completion of each activity;
 - 3. Sequential relationships between activities;

4. Identify all long lead-time items, key events, meetings or activities such as required submittals, fabrication and delivery, procurement of materials, installation and testing;
 5. Weekly definition of extent of work and areas of activity for each trade or Subcontract; and
 6. Other information as determined by Public Works Project Manager.
- B. In addition to above requested items, Contractor shall request delivery dates for all County-furnished equipment, materials or labor. This shall include any work handled by Department under separate contracts such as asbestos abatement, air and water balancing, etc. Indicate on Construction Schedule these associated delivery and installation dates.
- C. Progress Reporting:
1. Contractor shall update and publish Construction Schedule on monthly basis. Revisions to Schedule shall be by Contractor and made in same detail as original Schedule and accompanied by explanation of reasons for revision; and shall be subject to approval by Department.
 2. Failure of Contractor to keep Schedule in updated format shall result in County hiring firm specializing in construction schedule development and deducting those costs associated with updating process from payments due Contractor.
 3. Contractor shall submit show actual percentage of each activity completed, estimated future progress, and anticipated completion time.
- D. Responsibility for timely completion requires:
1. Contractor and subcontractors understand that performance of each is interdependent upon performance of others.
 2. Whenever it becomes apparent from current schedule, that phasing or progress completion dates will not be met, Contractor must take some or all following actions at no additional cost to County:
 - a) Increase construction labor in such quantities and crafts as will eliminate backlog of work.
 - b) Increase number of working hours per shift, shifts per working day, working days per week, amount of construction equipment, or any combination of foregoing to eliminate backlog of work.
 - c) Reschedule work (yet remain in conformance with Drawings and Specifications).
 3. Prior to proceeding with any of above actions, Contractor shall notify Public Works Project Manager.
- E. Maintain current Construction Schedule at all times. Revise Construction Schedule in same detail as original and accompany with explanation of reasons for revision. Schedule shall be subject to approval by Architect / Engineer and Public Works Project Manager.

25. PAYMENTS TO CONTRACTOR

- A. Contractor shall provide:
1. Detailed estimate giving complete breakdown of contract price by Specification Division; and
 2. Periodic itemized estimates of work done for purpose of making partial payments thereon.
- B. Submit these estimates for approval first to Architect / Engineer, then to Public Works Project Manager. Costs employed in making up any of these schedules are for determining

basis of partial payments and not considered as fixing basis for additions to or deductions from Contract price.

- C. County will make partial payments to Contractor for value, proportionate to amount of Contract, of all labor and material incorporated in the Work during preceding calendar month upon receipt of Application and Certificate for Payment form from Architect / Engineer and approval of Department.
- D. Contractor shall submit for approval first to Architect / Engineer, and then to Public Works Project Manager all Application and Certificate for Payment forms. If requested, Application and Certificate for Payment shall be supported by such additional evidence as may be required, showing Contractor's right to payment claimed.
- E. Application and Certificate for Payment for preparatory work and materials delivered and suitably stored at site to be incorporated into the Work at some future period, will be given due consideration. Requesting payment for materials stored off site, may be rejected, however, if deemed essential for reasons of job progress, protection, or other sufficient cause, requests will be considered, conditional upon submission by Contractor of bills of sale, photographs and such other procedures as will adequately protect County's interest such as storage in bonded warehouse with adequate coverage. If there is any error in payment, Contractor is obligated to notify Department immediately, but no longer than ten (10) business days from receipt of payment.
- F. Payments by County will be due within forty-five (45) business days after receipt by Department of Application and Certificate for Payment.
- G. County will retain five percent (5%) of each Application and Certificate for Payment until final completion and acceptance of all the Work covered by Contract. However, anytime after fifty percent (50%) of the Work has been furnished and installed at site, County will make remaining payments in full if Architect / Engineer and Public Works Project Manager find that progress of the Work corresponds with Construction Schedule. If Architect / Engineer and Public Works Project Manager find that progress of the Work does not correspond with Construction Schedule, County may retain up to ten percent (10%) of each Application and Certificate for Payment for the Work completed.
- H. All material and work covered by partial payments made shall become sole property of County, but this provision shall not be construed as relieving Contractor from sole responsibility for care and protection of materials and work upon which payments have been made, or restoration of any damaged work, or as waiver of right of County to require fulfillment of all of terms of Contract.
- I. County will make final payment within sixty (60) calendar 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.
- J. County may make payment in full, including retained percentages and less authorized deductions, upon completion and acceptance of each Division where price is stated separately in Contract.
- K. 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.

26. WITHHOLDING OF PAYMENTS

- A. County, after having served written notice on said Contractor, may either pay directly any unpaid bills of which Department has written notice, or withhold from Contractor’s unpaid compensation 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; whereupon, payment to Contractor shall be resumed in accordance with terms of this Contract, but in no event shall these provisions be construed to impose any obligations upon County to either Contractor or Contractor’s Surety.
- B. In paying any unpaid bills of Contractor, County shall be deemed agent of Contractor, and any payment so made by County, shall be considered as payment made under Contract by County to Contractor and County shall not be liable to Contractor for any such payment made in good faith.
- C. Contractor shall indemnify, hold harmless and defend Dane County, its boards, commissions, agencies, officers, employees and representatives from all claims growing out of lawful demands of subcontractors, laborers, workers, mechanics, material men, and furnishers of machinery and parts thereof, equipment, power tools, and all supplies, including commissary, incurred in performance of this Contract.
- D. At Department’s request, Contractor shall furnish satisfactory evidence that all obligations of nature designated above have been paid, discharged or waived.

27. ACCEPTANCE OF FINAL PAYMENT AS RELEASE

- A. Making of final payment shall constitute waiver of all claims by County except those arising from:
 - 1. Unsettled lien;
 - 2. Faulty or defective work appearing after substantial completion;
 - 3. Failure of the Work to comply with requirements of Construction Documents; or
 - 4. Terms of any special guarantees required by Construction Documents.
- B. Acceptance of final payment shall constitute waiver of all claims by Contractor.

28. PAYMENTS BY CONTRACTOR

- A. Contractor shall pay following not later than fifth (5th) business day following each payment received from County:
 - 1. All transportation and utility services rendered;

2. All materials, tools, and other expendable equipment that have been delivered at site of the Work to extent of ninety percent (90%) of cost thereof, and balance of cost thereof when said balance is paid to Contractor; and
3. Each subcontractor, respective amount allowed Contractor because of work performed by subcontractor to extent of subcontractor's interest therein.

29. CONTRACT SECURITY

- A. Contractor shall furnish Performance and Payment Bonds in amount at least equal to one hundred percent (100%) of Contract price as security for faithful performance of this Contract and payment of all persons performing labor on project under this Contract and furnishing materials in connection with this Contract.
- B. Sample Performance and Payment Bonds that Contractor will be required to execute is bound into these Construction Documents. Before construction Contract is consummated, completed Performance and Payment Bonds must be approved by Department.

30. ASSIGNMENTS

- A. Contractor shall not assign whole or any part of this Contract or any moneys due or to become due hereunder without written consent of Department. In case Contractor assigns all or any part of any moneys due or to become due under this Contract, instrument of assignment shall contain clause substantially to effect that it is agreed that right of assignee in and to any moneys due or to become due to Contractor shall be subject to prior claims of all persons, firms and corporations for services rendered or materials supplied for performance of the Work called for in this Contract.

31. MUTUAL RESPONSIBILITY OF CONTRACTORS

- A. If, through acts of neglect on part of Contractor or any subcontractor shall suffer loss or damage on the Work, Contractor agrees to settle with such subcontractor by agreement or arbitration if such other subcontractor will so settle. If such subcontractor shall assert any claim against County on account of any damage alleged to have been sustained, Department shall notify Contractor, who shall indemnify, hold harmless and defend Dane County, its boards, commissions, agencies, officers, employees and representatives against any such claim.

32. SEPARATE CONTRACTS

- A. Department may award other contracts for the Work and all Contractors shall fully cooperate with each other and carefully adjust their work to that provided under other contracts as may be directed by Department. No Contractor shall commit or permit any act that will interfere with performance of the Work by any other Contractor.
- B. Contractor shall coordinate the Work with those of other Contractors. Cooperation will be required in arrangement for storage of materials and in detailed execution of the Work. Contractor, including subcontractors, shall keep informed of progress and detail work of others and shall notify Architect / Engineer or Department immediately of lack of progress or defective workmanship on part of others. Failure of Contractor to keep informed of the Work progressing on site and failure to give notice of lack of progress or defective

workmanship by others shall be construed as acceptance by Contractor of status of the Work as being satisfactory for proper coordination with Contractor's own work.

33. SUBCONTRACTS

- A. Contractor may use services of specialty subcontractors on those parts of the Work that, under normal contracting practices, are performed by specialty subcontractors.
- B. Contractor shall not award any work to any subcontractor without prior approval of Department. Qualifications of subcontractors shall be same as qualifications of Contractor. Request for subcontractor approval shall be submitted to Department fifteen (15) business days before start of subcontractor's work. If subcontractors are changed or added, Contractor shall notify Department in writing.
- C. Contractor shall be as fully responsible to County for acts and omissions of subcontractors, and of persons either directly or indirectly employed by them, as Contractor is for acts and omissions of persons directly employed by Contractor.
- D. Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the Work to bind subcontractors to Contractor by terms of General Conditions of Contract and other Construction Documents insofar as applicable to work of subcontractors and to give Contractor same power as regards terminating any subcontract that Department may exercise over Contractor under any provision of Construction Documents.
- E. Nothing contained in this Contract shall create any contractual relation between any subcontractor and County.
- F. Contractor shall insert in all subcontracts, Articles 26, 33, 43 and 45, respectively entitled: "Withholding of Payments", "Subcontracts", "Affirmative Action Provision and Minority / Women / Disadvantaged Business Enterprises", and "Minimum Wages", and shall further require all subcontractors to incorporate physically these same Articles in all subcontracts.

34. PUBLIC WORKS PROJECT MANAGER'S AUTHORITY

- A. Public Works Project Manager shall:
 - 1. Administer and ensure compliance with Construction Documents;
 - 2. Provide responsible on-site observations of construction and have authority to request work and to stop work whenever necessary to insure proper enforcement of Construction Documents;
 - 3. Convene and chair project meetings and foreman's coordination meetings when necessary to coordinate resolution of conflicts between Contractors, Architects, Engineers, Consultants, and Department; and
 - 4. Check and inspect material, equipment and installation procedures of all trades for proper workmanship and for compliance with Drawings, Specifications and Shop Drawings, permit no material on project site that is not satisfactory and reject work not in compliance with Construction Documents.

35. ARCHITECT / ENGINEER'S AUTHORITY

- A. Architect / Engineer is retained by, and is responsible to Department acting for County.

- B. Architect / Engineer shall determine amount, quality, acceptability, and fitness of several kinds of work and materials that are provided under this Contract and shall decide all questions that may arise in relation to said work and construction thereof.
- C. Architect / Engineer shall decide meaning and intent of any portion of Specifications and of any Drawings where they may be found obscure or be in dispute.
- D. Architect / Engineer shall provide responsible observation of construction. Architect / Engineer has authority to stop the Work whenever such stoppage may be necessary to insure proper execution of Construction Documents.
- E. Architect / Engineer shall be interpreter of conditions of Construction Documents and judge of its performance.
- F. Within reasonable time, Architect / Engineer shall make decisions on all matters relating to progress of the Work or interpretation of Construction Documents.
- G. Architect / Engineer's decisions are subject to review by Public Works Project Manager.

36. STATED ALLOWANCES

- A. Stated allowances enumerated in Instructions to Bidders shall cover net cost of materials or equipment, and all applicable taxes. Contractor's cost of delivery and unloading at site, handling costs on site, labor, installation costs, overhead, profit and any other incidental costs shall be included in Contractor's bid, but not as part of cash allowance.
- B. Department will solicit at least two (2) bids on materials or equipment for which allowance is stated and select on basis of lowest qualified responsible bid. Contractor will then be instructed to purchase "Allowed Materials". If actual price for purchasing "Allowed Materials", including taxes, is more or less than "Cash Allowance", Contract price shall be adjusted accordingly. Adjustment in Contract price shall not contain any cost items excluded from cash allowance.

37. ESTIMATES OF QUANTITIES

- A. Whenever estimated quantities of work to be done and materials to be furnished under this Contract are shown in any of Construction Documents, they are given for use in comparing bids and right is especially reserved to increase or diminish them as they may be deemed reasonably necessary or desirable by Department to complete the Work included in this Contract, and cost for such increase or diminution shall be adjusted in manner provided for in General Conditions of Contract Article 18 entitled "Changes in the Work".

38. LANDS AND RIGHTS-OF-WAY

- A. Prior to start of construction, County shall furnish all land and rights-of-way necessary for carrying out and completion of the Work to be performed under this Contract.

39. GENERAL GUARANTEE

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

40. CONFLICTING CONDITIONS

- A. Any provision in any of Construction Documents which may be in conflict or inconsistent with any Articles in these General Conditions of Contract or Supplementary Conditions shall be void to extent of such conflict or inconsistency.
- B. In case of ambiguity or conflict between Drawings and Specifications, Specifications shall govern.
- C. Printed dimensions shall be followed in preference to measurements by scale. Large-scale drawings take precedence over small-scale drawings. Dimensions on Drawings and details are subject to field measurements of adjacent work.

41. NOTICE AND SERVICE THEREOF

- A. Any notice to Contractor from Department relative to any part of this Contract shall be in writing and considered delivered and service thereof completed, when said notice is posted, by certified or registered mail, to Contractor at Contractor's last given address, or delivered in person to said Contractor, or Contractor's authorized representative on the Work.

42. PROTECTION OF LIVES AND HEALTH

- A. In order to protect lives and health of Contractor's employees under Contract, Contractor shall comply with all pertinent provisions of Wisconsin Administrative Code, Rules of Department of Commerce, relating to Safety and Health.
- B. Contractor alone shall be responsible for safety, efficiency and adequacy of Contractor's tools, equipment and methods, and for any damage that may result from their failure or their improper construction, maintenance or operation.

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

- A. Affirmative Action Provisions.
 - 1. During term of their Contract, Contractor agrees not to discriminate on basis of race, religion, color, sex, handicap, age, sexual preference, marital status, physical appearance, or national origin against any person, whether recipient of services (actual or potential), employee, or applicant for employment. Such equal opportunity shall include but not be limited to 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, these affirmative action standards so as to be visible to all employees, service recipients and applicants for this paragraph. 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 extent allowable in state or federal law.
 - 2. Contractor is subject to this Article 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 and Affirmative Action Plan with Dane County Contract Compliance Officer in accord with Chapter 19 of Dane County Code of Ordinances. Such plan must be filed within fifteen (15) business days of effective date of this Contract and failure to do so by said date shall constitute ground for immediate termination of Contract by County. Contractor shall also, during term of this Contract, provide copies of all announcements of employment opportunities to County's Contract Compliance Office, and shall report annually number of persons, by race, sex and handicap status, who apply for employment, and, similarly classified, number hired and number rejected.
 - 3. Contact 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.
 - 4. In all solicitations for employment placed on Contractor's behalf during term of this Contract, Contractor shall include statement to affect Contractor is "Equal Opportunity Employer". Contractor agrees to furnish all information and reports required by County's Contract Compliance Officer as 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 provision of this Contract.
- B. Minority / Women / Disadvantaged / Emerging Small Business Enterprises.
 - 1. Chapter 19.508 of Dane County Code of Ordinances is official policy of Dane County regarding utilization of, to fullest extent of, Minority Business Enterprises (MBEs), Women Business Enterprises (WBEs) Disadvantage Business Enterprises (DBEs) and Emerging Small Business Enterprises (ESBEs).

2. Contractor may utilize MBEs / WBEs / DBEs / ESBEs as subcontractors or suppliers. List of subcontractors will be required of low bidder as stated in this Contract. List shall indicate which are MBEs / WBEs / DBEs / ESBEs and percentage of subcontract awarded, shown as percentage of total dollar amount of bid.

44. COMPLIANCE WITH FAIR LABOR STANDARDS

- A. During term of this Contract, Contractor shall report to County Contract Compliance Officer, within ten (10) business 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."

45. 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.

46. USE AND OCCUPANCY PRIOR TO ACCEPTANCE

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

47. MINIMUM WAGES

- A. Contractor shall post, at appropriate conspicuous point on site of project, schedule showing all determined minimum wage rates for various classes of laborers and mechanics to be engaged in the Work under this Contract and all deductions, if any, required by law to be made from unpaid wages actually earned by laborers and mechanics so engaged.
- B. Supplementary Conditions section in Construction Documents lists wage determinations required by State Law.
- C. If, after award of Contract, it becomes necessary to employ any person in trade or occupation not classified in wage determinations, such person shall be paid at not less than such rate as shall be determined by Wisconsin Department of Workforce Development. Such approved minimum rate shall be retroactive to time of initial employment of such person in such trade or occupation. Contractor shall notify Department of Contractor's intention to employ persons in trades or occupations not so classified in sufficient time for Department to obtain approved rates for such trades or occupations.
- D. Specified wage rates are minimum rates only, and Department will not consider any claims for additional compensation made by Contractor because of payment by Contractor of any wage rate in excess of applicable rate contained in this Contract. Contractor shall adjust any disputes in regard to payment of wages in excess of those specified in this Contract.
- E. Submit required affidavit(s) to Department of Public Works, Highway & Transportation, as requested and with final application for payment for work under said contract. Affidavit(s) shall clearly indicate name, trade or occupation, and paid wages of every laborer, worker or mechanic employed by Contractor and all subcontractors during billing period including accurate record of number of hours worked by each employee and actual wages paid as stipulated in Wisconsin Statute 66.0903. 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.

48. CLAIMS

- A. No claim may be made until Department's Assistant Public Works Director has reviewed Architect / Engineer's decision as provided for in Article 35 of General Conditions of Contract. If any claim remains unresolved after such review by Department's Assistant Public Works Director the claim may be filed under Wisconsin Statute 893.80. Work shall progress during period of any dispute or claim. Unless specifically agreed between parties, venue will be in Dane County, Wisconsin.

49. ANTITRUST AGREEMENT

- A. Contractor and County recognize that in actual economic practice, overcharges resulting from antitrust violations are in fact usually borne by County. Therefore, Contractor hereby assigns to County any and all claims for such overcharges as to goods and materials purchased in connection with this Contract, except as to overcharges which result from

antitrust violations commencing after price is established under this Contract and any change order thereto.

50. INSURANCE

A. Contractor Carried Insurance:

1. Contractor shall not commence work under this Contract until Contractor has obtained all insurance required under this Article and has provided evidence of such insurance to Risk Manager, 425 City-County Building, 210 Martin Luther King Jr. Blvd., Madison, WI 53703. Contractor shall not allow any subcontractor to commence work until insurance required of subcontractor has been so obtained and approved. Company providing insurance must be licensed to do business in Wisconsin.
2. Worker's Compensation Insurance:
 - a) Contractor shall procure and shall maintain during life of this Contract, Worker's Compensation Insurance as required by statute for all of Contractor's employees engaged in work at site of project under this Contract and, in case of any such work sublet, Contractor shall require subcontractor similarly to provide Worker's Compensation Insurance for all of latter's employees to be engaged in such work unless such employees are covered by protection afforded by Contractor's Worker's Compensation Insurance.
 - b) If any claim of employees engaged in hazardous work on project under this Contract is not protected under Worker's Compensation Statute, Contractor shall provide and shall cause each subcontractor to provide adequate Employer's Liability Insurance for protection of such of Contractor's employees as are not otherwise protected.
3. Contractor's Public Liability and Property Damage Insurance:
 - a) Contractor shall procure and maintain during life of this Contract, Contractor's Public Liability Insurance and Contractor's Property Damage Insurance in amount not less than \$1,000,000 bodily injury, including accidental death, to any one person, and subject to same limit for each person, in amount not less than \$1,000,000 on account of one accident, and Contractor's Property Damage Insurance in amount not less than \$1,000,000 or combined single limit of at least \$1,000,000 with excess coverage over and above general liability in amount not less than \$5,000,000. Contractor shall add "Dane County" as additional insured for each project.
 - b) Contractor's Public Liability and Property Damage Insurance shall include Products, Completed Operation, and Contractual Liability under Insurance Contract. "Contractor shall in all instances save, defend, indemnify and hold harmless County and Architect / Engineer against all claims, demands, liabilities, damages or any other costs which may accrue in prosecution of the Work and that Contractor will save, defend, indemnify and hold harmless County and Architect / Engineer from all damages caused by or as result of Contractor's operations" and each shall be listed as additional insured on Contractor's and sub-contractors' insurance policies.
 - c) Obligations of Contractor under Article 50.A.2.b) shall not extend to liability of Architect / Engineer, agents or employees thereof, arising out of:
 - 1) Preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications; or
 - 2) Giving of or failure to give directions or instructions by Architect / Engineer, agents or employees thereof provided such giving or failure to give is primary cause of injury or damage.
 - d) Contractor shall procure and shall maintain during life of this Contract, Comprehensive Automobile Liability Insurance covering owned, non-owned and hired automobiles for limits of not less than \$1,000,000 each accident single limit,

bodily injury and property damage combined with excess coverage over and above general liability in amount not less than \$5,000,000.

- e) Contractor shall either:
 - 1) Require each subcontractor 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 activities of subcontractors in Contractor's own policy.
- 4. Scope of Insurance and Special Hazards: Insurance required under Article 50.A.2 & 50.A.3. hereof shall provide adequate protection for Contractor and subcontractors, respectively, against damage claims which may arise from operations under this Contract, whether such operation be by insured or by anyone directly or indirectly employed by insured and also against any of special hazards which may be encountered in performance of this Contract as enumerated in Supplementary Conditions.
- 5. Proof of Carriage of Insurance: Contractor shall furnish Risk Manager with certificates showing type, amount, class of operations covered, effective dates, dates of expiration of policies and "Dane County" listed as additional insured. Such certificates shall also contain (substantially) following statement: "Insurance covered by this certificate will not be canceled or materially altered, except after ten (10) business days written notice has been received by Risk Manager."

B. Builder's Risk:

- 1. County shall provide Builder's Risk insurance coverage for its insurable interests in construction or renovation projects with completed value of \$500,000 or less. Therefore, if project completed value is more than \$500,000, Contractor shall obtain and maintain in force, at its own expense, Builder's Risk Insurance on all risks for amount equal to full completed value of covered structure or replacement value of alterations or additions. Any deductible shall not exceed \$25,000 for each loss. Policy shall include occupancy clause and list Dane County as loss payee.

C. Indemnification / Hold Harmless:

- 1. 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 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 loss of use resulting therefrom, and is caused in whole or in part by any act or omission of 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 part indemnified hereunder.
- 2. In any and all claims against Dane County, its boards, commissions, agencies, officers, employees and representatives or by any employee of Contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, indemnification obligation under this Contract shall not be limited in any way by any limitation on amount or type of damages, compensation or benefits payable by or for Contractor or any subcontractor under worker's compensation acts, disability benefits or other employee benefit acts.
- 3. Obligations of Contractor under this Contract shall not extend to liability of Architect / Engineer, its agents or employees arising out of:
 - a) Preparation or approval of maps, drawings, opinion, reports, surveys, change orders, designs or specifications; or

- b) Giving of or failure to give directions or instruction by Architect / Engineer, its agents or employees provided such giving or failure to give is primary cause of injury or damage.
- 4. Dane County shall not be liable to Contractor for damages or delays resulting from work by third parties or by injunctions or other restraining orders obtained by third parties.


51. WISCONSIN LAW CONTROLLING

- A. It is expressly understood and agreed to by parties hereto that in event of any disagreement or controversy between parties, Wisconsin law shall be controlling.

SUPPLEMENTARY CONDITIONS

1. APPLICATION & CERTIFICATE FOR PAYMENT

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


AIA Document G702™ – 1992

Application and Certificate for Payment

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

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract. AIA Document G703™, Continuation Sheet, is attached.

1. ORIGINAL CONTRACT SUM \$ _____

2. NET CHANGE BY CHANGE ORDERS \$ _____

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

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

5. RETAINAGE:

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

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

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

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

7. LESS PREVIOUS CERTIFICATES FOR PAYMENT \$ _____
(Line 6 from prior Certificate)

8. CURRENT PAYMENT DUE \$ _____

9. BALANCE TO FINISH, INCLUDING RETAINAGE \$ _____
(Line 3 minus Line 6)

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

CONTRACTOR:
By: _____ Date: _____
State of: _____
County of: _____
Subscribed and sworn to before me this _____ day of _____

Notary Public:
My commission expires: _____

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

ARCHITECT'S CERTIFICATE FOR PAYMENT

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

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

ARCHITECT:
By: _____ Date: _____

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

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

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Continuation Sheet

AIA Document G702™-1992, Application and Certificate for Payment, or G732™-2009, Application and Certificate for Payment, Construction Manager as Adviser Edition, containing Contractor's signed certification is attached. In tabulations below, amounts are in US dollars. Use Column I on Contracts where variable retainage for line items may apply.

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

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED		F MATERIALS PRESENTLY STORED <i>(Not in D or E)</i>	G TOTAL COMPLETED AND STORED TO DATE <i>(D+E+F)</i>	H BALANCE TO FINISH <i>(C-G)</i>	I RETAINAGE <i>(if variable rate)</i>
			FROM PREVIOUS APPLICATION <i>(D-E)</i>	THIS PERIOD				
GRAND TOTAL								

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

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2. CONTRACTOR WAGE AFFIDAVIT

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

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3. JAIL ACCESS

- A. The Background Check Form on the following page must be filled out before access can be granted to the Dane County Jail. Visiting the site is strongly encouraged before bidding on this project.
- B. Submit Background Check Form_(one form per participant) via fax to Scott Carlson at 608/267-1533 or scan & email it to carlson.scott@countyofdane.com.
- C. In order to be considered & cleared, submit all forms no later than February 16, 2017.
- D. All previous Background Check Forms have been deleted from the system & if any of your staff want access for the pre-bid tour, they must re-apply for clearance.



PRE-BID FACILITY TOUR & MEETING

TUESDAY, FEBRUARY 28, 2017, 10:30 a.m.

JAIL SHOWERS & SPLIT PODS IMPROVEMENTS - REBID
PUBLIC SAFETY BUILDING
MADISON, WISCONSIN

BACKGROUND CHECK FORM

THIS FORM IS DUE NO LATER THAN FEBRUARY 16, 2017. DO NOT INCLUDE WITH BID.

PLEASE TYPE OR PRINT LEGIBLY

TO BE FILLED OUT FOR EACH TOUR & MEETING PARTICIPANT:

This form is mandatory for each individual intending to tour the facilities. Bidders are required to obtain security clearance for individuals scheduled to attend the on-site tours. A full criminal background check will be performed. No more than three (3) individuals may participate for any one Bidding Company. A government issued photo identification is required to enter the facilities.

First Name		

Middle Name		

Last Name		

Other Names Used		

_____	_____	_____
Date of Birth	Sex	Race

_____	_____	
Driver's License No.	State Issued	

Current Full Address		

Cities & States Lived In, Past 10 Years		

Felony Convictions? (Yes or No)		

If yes, when?		

Misdemeanor Convictions? (Yes or No)		

If yes, when?		

_____	_____	
Today's Date	Bidding Company Name	

Please allow 7 full business days for the background process to be completed. Thank you.

OFFICE USE ONLY

D.O.T.	TICKETS
C.I.B.	JAIL RECORDS
F.B.I.	LOCAL COMPUTER CONTACTS
CCAP	
WARRANTS	

Date Criminal History Run _____

Submit to:

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: Perform the Work as specified and detailed in Construction Documents package. Contractor to provide this work in Split Pods 3I, 3G & 3E in Base Bid:
1. Remodel all showers; relocate all existing shower handicapped grab bars.
 2. Strip, prep, coat & seal all restroom floors.
 3. Clean all ductwork.
 4. Paint all walls, ceilings & doors (except restrooms).
 5. Carpet Split Pods 3I & 3G (not required in 3E).
 6. Add plumbing chase access door in Large Pod 3K (to match access door in Large Pod 4K).
- B. Work by Owner for Base Bid in Split Pods 3I, 3G & 3E (Note that all this work requires close coordination with Owner; minimum of three weeks notification required in advance of each task):
1. Clean HVAC coils when Contractor is cleaning ductwork.
 2. Provide low voltage wiring & transformers for plumbing fixture solenoid valves.
 3. Replace restroom lighting fixtures.
 4. Paint restrooms.
 5. Furnish & install door lock hardware for plumbing chase access door in Large Pod 3K.
 6. Paint new plumbing chase access doors in Large Pods.
- C. There shall be more Work by Owner depending on which Alternate Bids are selected. See below.
- D. Permits: Prior to commencement of the Work, Contractor to secure any and all necessary permits for completion of the Work and facility occupancy.

1.3 CONTRACTOR USE OF PREMISES

- A. Limit use of premises to allow work by Contractors or Subcontractors and access by Owner.
- B. Coordinate utility outages and shutdowns with 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.
- D. Submit Applications for Payment to Public Works Project Manager for approval & processing for payment.

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 contingency allowance.

1.6 ALTERNATES

- A. Alternates quoted on Bid Form shall be reviewed and accepted or rejected at Owner's option.
- B. Coordinate related work and modify surrounding work as required.
- C. Schedule of Alternates:
 - 1. Provide same improvements detailed in the Base Bid for Split Pod 3C. Note:
 - a. Carpet is not required in Split Pod 3C.
 - b. Plumbing chase access door is installed in Large Pod 3A.
 - c. Owner shall do identical, applicable "Work by Owner" tasks detailed in Base Bid.
 - 2. Provide same improvements detailed in the Base Bid for Split Pods 4G & 4E. Note:
 - a. Carpet is not required in Split Pod 4G (only).
 - b. No plumbing chase access doors are required.
 - c. Owner shall do identical, applicable "Work by Owner" tasks detailed in Base Bid.
 - 3. Provide same improvements detailed in the Base Bid for Split Pod 4I. Note:
 - a. Carpet is not required in Split Pod 4I.
 - b. No plumbing chase access doors are required.
 - c. Owner shall do identical, applicable "Work by Owner" tasks detailed in Base Bid.
 - 4. Provide same improvements detailed in the Base Bid for Split Pod 4C. Note:
 - a. Plumbing chase access door is installed in Large Pod 4A.
 - b. Owner shall do identical, applicable "Work by Owner" tasks detailed in Base Bid.

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.
- D. Public Works Project Engineer may choose to videotape site or workers as the Work progresses.

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. There will be pre-bid conference for this project; see Instructions to Bidders.
- B. Owner will schedule a pre-construction conference after Award of Contract for all affected parties.
- C. Contractor shall submit Construction Schedule at pre-construction meeting.
- D. When required in individual Specification section, convene a pre-installation conference at project site prior to commencing work of Section.

1.10 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at minimum of one (1) per week, at time & day to be determined together with Public Works Project Engineer
- B. Preside at meetings, record minutes, and distribute copies within two (2) business 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) business 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 Product.
- B. Submit samples of finishes from 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 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 (8:00 am to 4:30 pm), but confer with Owner, schedule work and store materials so as to interfere as little as possible with normal use of premises. Notify Owner when coring or similar noise making work is to be done and obtain Owner's written approval of schedule. If schedule is not convenient for Owner, reschedule and resubmit new times for Owner approval. Coring of floor along with other noisy work may have to be done on second and third shifts.
- B. Work shall be done and temporary facilities furnished so as not to interfere with access to any occupied area and so as to cause least possible interference with normal operation of facility or any essential service thereof.

- C. Contractor shall, at all times, provide approved, safe walkways and facility entrances for use by Owner, employees and public.
- D. Contractor shall provide adequate protection for all parts of facility, its contents and occupants wherever the Work under this Contract is to be performed.
- E. 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 provide and maintain barricades & signage to prohibit public access to construction site.

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) business 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 may 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) business 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, products, materials 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 Public Works Project Manager 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 project As-Built Drawings & Specifications. Record Drawings & Specifications shall be created from these As-Built by Public Works.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 74 19

CONSTRUCTION WASTE MANAGEMENT, DISPOSAL & RECYCLING

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Summary
 - 2. Waste Management Goals
 - 3. Construction and / or Demolition Waste Management
 - 4. Waste Management Plan
 - 5. Reuse
 - 6. Recycling
 - 7. Materials Sorting and Storage On Site
 - 8. Lists of Recycling Facilities Processors and Haulers
 - 9. 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 Dane County Green Building Policy, Resolution 299, 1999-2000.

1.3 CONSTRUCTION AND / OR DEMOLITION WASTE MANAGEMENT

- A. All construction and demolition waste suitable for recycling must go to Dane County Construction & Demolition Recycling Facility located at 7102 US Hwy 12, Madison, located across from Yahara Hills Golf Course. This facility can receive mixed loads of construction and demolition waste. For complete list of acceptable materials see www.countyofdane.com/pwht/recycle/CD_Recycle.aspx.
- B. Dane County Landfill, also at 7102 US Hwy 12, Madison, must receive all other waste from this project. www.countyofdane.com/pwht/recycle/landfill.aspx.

1.4 WASTE MANAGEMENT PLAN

- A. Contractor shall develop Waste Management Plan (WMP) for this project. Dane County's Special Projects & Materials Manager may be contacted with questions. 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.

B. Contractor shall complete WMP and include cost of recycling / reuse in Bid. WMP will be submitted to Public Works Project Manager within fifteen (15) business days of Bid Due 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.

1.5 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.

1.6 RECYCLING

A. These materials must be recycled at Dane County Construction & Demolition Recycling Facility:

1. Wood.
2. Wood Pallets.
3. PVC Plastic (pipe, siding, etc.).
4. Asphalt & Concrete.
5. Bricks & Masonry.
6. Vinyl Siding.
7. Cardboard.
8. Metal.
9. Unpainted Gypsum Drywall.
10. Shingles.

B. These materials can be recycled elsewhere in Dane County area:

1. Fluorescent Lamps.
2. Foam Insulation & Packaging (extruded and expanded).
3. Carpet Padding.
4. Barrels & Drums.

C. All materials must be recycled at WDNR permitted waste processing facilities that adhere to all State Statutes.

1.7 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.

- C. Mixed loads of recycled materials are allowed only per instructions at www.countyofdane.com/pwht/recycle/CD_Recycle.aspx.

1.8 LISTS OF RECYCLING FACILITIES PROCESSORS AND HAULERS

- A. Refer to www.countyofdane.com/pwht/recycle/CD_Recycle.aspx for information on Dane County Construction & Demolition Recycling Facility.
- B. Web site www.countyofdane.com/pwht/recycle/categories.aspx lists current information for Dane County Recycling Markets. Contractors can also contact Allison Hackner 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.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

WASTE MANAGEMENT PLAN FORM



Contractor Name: _____

Address: _____

Phone No.: _____ Recycling Coordinator: _____

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

SECTION 05 50 00
METAL FABRICATIONS

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes shop fabricated metal items.
 - 1. 16 g. 2-B Stainless Steel Fabricated Shower Insert

1.2 SUBMITTALS

- A. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable. Indicate welded connections using standard AWS A2.0 welding symbols. Indicate net weld lengths.
- B. Samples: Submit two samples of 16 g stainless steel sheet 6x6 inches in size illustrating factory finishes.

1.3 QUALITY ASSURANCE

- A. Finish joints shall be waterproof.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Accept metal fabrications on site in labeled shipments. Inspect for damage.
- B. Protect metal fabrications from damage by exposure to weather.

1.5 FIELD MEASUREMENTS

- A. Field verify all measurements.

PART 2 PRODUCTS

2.1 MATERIALS - STAINLESS STEEL

- A. Plate, Sheet and Strip: Type 304.

2.2 FABRICATION

- A. These assemblies were manufactured by Endres Manufacturing in Waunakee, WI for previous jail shower improvements projects.
- B. Fit and shop assemble items in largest practical sections, for delivery to site.

- C. Fabricate items with joints tightly fitted and secured.
- D. Continuously seal joined members by continuous welds.
- E. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
- F. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.
- G. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify field conditions are acceptable and are ready to receive work.

3.2 INSTALLATION

- A. Install items plumb and level, accurately fitted, free from distortion or defects.
- B. Make provisions for erection stresses. Install temporary bracing to maintain alignment, until permanent bracing and attachments are installed.
- C. Field weld components indicated on shop drawings.
- D. Perform field welding in accordance with AWS D1.1.
- E. Obtain approval of Public Works Project Manager prior to site cutting or making adjustments not scheduled.

END OF SECTION

SECTION 08 11 00

METAL DOORS AND FRAMES

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Pre-assembled, metal reinforced steel entry doors in metal frames.
 - 2. Fire rated and non fire rated assemblies.

1.2 REFERENCE

- A. Applicable provisions of Division 01 govern work under this Section.

1.3 REFERENCE STANDARDS

- A. ASTM International:
 - 1. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - 2. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- B. National Fire Protection Association:
 - 1. NFPA 80 - Standard for Fire Doors, Fire Windows.
 - 2. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies.
 - 3. NFPA 255 - Standard Method of Test of Surface Burning Characteristics of Building Materials.
- C. Underwriters Laboratories Inc.:
 - 1. UL 10B - Fire Tests of Door Assemblies.
 - 2. UL 10C - Positive Pressure Fire Tests of Door Assemblies.
 - 3. UL 723 - Tests for Surface Burning Characteristics of Building Materials.
 - 4. UL 1784 - Air Leakage Tests of Door Assemblies.
- D. Uniform Building Code:
 - 1. UBC Standard 7-2 - Fire Tests of Door Assemblies.

1.4 SUBMITTALS

- A. Section 01 00 00 - Basic Procedures: Requirements for submittals.
- B. Shop Drawings: Indicate elevations, anchor types and spacing, location of cut-outs for hardware, cut-outs and reinforcement for door hardware.
- C. Product Data: Submit frame and door configurations, core materials and finishes.

1.5 QUALITY ASSURANCE

- A. Fire Rated Door and Frame Construction: Conform to NFPA 252.
- B. Installed Fire Rated Door and Frame Assembly: Conform to NFPA 80 for fire rated class of 90 minutes.
- C. Attach label from agency approved by authority having jurisdiction to identify each fire rated door and frame.

1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum three years documented experience.
- B. Installer: Company specializing in performing work of this section with minimum two years experience.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 00 00 - Basic Requirements: Requirements for transporting, handling, storing, and protecting products.
- B. Accept units on site in manufacturers standard packaging. Inspect for damage.
- C. Protect units from damage by storing in dry, protected area.

1.8 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

1.9 COORDINATION

- A. Section 01 00 00 - Basic Requirements: Requirements for coordination.
- B. Coordinate work with door opening construction and door hardware installation.
- C. Owner shall furnish & install door lockset & core.

1.10 WARRANTY

- A. Section 01 00 00 - Basic Requirements: Requirements for warranties.

PART 2 PRODUCTS

2.1 PRE-ASSEMBLED STEEL DOORS AND FRAMES

- A. Manufacturers:
 - 1. Dominion Products.

2. Securall Doors.
3. Total Door Systems.
4. Approved equal.

2.2 DOOR FRAMES

- A. Metal Frames: 18 gage steel sheet, fire rated for 90 minutes.
- B. 5 $\frac{3}{4}$ " by 7' 4" masonry frame to match existing unit in Large Pod 4K.
 1. Field verify measurements prior to fabrication / purchase.

2.3 COMPONENTS

- A. Steel Sheet: Galvanized to ASTM A653/A653M A60.

2.4 HARDWARE

- A. Hinges: Steel, full mortise ball bearing type.
- B. Thresholds: Adjustable or extruded aluminum, thermally broken.
- C. Closer: LCN model to match existing unit in Large Pod 4K.

2.5 ACCESSORIES

- A. Primer: Manufacturer's standard rust inhibitive type.

2.6 FABRICATION

- A. Fabricate doors and frames as pre-hung split jamb units.
- B. Fabricate pre-hung units with hardware reinforcement welded in place.
- C. Door to be 28"; size to match existing unit in Large Pod 4K.
- D. Backset shall be 2 $\frac{3}{4}$ ".

2.7 FACTORY FINISHING

- A. Doors and Frames:
 1. Primer: Baked on dry powder.
 2. Owner to apply finish coat of paint.
- B. Hardware Finish:
 1. Steel Components: Satin chrome plated.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 00 00 - Basic Requirements: Coordination
- B. Instructions to Bidders Section (verification of existing conditions before starting work).
- C. Verify framed openings are correct size and thickness and project conditions are acceptable.
- D. Correct unacceptable conditions before proceeding with installation.

3.2 PREPARATION

- A. Apply one coat of bituminous paint to interior of metal frames to be in contact with cementitious materials.

3.3 INSTALLATION

- A. Install units in accordance with manufacturers installation instructions.
- B. Install doors and frames plumb, level and square.
- C. Anchor door frames securely.
- D. Build partition separate work areas from inmate occupied areas, to prevent distribution of dust and moisture into occupied areas. All partition erection, related masonry work, door installation, clean up & partition removal to be completed in one day.
- E. Coordinate installation of door & hardware with Owner.
- F. Section 01 00 00 - Basic Requirements: Interior Enclosures.

3.4 ADJUSTING

- A. Section 01 00 00 - Basic Requirements: Requirements for starting and adjusting.
- B. Adjust door and frame units to ensure smooth and balanced movement.

END OF SECTION

SECTION 09 67 00

FLUID APPLIED RESILIENT (RESINOUS) FLOORING

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes fluid applied resilient seamless flooring system.

1.2 REFERENCE

- A. Applicable provisions of Division 01 govern work under this Section.

1.3 REFERENCE STANDARDS

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.
- B. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
 1. ASTM C 307-99 Tensile strength of chemical-resistant mortars, grouts and monolithic surfacing
 2. ASTM C 501-84 (R2002) Relative resistance to wear of unglazed ceramic tile by Taber Abrasion
 3. ASTM C 531-00 Linear shrinkage and coefficient of thermal expansion of chemical-resistant mortars, grouts and monolithic surfacing
 4. ASTM C 579-01 Compressive strength of chemical-resistant mortars, grouts and monolithic surfacing
 5. ASTM C 580-98 Flexural strength and modulus of elasticity of chemical resistant mortars, grouts and monolithic surfacing
 6. ASTM D 696-98 Coefficient of linear thermal expansion of plastics
 7. ASTM D 570-98 Water absorption of plastics
 8. ASTM D 2047-99 Static coefficient of friction of polish coated floor surfaces
 9. ASTM D 2794-93 (R1999) Resistance of organic coatings to impact
 10. ASTM D 4541-02 Pull off strength of coatings using portable adhesion testers
 11. ASTM E 84-01 Surface burning characteristics of building materials
 12. ASTM E 648 Critical radiant flux of floor covering systems using a radiant heat source
 13. ASTM E 662 Specific optical density of smoke generated by solid materials

1.4 SUBMITTALS

- A. Instructions and Manufacturer's "Directions for Application".
- B. Qualifications of Installers
 1. Submit a written statement from the floor manufacturer stating that the installer is certified and acceptable.

- C. Samples
 - 1. Submit cured samples of each floor finish or color combination.
- D. Maintenance Instructions
 - 1. Submit manufacturer's recommendations for cleaning and maintenance.

1.5 DELIVERY AND STORAGE

- A. Deliver the materials to the project site in unopened 5 gallon containers clearly labeled with the manufacturer and type of material. Store materials away from fire or sparks. Maintain the storage area at a minimum of 50°F.

1.6 ENVIRONMENTAL CONDITIONS

- A. Maintain the ambient room temperature at 70°F or above for a period of 24 hours before installation and during the installation and curing times. Do not apply if the floor temperature is below 50°F. See Manufacturer's Directions for Application. Concrete to receive surfacing shall have been cured for at least 28 days per inch of thickness and shall have been free of water for at least 7 days. Concrete moisture should not exceed 5 lbs per 1000 square feet. Wood substrates shall have a measured moisture content of no more than 10 percent prior to application.

1.7 PROTECTION

- A. Protect adjacent surfaces not scheduled to receive the flooring by masking or by other means to maintain these surfaces free of the flooring materials. Protect the installed and cured flooring by covering with 30 pound building paper or by other equally effective means until final acceptance of the project.

PART 2 PRODUCTS

2.1 EPOXY FLOOR COVERINGS

- A. Manufacturers:
 - 1. Phoenix One-Step Epoxy Flooring System.
- B. Epoxy should be approved under MIL-Spec MIL-D-24613 Type III and be 100% solids, non-toxic containing no solvents or thinners. Rock to resin ratio must be less than 3lbs of aggregate per pound of epoxy resin (excluding top coat).

2.2 AGGREGATE

- A. Select the desired color patterns consisting of marble, silica sand and quartz.

2.3 TOP COATING

- A. If desired, a top coat consisting of the manufacturer's MIL-Spec approved epoxy can be installed either as a clear coating or pigmented your choice of solid color.

2.4 PHYSICAL PROPERTIES

A. Properties Table:

Compressive Strength	ASTM C-579	17,800 psi after 7 days
Tensile Strength	ASTM C-307	7,100 psi after 7 days
Flexural Strength	ASTM C-580	10,000 psi after 7 days
Coefficient of Linear Expansion	ASTM D-696	2.5×10^{-5}
Adhesion Strength	ASTM-D-4541	> 500 psi with 100% concrete failure
Flame Spread	MIL-D-24613, MIL-STD-1623	Passed
	ASTM E-84	< 3 Class A
Flammability	ASTM D-570	Self Extinguishing
Critical Rad Flux	E-648	>1.07 w/cm ²
Smoke Developed	MIL-D-24613, MIL-STD-1623	Passed
Smoke Density	ASTM E-662	< 3
Abrasion Resistant	MIL-D-24613, MIL-STD-1623	42 mg
	ASTM C-501	18 mg
Impact Resistant	MIL-D-24613	No cracking or delamination
	ASTM D-2794	> 24,000 psi
Odor	ASTM D-2794	Free from objectionable odors
Indentation	ASTM D-2794	Shall not exceed 1% Results 0.8%
Temperature Resistance	ASTM D-2794	150-200°F; No visible softening, cracking or delaminating
Weight	ASTM D-2794	1.2 lbs/ft ² @ 1/8" thickness
Linear Shrinkage	ASTM C-531	< 0.02%
Water Absorption	ASTM D-570	< 0.2%

B. ASTM D 2240 Hardness, @ 14 days Shore D 80

C. 2.1.4.16 Slip-Resistance Properties

1. ASTM D-2047
2. ADA Compliant
3. With one coat of sealer:

<u>Static</u>	<u>Dry</u>	<u>Wet</u>	<u>Oily</u>
Leather	0.85	1.05	-----
Rubber	0.94	1.10	0.55

<u>Sliding</u>	<u>Dry</u>	<u>Wet</u>	<u>Oily</u>
Leather	0.58	0.74	-----
Rubber	0.67	0.72	0.41

D. Chemical Resistance @ 25°C (77°F) after curing 7 days

1. Although product is considered to have excellent chemical resistance, this is a general term. Specific chemicals not listed and concentrations and amount of time the said chemicals will be in direct contact can be calculated and reported if requested. This table represents a list of most commonly used materials:

<u>Duration in weeks</u>	<u>1</u>	<u>2</u>	<u>4</u>	<u>8</u>
Distilled water	+	+	+	+
Sea water	+	+	+	+
Sulfuric acid, 30%	+	+	+	+
Sulfuric acid, 70%	+	+	+	+
Hydrochloric acid, 10%	+	+	+	+
Hydrochloric acid, 20%	+	+	+	+
Acetic acid, 5%	+	+	+	+
Ammonia, 10%	+	+	+	+
Toluene	a	a	a	a
MIBK	a	a	a	a
Ethanol, 50%	a	d	d	d
Gasoline, high test	+	+	+	+
Pine oil	+	+	+	+

+ = Resistant
a = Affected
d = Destroyed

Film thickness: 12 – 16 mils
Cure Schedule 7 days @ 21°C (77°F)
Substrate, Sandblasted steel

PART 3 EXECUTION

3.1 SURFACE PERPARATION

- A. Resinous floor systems should not be installed over loose resilient tile or sheet flooring. If existing concrete substrates are badly cracked, crumbling, or deeply contaminated with oil or fat, a new concrete topping of proper thickness and strength should be applied. Wood floors that are poorly supported, badly worn, splintered, grease or oil soaked should be renovated prior to application of resinous flooring.
- B. Completely remove all dirt, dust, debris, paint, laitance, grease, oil, animal fats and loose particles by; sanding, sandblasting, chipping, bush hammering, wire brushing or high pressure water blasting. Substrate should then be rinsed, squeeze-dry mopped and allowed to dry.
- C. Wood surfaces should be sanded to remove all latent contaminants, then swept and vacuumed. Joints should be filled with an elastomeric compound and covered with reinforced fiberglass tape to help prevent cracking. An elastomeric membrane may also be glued to the entire floor prior to installation of the floor system, again to reduce the

probably of cracks developing as a result of movement commonly associated with wood floors.

- D. Remove any loose areas of substrate, chip out swollen or cracked areas. Then fill any cracks, joints or other depressions with an epoxy underlayment as recommended by the manufacturer to be compatible with the floor surfacing material.
- E. See Manufacturer's Directions For Application for complete instructions.

3.2 MIXING AND APPLICATION

- A. Mixing and application of the flooring material, underlayment and any desired top coat should be done in strict compliance with the Manufacturer's Directions for Application.
- B. Only applicators Certified and Verified in writing by Phoenix Epoxy Systems, Inc., should be allowed to install product and a manufacturer's representative must be on-sight during installation.

3.3 WARRANTY

- A. Phoenix Epoxy Systems offers a full year limited warranty on materials from date of purchase. Warranty will provide free material replacement of the product in the event that Phoenix Epoxy Systems, Inc., materials prove defective and provided materials are installed in strict compliance of Phoenix Epoxy Systems, Inc., "Directions for Application" by a certified applicator.

END OF SECTION

SECTION 09 68 13

TILE CARPET

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.

1.2 SUMMARY

- A. Standard Commercial Carpet.
- B. Transition Strips.
- C. Floor Filler.
- D. Adhesives.

1.3 RELATED WORK

- A. N/A

1.4 REFERENCES

- A. Carpet shall be in strict accord with Wisconsin Enrolled Commercial Building Code, Chapter 11 - "Accessibility".
- B. Carpet and Rug Institute (CRI).

1.5 SUBMITTALS

- A. Product Data: For the following, including installation recommendations for each type of substrate:
 - 1. Carpet: For each type indicated. Include manufacturer's written data on physical characteristics, durability, fade resistance and printed statement of VOC content.
- B. Samples: For each of the following products and for each color and texture required. Label each Sample with manufacturer's name, material description, color, pattern, and designation indicated on Drawings and in schedules.
 - 1. Carpet: 18x36-inch rectangle, (2) Samples.
 - 2. Exposed Edge, Transition, and other Accessory Stripping: 6-inch long, (2) Samples.
- C. Maintenance Data: For carpet to include in maintenance manuals. Include the following:

1. Methods for maintaining carpet, including cleaning and stain-removal products and procedures and manufacturer's recommended maintenance schedule.
2. Precautions for cleaning materials and methods that could be detrimental to carpet.

D. Warranties: Special warranties specified in this Section.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An experienced installer who is certified by the Floor Covering Installation Board or who can demonstrate compliance with its certification program requirements.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Comply with CRI 104, Section 5, "Storage and Handling."

1.8 PROJECT CONDITIONS

A. Comply with CRI 104, Section 7.2, "Site Conditions; Temperature and Humidity" and Section 7.12, "Ventilation."

B. Environmental Limitations: Do not install carpet until wet work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

C. Floors must be free of dust, oils, grease, or other foreign matter.

D. Allow installation to cure for a minimum of 24 hours before subjecting it to any traffic, moving of furniture, or other heavy equipment.

1.9 WARRANTY

A. Special Warranty for Carpet: Manufacturer's standard form in which manufacturer agrees to repair or replace components of carpet installation that fail in materials or workmanship within specified warranty period.

1. Warranty does not include deterioration or failure of carpet due to unusual traffic, failure of substrate, vandalism, or abuse.
2. Failures include, but are not limited to, more than 10 percent loss of face fiber, edge raveling, snags, runs, and delamination.
3. Warranty Period: Lifetime.

1.10 EXTRA MATERIALS

A. Furnish extra materials described below, before installation begins, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Carpet: Full-sized Tiles equal to 5 percent of amount installed for each type indicated, but not less than 10 sq. yd.

PART 2 PRODUCTS

2.1 STANDARD COMMERCIAL CARPET TILES

A. Products: Subject to compliance with requirements, provide one of the following:

1. Carpet Tile:

a. Manufacturer: Shaw Contract Group

Collection:	Unearthed
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Style:	Mica, 5T014
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Color:	Azurite 14315
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Backing:	Ecoworx® Tile
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2. Carpet Adhesive:

a. Manufacturer: Shaw Contract Group 5100.

B. Characteristics: All carpet shall be same mill run throughout.

2.2 INSTALLATION ACCESSORIES

A. Trowelable Leveling and Patching Compounds: Latex-modified, hydraulic-cement-based formulation provided or recommended by carpet manufacturer.

B. Adhesives: Water-resistant, mildew-resistant, non-staining pressure sensitive type to suit products and subfloor conditions indicated, that complies with flammability requirements for installed carpet and is recommended or provided by carpet manufacturer.

1. VOC Limits: Provide adhesives that comply with the following limits for VOC content when calculated according to 40CFR 59, Subpart D (EPA Method 24).

C. Transition Strip:

1. Carpet to Concrete

a. Johnsonite CTA-XX-J.

b. Color as selected by Architect from manufacturer's full line.

2. Carpet to Resilient

a. Johnsonite CTA-XX-A.

b. Color as selected by Architect from manufacturer's full line.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for maximum moisture content, alkalinity range, installation tolerances, and other conditions affecting carpet performance. Examine carpet for type, color, pattern, and potential defects.

B. Concrete Subfloors: Verify that concrete slabs comply with ASTM F 710 and the following:

1. Slab substrates are dry and free of curing compounds, sealers, hardeners, and other materials that may interfere with adhesive bond.
 - a. Determine adhesion and dryness characteristics by performing bond and moisture tests recommended by carpet manufacturer.
 2. Subfloors are free of cracks, ridges, depressions, scale, and foreign deposits.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. General: Comply with CRI 104, Section 7.3, "Site Conditions; Floor Preparation," and with carpet manufacturer's written installation instructions for preparing substrates.
- B. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, depressions, and protrusions in substrates. Fill or level cracks, holes and depressions 1/8 inch wide or wider, and protrusions more than 1/32 inch, unless more stringent requirements are required by manufacturer's written instructions.
- C. Remove coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, without using solvents. Use mechanical methods recommended in writing by carpet manufacturer.
- D. Broom and vacuum clean substrates to be covered immediately before installing carpet.

3.3 INSTALLATION

- A. Comply with CRI 104 and carpet manufacturer's written installation instructions for the following:
 1. Direct-Glue-Down Installation: Comply with CRI 104, Section 9, "Direct Glue-Down Installation."
- B. Maintain uniformity of carpet direction and lay of pile. At doorways, center seams under the door in closed position.
 1. It door openings install adapters/transitions/reducers to be covered by door when in the closed position.
 2. Level adjoining border edges.
- C. Do not bridge building expansion joints with carpet.
- D. Cut and fit carpet to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended by carpet manufacturer.
- E. Install metal transition strip with anchoring leg under carpet where carpet abuts resilient terrazzo tile.
 1. Secure metal transition strip to substrate according to manufacturer's instructions.

- F. Extend carpet into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.
- G. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on finish flooring as marked on subfloor. Use nonpermanent, non-staining marking device.
- H. Install pattern parallel to walls and borders to comply with CRI 104, Section 15, "Patterned Carpet Installations" and with carpet manufacturer's written recommendations.
- I. All selvages shall be trimmed to ensure good side seams. All seams shall receive an 1/8" continuous bead of seam adhesive at the point the face yarn enters the back.
 - 1. Fit edges together with an invisible seam and bond with appropriate adhesive.

3.4 CLEANING AND PROTECTING

- A. Perform the following operations immediately after installing carpet:
 - 1. Remove excess adhesive, seam sealer, and other surface blemishes using cleaner recommended by carpet manufacturer.
 - 2. Remove yarns that protrude from carpet surface.
 - 3. Vacuum carpet using commercial machine with face-beater element.
- B. Protect installed carpet to comply with CRI 104, Section 16, "Protection of Indoor Installations."
- C. Protect carpet against damage from construction operations and placement of equipment and fixtures during the remainder of construction period. Use protection methods indicated or recommended in writing by carpet manufacturer and carpet adhesive manufacturer.

END OF SECTION

SECTION 09 91 23

INTERIOR PAINTING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. General Conditions of Contract and portions of Division 01 of this Project Manual apply to this Section as though repeated herein.

1.2 WORK INCLUDED

- A. Painting and finishing of interior and exterior exposed items and surfaces throughout Project.
- B. Refinishing of existing surfaces as indicated on Drawings, including removal of paint and finishes, preparation, painting and finishing.
- C. Field painting of exposed bare and covered pipes and ducts and hangers, conduits, uni-strut, exposed steel and iron work and primed metal surfaces including but not limited to, hollow metal work, equipment installed under mechanical and electrical work.
- D. "Paint" as used herein means all coating systems materials including primers, emulsions, enamels, stains, sealers and fillers, and other applied material whether used as prime, intermediate or finish coats.
- E. Except where natural finish of material is specifically noted as a surface not to be painted, paint exposed surfaces. Where items or surfaces are not specifically mentioned, paint the same as similar adjacent materials or areas.
- F. Following categories are not included as part of field-applied finish work.
 - 1. Pre-Finished Items: Unless otherwise indicated, do not include painting when factory-finishing or installer-finishing is specified.
 - 2. Concealed Surfaces: Unless otherwise indicated, painting is not required on surfaces in concealed areas and generally inaccessible areas.
 - 3. Finished Metal Surfaces.
 - 4. Operating Parts.

1.3 RELATED WORK

- A. Shop Priming: Unless otherwise specified, shop priming of ferrous metal items is included under various sections for structural steel, metal fabrications, hollow metal work and similar items.
- B. Examine the Construction Documents and be familiar with all their provisions regarding painting. All surfaces that are left unfinished by the requirements of other Sections shall be painted or finished as part of this Section.

1.4 SUBMITTALS

- A. Submit in accordance with the General Conditions of Contract:
 - 1. Paint: Submit a list of specified products with corresponding name of manufacturer, identifying name and number of proposed products along with manufacturer's written instructions for use of each product.
 - 2. If manufacturer to be used is different from that of color chips furnished, prepare and submit two approximately 6 inch square, properly labeled samples of each color and sheen required on properly prepared paint-out cards or hardboard.
 - 3. Prepare and repaint an area of each designated interior surface to requirements specified herein, with specified paint or coating showing selected color, gloss / sheen, texture and workmanship to MPI Repainting Manual standards for review and approval by Owner. When approved, interior surface shall become acceptable standard of finish quality and workmanship for similar on-site repainting work.

1.5 QUALITY ASSURANCE

- A. MPI Standards:
 - 1. Products: Complying with MPI standards indicated and listed in "MPI Approved Products List."
 - 2. Preparation and Workmanship: Comply with requirements in "MPI Architectural Painting Specification Manual" for products and paint systems indicated.
 - a. For areas to be renovated, comply with requirements in "MPI Maintenance Repainting Manual".

1.6 DELIVERY, STORAGE AND HANDLING

- A. Do not deliver materials to site until having received all written approvals of submitted information and samples.
- B. Deliver materials to job site in original, new and unopened packages and containers bearing manufacturer's name and label.
- C. Store materials not in actual use in tightly covered containers.
- D. Take all precautions to ensure that workers and work areas are adequately protected from fire hazards and health hazards resulting from handling, mixing and application of paints.
- E. Remove rags and waste from storage areas daily.

1.7 PROJECT CONDITIONS

- A. Apply water-base paints only when temperatures of surfaces to be painted and surrounding air temperatures are between 50 and 95 degrees F.
- B. Apply solvent-thinned paints only when temperature of surfaces to be painted and surrounding air temperatures are between 45 degrees F. and 95 degrees F.

- C. Do not apply paint when relative humidity exceeds 85%; at temperatures less than 5 degrees F. above the dew point; or to damp or wet surfaces.

1.8 SEQUENCING AND SCHEDULING

- A. Schedule cleaning and painting so that contaminants from cleaning process will not fall onto newly-painted surfaces.

1.9 EXTRA MATERIALS

- A. Furnish extra materials described below that are from same production run (batch mix) as materials applied and that are packaged for storage and identified with labels describing contents.
 - 1. Quantity: Furnish an additional 5 percent, but not less than 1 gal. of each material and color applied.

1.10 ENVIRONMENTAL REQUIREMENTS

- A. Low-Emitting Materials, Field applied Paints and Coatings: Interior paints and coatings applied on-site must meet the limitations and restrictions concerning chemical components set by the following standards:
 - 1. Topcoat Paints, Green Seal Standard GS-11, Paints: First Edition, May 20, 1993.
 - 2. Anti-Corrosive and Anti-Rust Paints: Green Seal Standard GS-03, Anti-Corrosive Paints", Second Edition, January 7, 1997. For applications on ferrous metal substrates.
 - 3. "All Other Architectural Coatings, Primers and Undercoats: South Coast Air Quality Management District (SCAQMD) Rule #1113, Architectural Coatings", rules in effect on January 1, 2004.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Provide products from the following manufacturers:
 - 1. Sherwin-Williams Company
 - 2. Mautz

2.2 MATERIALS

- A. Use the materials of the same manufacturer for each system.
- B. Sherwin-Williams systems are called out in the system schedules to establish quality and dry mil thickness of finished installation for all systems. A different manufacturer may be used for color selection. Any manufacturer noted above may be used as long as quality and color requirements are met.
 - 1. Proprietary names used to designate colors or materials are not intended to imply that products of named manufacturers are required to exclusion of equivalent products of other manufacturers.

- C. Provide best quality grade of various types of coatings as regularly manufactured by acceptable paint materials manufacturers.
- D. Material Compatibility:
1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
- E. Chemical Components of Field-Applied Interior Paints and Coatings: Provide products that comply with the following limits for VOC content, exclusive of colorants added to a tint base, when calculated according to 40 CFR 59, Subpart D (EPA Method 24) and the following chemical restrictions; these requirements do not apply to primers or finishes that are applied in a fabrication or finishing shop:
1. Primer or Undercoat: VOC content of not more than 100 g/L (150 g/L with colorant added at point-of-sale).
 2. Flat Paints and Coatings: VOC content of not more than 50 g/L (100 g/L with colorant added at point-of-sale).
 3. Non-flat Paints and Coatings: VOC content of not more than 100 g/L (150 g/L with colorant added at point-of-sale).
 4. Floor Paint: VOC content of not more than 100 g/L (150 g/L with colorant added at point-of-sale).
 5. Aromatic Compounds: Paints and coatings shall not contain more than 1.0 percent by weight of total aromatic compounds (hydrocarbon compounds containing one or more benzene rings).
 6. Restricted Components: Paints and coatings shall not contain any of the following:
 - a. Acrolein.
 - b. Acrylonitrile.
 - c. Antimony.
 - d. Benzene.
 - e. Butyl benzyl phthalate.
 - f. Cadmium.
 - g. Di (2-ethylhexyl) phthalate.
 - h. Di-n-butyl phthalate.
 - i. Di-n-octyl phthalate.
 - j. 1,2-dichlorobenzene.
 - k. Diethyl phthalate.
 - l. Dimethyl phthalate.
 - m. Ethylbenzene.
 - n. Formaldehyde.
 - o. Hexavalent chromium.
 - p. Isophorone.
 - q. Lead.
 - r. Mercury.
 - s. Methyl ethyl ketone.
 - t. Methyl isobutyl ketone.

- u. Methylene chloride.
- v. Naphthalene.
- w. Toluene (methylbenzene).
- x. 1,1,1-trichloroethane.
- y. Vinyl chloride.

F. Color Pigments: Pure, non-fading, applicable types to suit substrates and service indicated.

2.3 PRIMERS / SEALERS

A. Interior Latex Primer / Sealer: MPI #50.

2.4 METAL PRIMERS

A. Rust-Inhibitive Primer (Water Based): MPI #107.

2.5 LATEX PAINTS

A. Institutional Low-Odor / VOC Latex (Flat): MPI #143 (Gloss Level 1).

B. Institutional Low-Odor / VOC Latex (Low Sheen): MPI #144 (Gloss Level 2).

C. Institutional Low-Odor / VOC Latex (Eggshell): MPI #145 (Gloss Level 3).

D. Institutional Low-Odor / VOC Latex (Semigloss): MPI #147 (Gloss Level 5).

2.6 EQUIPMENT

A. Provide all brushes, rollers, ladders, scaffolding, and other equipment of any kind to properly execute each type of work.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of work.

B. Maximum Moisture Content of Substrates:

1. Gypsum Board: 12 percent.
2. Concrete: Must be cured a minimum of 45 days.

C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

- D. Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.
 - 1. Beginning coating application constitutes Contractor's acceptance of substrates and conditions.

3.2 PREPARATION

- A. Perform preparation and cleaning procedures in accord with paint manufacturer's instructions and as specified for each particular substrate condition.
 - 1. Remove hardware, hardware accessories, machined surfaces, plates, lighting fixtures, and similar items in place and not to be finish-painted, or provide surface-applied protection prior to surface preparation and painting operations.
 - a. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
 - b. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
 - 2. Follow manufacturer's instructions for use of stripping solutions to avoid raising grain of wood.
 - 3. Do not dip fabricated units (doors, etc.) in stripping solution to avoid saturating wood or damaging glued connections.
 - 4. Clean surfaces to be painted before applying paint or surface treatments. Remove oil and grease prior to mechanical cleaning.
 - 5. Remove dirt, rust, scale, moisture, scuffed surfaces, or conditions otherwise detrimental to formation of a durable paint film.
- B. New Wood: Prepare substrate and apply finish according to manufacturer's recommendations. Apply to smooth clean surfaces only.
- C. Gypsum Board: Fill minor irregularities with patching material and sand to smooth level surfaces taking care not to raise nap of paper.
- D. Existing Ferrous Metal
 - 1. Spot remove failed, damaged or rough existing paint to bare metal by means of stripping as indicated above. If existing metal surface is not smooth, sand or wire brush.
 - a. Sand edges of existing paint to a feather edge.
 - 2. Remove dirt and grease with mineral spirits or solvent recommended by paint manufacturer and clean cloths.
- E. Ferrous Metal
 - 1. Remove dirt and grease with mineral spirits or solvent recommended by paint manufacturer and clean cloths.
 - 2. Where not galvanized, shop coat of primer will exist on surface. If prime coat is not smooth, sand to bare metal and re-prime.

3.3 APPLICATION

- A. Provide adequate forced ventilation of enclosed areas for curing of installed materials, to disperse humidity, and to prevent hazardous accumulations of dust, fumes, vapors or gases.
- B. Do no interior work until building is properly enclosed.
- C. Do work under adequate illumination and dust-free conditions.
- D. Apply paints according to manufacturer's written instructions.
 - 1. Use applicators and techniques suited for paint and substrate indicated.
 - 2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 - 3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
- E. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- F. Materials
 - 1. Do not open containers until required for use.
 - 2. Stir materials thoroughly and keep at uniform consistency during application.
- G. Coats
 - 1. Number specified is minimum.
 - 2. Touch up suction spots between coats.
 - 3. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
 - 4. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
 - 5. Refinish surfaces affected by refitting work.

3.4 COLOR SEPARATION

- A. An average of one or two wall colors will be used per room. Ceilings generally will be a different color than walls. Finished closets will usually be same as adjoining rooms.
- B. Job painted metal items such as diffusers, grilles and registers will generally be same color as adjacent surface.
- C. Hardwood generally will be the same color stain throughout.

3.5 CLEANING

- A. During the progress of this work, remove from the site all discarded paint materials, rubbish, cans and rags at the end of each work day.
- B. Upon completion of painting work, clean window glass and other paint-spattered surfaces. Remove spattered paint by proper methods of washing and scraping, using care not to scratch or otherwise damage finished surfaces.

3.6 PROTECTION

- A. Protect work of other trades, whether to be painted or not, against damage by painting and finishing work. Correct damage by cleaning, repairing or replacing.
- B. Provide "wet paint" signs to protect newly-painted finishes. Remove temporary protective wrappings, after completion of painting operations.
- C. At the completion of work of other trades, touch-up and restore all damaged or defaced painted surfaces.

3.7 SCHEDULE OF INTERIOR WORK

- A. In addition to obvious surfaces, the following do not require painting or finishing.
 - 1. Do not include painting when factory-finishing or installer-finishing is specified for such items as (but not limited to) acoustic materials, finished mechanical and electrical equipment including light fixtures and distribution cabinets.
 - 2. Painting is not required on surfaces such as walls or ceilings in concealed areas and generally inaccessible areas, furred areas, utility tunnels, pipe spaces, duct shafts and elevator shafts.
 - 3. Metal surfaces of anodized aluminum, stainless steel, chromium plate, copper, bronze and similar finished materials will not require finish painting, unless otherwise indicated.
 - 4. Moving parts of operating units, mechanical and electrical parts, such as valve and damper operators, linkages, sinkages, sensing devices, motor and fan shafts will not require finish painting, unless otherwise indicated.
 - 5. Do not paint over any code-required labels, such as Underwriter's Laboratories and Factory Mutual, or any equipment identification, performance rating, name or nomenclature plate.
 - 6. N/A indicates system not applicable to this Project.
- B. Walls and Ceilings
 - 1. Paint all rooms. Paint patched walls from 90 degree corner or vertical expansion joint cover in corridors, and patched ceilings complete.
 - 2. Do not apply next coat until previous is thoroughly dry.
 - 3. Provide final coat which is solid and even in color, free from runs, laps, sags, brush marks, air bubbles and excessive roller stipple and worked into crevices, joints and similar areas.
- C. Wood / Wood Trim:

1. Apply finishes to all areas as shown on drawings.
2. Apply per manufacturer's instructions.

D. Electrical Panel Box Covers and Doors

1. Remove, paint and reinstall after paint is dry.

E. Other Unfinished and Primed Surfaces

1. Provide specified finish on exposed surfaces. This includes prime coated mechanical units, piping, pipe covering, conduit, and interior duct surfaces visible behind grilles.

F. Interior Paint Schedule:

System	Material	Type / Sheen	Number and Type of Coating
IPS-1	Wood	Latex / Eggshell	One coat "ProMar Primer"; Two coats "ProGreen 200 Low VOC Interior Latex Eg-shel"
IPS-4	Wood	Water-based Stain,	One coat "Wood Classics 250"; Two coats "Target Coatings 9000 Series 'Clear Coat' Polyurethane Ultra-Low VOC"; Custom colors to match Owner's finish control sample
IPS-7	Gypsum Board	Latex / Eggshell Zero-VOC	One coat "Harmony Interior Latex Primer"; Two coats "Harmony Interior Latex Eggshell"
IPS-8	Concrete	Latex / Eggshell Zero-VOC	One coat "Harmony Interior Latex Primer"; Two coats "Harmony Interior Latex Eggshell"
IPS-9	Concrete Masonry	Latex / Eggshell	One coat "Loxon Block Surfacers"; Two coats "Harmony Interior Latex Eggshell"
IPS-13	Ferrous Metal (Unprimed)	Latex / Semi-gloss	One coat "Pro-Cryl Universal Primer"; Two coats "ProClassic Waterborne"
IPS-14	Ferrous Metal (Primed)	Latex / Semi-gloss	One coat "Pro-Cryl Universal Primer"; Two coats "ProClassic Waterborne"
IPS-15	Copper / Alum. (finished rooms only)	Latex / Flat	One coat "DTM Acrylic Primer; Finish"; Two coats "ProMar 200 Interior Latex Flat"
IPS-16	Galvanized Metal (finished rooms only)	Latex / Flat	One coat "DTM Acrylic Primer Finish"; Two coats " ProMar 200 Interior Latex Flat"

3.8 PAINT COLOR SCHEDULE

- A. P-1: #5370 Ceylon Ivory
1. Precatalyzed water base epoxy eggshell K45W151

- B. P-2: #5362 Off White
1. Precatalyzed epoxy eggshell K45W151
2. Colorcast:

	OZ	32	64	128
B1	-	12	1	
R2	-	6	-	
Y3	-	57	-	

- C. P-3: #4925A Green
1. B-Y36, D-6Y, KX-3Y, F6
2. Precatalyzed water base epoxy eggshell K45W151

END OF SECTION

SECTION 22 05 00

COMMON WORK RESULTS FOR PLUMBING

PART 1 GENERAL

1.1 SCOPE

- A. This section includes information common to two or more technical plumbing specification sections or items that are of a general nature, not conveniently fitting into other technical sections. Included are the following topics:
- B. PART 1 - GENERAL
 - 1. Scope
 - 2. Reference
 - 3. Standards
 - 4. Quality Assurance
 - 5. Continuity of Existing Services
 - 6. Codes
 - 7. Certificates and Inspections
 - 8. Submittals
 - 9. Operating and Maintenance Data
 - 10. Training of Owner Personnel
 - 11. Record Drawings
- C. PART 2 - PRODUCTS
 - 1. Identification
 - 2. Sealing and Fire Stopping
- D. PART 3 - EXECUTION
 - 1. Demolition
 - 2. Cutting and Patching
 - 3. Building Access
 - 4. Equipment Access
 - 5. Coordination
 - 6. Identification

1.2 REFERENCE

- A. Applicable provisions of Division 01 govern work under this Section.
- B. This section applies to all Division 22 Sections of plumbing.

1.3 STANDARDS

- A. Abbreviations of standards organizations referenced in this and other sections are as follows:
 - 1. ABMA American Boiler Manufacturers Association

2. ANSI American National Standards Institute
3. ASME American Society of Mechanical Engineers
4. ASPE American society of Plumbing Engineers
5. ASSE American Society of Sanitary Engineering
6. ASTM American Society for Testing and Materials
7. AWS American Welding Society
8. CS Commercial Standards, Products Standards Sections, Office of Eng. Standards Service, NBS
9. EPA Environmental Protection Agency
10. FS Federal Specifications, Superintendent of Documents, U.S. Government Printing Office
11. IAPMO International Association of Plumbing & Mechanical Officials
12. MCA Mechanical Contractors Association
13. MICA Midwest Insulation Contractors Association
14. MSS Manufacturer's Standardization Society of the Valve & Fitting Industry, Inc.
15. NBS National Bureau of Standards
16. NEC National Electric Code
17. NEMA National Electrical Manufacturers Association
18. NFPA National Fire Protection Association
19. NSF National Sanitation Foundation
20. PDI Plumbing and Drainage Institute
21. UL Underwriters Laboratories Inc.

B. Standards referenced in this section:

1. ACI 614 Recommended Practice for Measuring, Mixing and Placing of Concrete
2. ASTM E814 Standard Test Method for Fire Tests of Through-Penetration Fire Stops
3. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials
4. D.O.T. Standard Specifications for Road and Bridge Construction, State of Wisconsin, Dept. of Transportation
5. UL1479 Fire Tests of Through-Penetration Firestops
6. UL723 Surface Burning Characteristics of Building Materials

1.4 QUALITY ASSURANCE

- A. Substitution of Materials: Refer to Division 01 - Basic Requirements.
- B. All products and materials used are to be new, undamaged, clean and in good condition. Existing products and materials are not to be reused unless specifically indicated.
- C. Where equipment or accessories are used which differ in arrangement, configuration, dimensions, ratings, or engineering parameters from those indicated on the contract documents, the contractor is responsible for all costs involved in integrating the equipment or accessories into the system and for obtaining the intended performance from the system into which these items are placed.

1.5 CONTINUITY OF EXISTING SERVICES

- A. Do not interrupt or change existing services without prior written approval from the Owner's Project Representative. When interruption is required, coordinate scheduling of down-time with the Owner to minimize disruption to his activities. Unless specifically stated, all work involved in interrupting or changing existing services is to be done during "OFF" hours.

1.6 CODES

- A. Comply with requirements of Wisconsin Administrative Code.

1.7 CERTIFICATES AND INSPECTIONS

- A. Refer also to Division 01 - Basic Requirements.
- B. Obtain and pay for all required City of Madison or State of Wisconsin installation inspections except those provided by the Architect/Engineer in accordance with Wis. Admin. Code Section ILHR 50.12. Deliver originals of these certificates to the Owner's Project Representative. Include copies of the certificates in the Operating and Maintenance Instructions.

1.8 SUBMITTALS

- A. Refer to Division 01 - Basic Requirements.
- B. Not more than two weeks after award of contract but before any shop drawings are submitted, contractor to submit the following plumbing system data sheet. List piping material type for each piping service on the project, ASTM number, schedule or pressure class, joint type, manufacturer and model number where appropriate. List valves and specialties for each piping service, fixture and equipment with manufacturer and model number. The approved plumbing system data sheet(s) will be made available to the Owner's Project Representative for their use on this project.

C. PLUMBING SYSTEM DATA SHEET

<u>Item</u>	<u>Pipe Service/Sizes</u>	<u>Manufacturer/Model No.</u>	<u>Remarks</u>
Pipe			
Fittings			
Unions			
Valves:			
Ball			
Balancing			
Pipe Specialties:			
Thermometers			
Water Hammer Arrestors			
Water Filters			
Hangers & Supports			

Insulation
Plumbing Fixtures

- D. Shop drawing submittals are to be bound, labeled, contain the project manual cover page and a material index list page showing item designation, manufacturer and additional items supplied with the installation. Submit for all equipment and systems as indicated in the respective specification sections, marking each submittal with that specification section number. Mark general catalog sheets and drawings to indicate specific items being submitted and proper identification of equipment by name and/or number, as indicated in the construction documents. Include wiring diagrams of electrically powered equipment.
- E. Submit sufficient quantities of equipment data sheets and shop drawings to allow the following distribution:
- | | | |
|----|--|----------|
| 1. | Insertion into Operating and Maintenance Manuals | 2 copies |
| 2. | Dane County Public Works - record copy | 1 copy |
| 3. | Engineers - record copies | 2 copies |

1.9 OPERATION AND MAINTENANCE DATA

- A. All operations and maintenance data shall comply with the submission and content requirements specified under Division 01 - Basic Requirements.
- B. Two copies of Operations and Maintenance Manuals shall be provided for the following distribution:
- | | | |
|----|-----------------------------------|--------|
| 1. | Dane County Public Works | 1 copy |
| 2. | Dane County Facilities Management | 1 copy |
- C. In addition to the general content specified under - Basic Requirements supply the following additional documentation:
1. Records of tests performed a to certify compliance with system requirements
 2. Manufacturer's wiring diagrams for electrically powered equipment
 3. Certificates of inspection by regulatory agencies
 4. Valve schedules
 5. Lubrication instructions, including list/frequency of lubrication
 6. Parts lists for fixtures, equipment, valves and specialties
 7. Manufacturers installation, operation and maintenance recommendations for fixtures, equipment, valves and specialties
 8. Additional information as indicated in the technical specification sections

1.10 TRAINING OF OWNER PERSONNEL

- A. Instruct owner personnel in the proper operation and maintenance of systems and equipment provided as part of this project. Include not less than 2 hours of instruction, using the Operating and Maintenance manuals during this instruction. Demonstrate startup, operation and shutdown procedures for all equipment. All training to be during normal working hours.

1.11 RECORD DRAWINGS

- A. Refer to Division 01 - Basic Requirements.

PART 2 PRODUCTS

2.1 IDENTIFICATION

- A. Stencils:
 - 1. Not less than 1 inch high letters/numbers for marking pipe and equipment.
- B. Engraved Name Plates:
 - 1. White letters on a black background, 1/16 inch thick plastic laminate, beveled edges, screw mounting, Setonply Style 2060 by Seton Name Plate Company or Emedolite Style EIP by EMED Co., or equal by W. H. Brady.
- C. Snap-Around Pipe Markers:
 - 1. One-piece, preformed, vinyl construction, snap-around or strap-around pipe markers with applicable labeling and flow direction arrows, 3/4" min. size for lettering. Provide nylon ties on each end of pipe markers. Equal to Seton Setmark.
- D. Valve Tags:
 - 1. Round brass tags with 1/2 inch numbers, 1/4 inch system identification abbreviation, 1-1/4 inch minimum diameter, with brass jack chains, brass "S" hooks or one piece nylon ties around the valve stem, available from EMED Co., Seton Name Plate Company, or W. H. Brady.

2.2 SEALING AND FIRESTOPPING

- A. Fire And / Or Smoke Rated Penetrations:
 - 1. Manufacturers: 3M, Hilti, Rectorseal, STI/SpecSeal, Tremco, or approved equal.
 - 2. All firestopping systems shall be provided by the same manufacturer.
 - 3. Fire stop systems shall be UL listed or tested by an independent testing laboratory approved by the Department of Commerce.
 - 4. Submittals: Contractor shall submit product data for each firestop system. Submittals shall include product characteristics, performance and limitation criteria, test data, MSDS sheets, installation details and procedures for each method of installation applicable to this project. For non-standard conditions where no UL tested system exists, submit manufacturer's drawings for UL system with known performance for which an engineering judgement can be based upon.
 - 5. Use a product that has a rating not less than the rating of the wall or floor being penetrated. Reference architectural drawings for identification of fire and/or smoke rated walls and floors.
 - 6. Use firestop putty, caulk sealant, intumescent wrapstrips, intumescent firestop collars, firestop blocks, firestop mortar or a combination of these products to

provide a UL listed system for each application required for this project. Provide mineral wool backing where specified in manufacturer's application detail.

- B. Non-Rated Penetrations:
 - 1. In Exterior Wall Openings Below Grade, Use A Modular Mechanical Type Seal consisting of interlocking synthetic rubber links shaped to continuously fill the annular space between the uninsulated pipe and the cored opening or a water-stop type wall sleeve. The operating bolts of the mechanical type seal shall be accessible from the interior of the building.
 - 2. At pipe penetrations of non-rated interior partitions, floors and exterior walls, use urethane caulk in annular space between pipe insulation and sleeve. For non-rated drywall, plaster or wood partitions where sleeve is not required use urethane caulk in annular space between pipe insulation and wall material

PART 3 EXECUTION

3.1 DEMOLITION

- A. Perform all demolition as indicated on the drawings to accomplish new work. Where demolition work is to be performed adjacent to existing work that remains in an occupied area, construct temporary dust partition to minimize the amount of contamination of the occupied space. Where pipe is removed and not reconnected with new work, cap ends of existing services as if they were new work. Coordinate work with the Owner to minimize disruption to the existing building occupants.
- B. All pipe, fixtures, equipment, wiring and associated conduit, insulation and similar items demolished, abandoned, or deactivated are to be removed from the site by the Contractor except as specifically noted otherwise. Maintain the condition of material and/or equipment that is indicated to be reused equal to that existing before work began.

3.2 CUTTING AND PATCHING

- A. Provide required Cutting and Patching to complete the Work. Refer to Division 01 - Basic Requirements.

3.3 BUILDING ACCESS

- A. Arrange for the necessary openings in the building to allow for admittance or removal of all apparatus. When the building access was not previously arranged and must be provided by this contractor, restore any opening to its original condition after the apparatus has been brought into the building.
- B. When access to the work area is through occupied areas coordinate building access times with the Owner's Project Representative.

3.4 EQUIPMENT ACCESS

- A. Install all piping, conduit and accessories to permit access to equipment for maintenance and service.

3.5 COORDINATION

- A. Coordinate all work with other contractors prior to installation. Any work that is not coordinated and that interferes with other contractor's work shall be removed or relocated at the installing contractor's expense.
- B. Verify that all devices are compatible for the type of construction and surfaces on which they will be used.

3.6 IDENTIFICATION

- A. Identify equipment in mechanical equipment rooms by stenciling equipment number and service with one coat of black enamel against a light background or white enamel against a dark background. Use a primer where necessary for proper paint adhesion.
- B. Where stenciling is not appropriate for equipment identification, engraved name plates may be used.
- C. Identify all new interior piping. Place flow directional arrows at each pipe identification location. Use one coat of black enamel against a light background or white enamel against a dark background.
- D. Identify valves with brass tags bearing a system identification and a valve sequence number. Valve tags are not required at a terminal device unless the valves are greater than ten feet from the device, located in another room or not visible from device. Provide a typewritten valve schedule and pipe identification schedule indicating the valve number and the equipment or areas supplied by each valve and the symbols used for pipe identification; locate schedules in mechanical room and in each Operating and Maintenance manual. Schedule in mechanical room to be framed under clear plastic.

END OF SECTION

SECTION 22 05 15
PIPING SPECIALTIES

PART 1 GENERAL

1.1 SCOPE

- A. This section contains specifications for plumbing piping specialties for all piping systems. Included are the following topics:
- B. PART 1 - GENERAL
 - 1. Scope
 - 2. Related Work
 - 3. Reference
 - 4. Reference Standards
 - 5. Shop Drawings
 - 6. Operation and Maintenance Data
 - 7. Design Criteria
- C. PART 2 - PRODUCTS
 - 1. Thermometers
 - 2. Thermometer Sockets
 - 3. Water Hammer Arrestors
 - 4. Water Filters
 - 5. Floor Drains
 - 6. Safing
- D. PART 3 - EXECUTION
 - 1. Thermometers
 - 2. Thermometer Sockets

1.2 RELATED WORK

- A. Section 22 05 23 - General-Duty Valves for Plumbing Piping
- B. Section 22 07 00 - Plumbing Insulation
- C. Section 22 11 00 - Facility Water Distribution
- D. Section 22 46 00 - Security Plumbing Fixtures

1.3 REFERENCE

- A. Applicable provisions of Division 01 govern work under this Section.

1.4 REFERENCE STANDARDS

- A. ASTM B650 Electrodeposited Engineering Chromium Coatings on Ferrous Substrates

1.5 QUALITY ASSURANCE

- A. Substitution of Materials: Refer to Division 01 - Basic Requirements.

1.6 SHOP DRAWINGS

- A. Required for all items in this section. Include materials of construction, dimensional data, ratings/capacities/ranges, approvals, test data, pressure drop data where appropriate, and identification as referenced in this section and/or on the drawings.

1.7 OPERATION AND MAINTENANCE DATA

- A. All operations and maintenance data shall comply with the submission and content requirements specified under Division 01 - Basic Requirements.

1.8 DESIGN CRITERIA

- A. All piping specialties are to be rated for the highest pressures and temperatures in the respective system in accordance with ANSI B31, but not less than 125 psig unless specifically indicated otherwise.

PART 2 PRODUCTS

2.1 THERMOMETERS

- A. Manufacturers: Ashcroft, Marsh, Taylor, H. O. Trerice, Ametek/U. S. Gauge, Weiss, Wika, Weksler.

- 2.2 Stem Type: Cast aluminum case, nine inch scale, clear acrylic window. adjustable angle brass stem with stem of sufficient length so the end of the stem is near the middle of a pipe without reducing the thickness of any insulation, red indicating fluid, black lettering against a white background, with scale ranges as follows:

Service	Hot Water
Scale Range, °F	30 - 180
Increment, °F	2

2.3 THERMOMETER SOCKETS

- A. Brass with threaded connections suitable for thermometer stems and temperature control sensing elements in pipeline. Furnish with extension necks for insulated piping systems.

2.4 WATER HAMMER ARRESTORS

- A. Manufacturer: PPP Industries, Sioux Chief, Wade, Watts.

- B. ANSI A112.26.1, ASSE 1010; size in accordance with PDI WH-201, precharged piston type constructed of hard drawn Type K copper, threaded brass adapter, brass piston with o-ring seals, FDA approved silicone lubricant, suitable for operation in temperature range 35 to 150 degrees F, maximum 250 psig working pressure, 1500 psig surge pressure. Watts series 15.

2.5 WATER FILTERS

- A. Equal to Lakos Model T28-100 with 60 mesh filter screen.

2.6 FLOOR DRAINS

- A. Manufacturer: Sioux Chief 832-3DHNR-V; products by Zurn, Smith, and Josam are considered equal.
- B. **FD-1:** Adjustable flashing drain with cast iron base adapter with ductile iron flashing collar with seepage openings and neoprene push-on joint gasket. Include 5½ inch diameter nickel bronze strainer with vandal-resistant screws and two adjustable shims.

2.7 SAFING

- A. Equal to Chloraloy 240 CPE waterproof membrane.
- B. Chlorinated polyethylene sheeting, 40 mils thick, ASTM D4068-81, joined with CPE solvent.

PART 3 EXECUTION

3.1 THERMOMETERS

- A. Stem Type: Install in piping systems as indicated on the drawings and/or details using a separable socket in each location.

3.2 THERMOMETER SOCKETS

- A. Install at each point where a thermometer or temperature control sensing element is located in a pipeline.

3.3 WATER HAMMER ARRESTORS

- A. Install water hammer arrestors where indicated and at quick closing valve installations.

END OF SECTION

SECTION 22 05 23

GENERAL DUTY VALVES FOR PLUMBING PIPING

PART 1 GENERAL

1.1 SCOPE

- A. This section includes valve specifications for all plumbing systems except where indicated under Related Work. Included are the following topics:
- B. PART 1 - GENERAL
 - 1. Scope
 - 2. Related Work
 - 3. Reference
 - 4. Quality Assurance
 - 5. Submittals
 - 6. Operation and Maintenance Data
 - 7. Design Criteria
- C. PART 2 - PRODUCTS
 - 1. Water System Valves
 - 2. Ball Valves
- D. PART 3 - EXECUTION
 - 1. General
 - 2. Shut-off Valves

1.2 RELATED WORK

- A. Section 22 46 00 - Security Plumbing Fixtures

1.3 REFERENCE

- A. Applicable provisions of Division 01 govern work under this Section.

1.4 QUALITY ASSURANCE

- A. Substitution of Materials: Refer to Division 01 - Basic Requirements.

1.5 SUBMITTALS

- A. Schedule of all valves indicating type of service, dimensions, materials of construction, and pressure/temperature ratings for all valves to be used on the project. Temperature ratings specified are for continuous operation.

1.6 OPERATION AND MAINTENANCE DATA

- A. All operations and maintenance data shall comply with the submission and content requirements specified under Division 01 - Basic Requirements.

1.7 DESIGN CRITERIA

- A. ASSE 1003 - Water Pressure Reducing Valves for Domestic Water Supply Systems.
- B. Where valve types (ball, butterfly, etc.) are specified for individual plumbing services (i.e. domestic water, gas, etc.), each valve type shall be of the same manufacturer unless prior written approval is obtained from the Owner.
- C. Valves to be line size unless specifically noted otherwise.

PART 2 PRODUCTS

2.1 WATER SYSTEM VALVES

- A. All water system valves to be rated at not less than 125 water working pressure at 240 degrees F unless noted otherwise.
- B. Ball Valves:
 - 1. Manufacturer: Apollo 77C-140-27 & 77C- 240, Jomar T/S 100, Hammond 8511, Milwaukee BA150, Nibco S580-70, Watts B-6001.
 - 2. 3" and smaller: Two piece, full port, bronze body; sweat ends, stainless steel ball and stem; glass filled teflon seat; teflon packing and threaded packing nut; blowout-proof stem; 600 psig WOG. Provide valve stem extensions for valves installed in all piping with insulation. Include stainless steel latch-lock handle.

PART 3 EXECUTION

3.1 GENERAL

- A. Properly align piping before installation of valves. Install and test valves in strict accordance with valve manufacturer's installation recommendations. Do not support weight of piping system on valve ends.
- B. Mount valves in locations which allow access for operation, servicing and replacement.
- C. Provide valve handle extensions for all valves installed in insulated piping.
- D. Install all valves with the stem in the upright or horizontal position. If possible, install butterfly valves with the stem in the horizontal position. Valves installed with the stems down will not be accepted.
- E. Prior to flushing of piping systems, place all valves in the full-open position.

3.2 SHUT-OFF VALVES

- A. Install shut-off valves at each piece of equipment, at each branch take-off from mains for isolation or repair and elsewhere as indicated.

END OF SECTION

SECTION 22 05 29

HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT

PART 1 GENERAL

1.1 SCOPE

- A. This section includes specifications for supports of all plumbing equipment and materials as well as piping system anchors. Included are the following topics:
- B. PART 1 - GENERAL
 - 1. Scope
 - 2. Related Work
 - 3. Reference
 - 4. Reference Standards
 - 5. Quality Assurance
 - 6. Description
 - 7. Shop Drawings
 - 8. Design Criteria
- C. PART 2 - PRODUCTS
 - 1. Manufacturers
 - 2. Structural Supports
 - 3. Pipe Hangers and Supports
 - 4. Pipe Hanger Rods
 - 5. Beam Clamps
 - 6. Concrete Inserts
 - 7. Anchors
- D. PART 3 - EXECUTION
 - 1. Installation
 - 2. Hanger and Support Spacing
 - 3. Concrete Inserts
 - 4. Anchors

1.2 RELATED WORK

- A. Section 22 07 00 - Plumbing Insulation.

1.3 REFERENCE

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

1.4 REFERENCE STANDARDS

- A. MSS SP-58 Pipe Hangers & Support

B. MSS SP-69 Pipe Hangers & Support

1.5 QUALITY ASSURANCE

A. Substitution of Materials: Refer to Division 01 - Basic Requirements.

1.6 DESCRIPTION

- A. Provide all supporting devices as required for the installation of mechanical equipment and materials. All supports and installation procedures are to conform to the latest requirements of the ANSI Code for building piping.
- B. Do not hang any mechanical item directly from a metal deck or run piping so its rests on the bottom chord of any truss or joist.
- C. Fasteners depending on soft lead for holding power or requiring powder actuation will not be accepted.
- D. Support apparatus and material under all conditions of operation, variations in installed and operating weight of equipment and piping, to prevent excess stress, and allow for proper expansion and contraction.
- E. Protect insulation at all hanger points; see Related Work above.

1.7 SHOP DRAWINGS

- A. Schedule of all hanger and support devices indicating attachment methods and type of device for each pipe size and type of service.
- B. All submittals are to comply with submission and content requirements specified Division 01 - Basic Requirements.

1.8 DESIGN CRITERIA

- A. Materials and application of pipe hangers and supports shall be in accordance with MSS Standard Practice SP-58 and SP-69 unless noted otherwise.
- B. Piping connected to pumps, compressors, or other rotating or reciprocating equipment is to have vibration isolation supports for a distance of one hundred pipe diameters or three supports away from the equipment, whichever is greater. Standard pipe hangers/supports as specified in this section are required beyond the 100 pipe diameter/3 support distance.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Anvil, B-Line, Pate, Piping Technology or approved equal.

2.2 STRUCTURAL SUPPORTS

- A. Provide all supporting steel required for the installation of mechanical equipment and materials, including angles, channels, beams, etc. to suspended or floor supported tanks and equipment. All of this steel may not be specifically indicated on the drawings.

2.3 PIPE HANGERS AND SUPPORTS

- A. Hangers for Pipe Sizes 1/2" through 2":
 - 1. Carbon steel, adjustable swivel ring. B-Line B3170NF, Anvil 69 or 70.
 - 2. Carbon steel, adjustable clevis, standard. B-Line B3100, Anvil 260.
- B. Hangers for Pipe Sizes 2" and Larger:
 - 1. Carbon steel, adjustable clevis, standard. B-Line B3100, Anvil 260.
- C. Multiple or Trapeze Hangers:
 - 1. Steel channels with welded spacers and hanger rods.
- D. Wall Support:
 - 1. Carbon steel welded bracket with hanger. B-Line 3068 Series, Anvil 194 Series.
 - 2. Perforated, epoxy painted finish, 16-12 gauge, min., steel channels securely anchored to wall structure, with interlocking, split-type, bolt secured, galvanized pipe/tubing clamps. B-Line type S channel with B-2000 series clamps, Anvil type PS 200 H with PS 1200 clamps. When copper piping is being supported, provide flexible elastomeric/thermoplastic isolation cushion material to completely encircle the piping and avoid contact with the channel or clamp, equal to B-Line B1999 Vibra Cushion or provide manufacturers clamp and cushion assemblies, B-Line BVT series, and Anvil PS 1400 series.
- E. Floor Support:
 - 1. Carbon steel pipe saddle, stand and bolted floor flange. B-Line B3088T/B3093.
- F. Copper Pipe Supports:
 - 1. All supports, fasteners, clamps, etc. directly connected to copper piping shall be copper plated or polyvinylchloride coated. Where steel channels are used, provide isolation collar between supports/clamps/fasteners and copper piping.

2.4 PIPE HANGER RODS

- A. Steel Hanger Rods:
 - 1. Threaded both ends, threaded one end, or continuous threaded, complete with adjusting and lock nuts.
 - 2. Size rods for individual hangers and trapeze support as indicated in the following schedule.

3. Total weight of equipment, including valves, fittings, pipe, pipe content, and insulation, are not to exceed the limits indicated.

Maximum Load (Lbs.) (650°F Max. Temp.)	Rod Diameter (inches)
610	3/8
1130	1/2
1810	5/8
2710	3/4
3770	7/8
4960	1
8000	1-1/4

2.5 BEAM CLAMPS

- A. MSS SP-69 Types 19 & 23 malleable black iron clamp for attachment to beam flange to 0.62 inches thick with a retaining ring and threaded rod of 3/8, 1/2, and 5/8 inch diameter. Furnish with a hardened steel cup point set screw. B-Line B3036L/B3034, Anvil 86/92.
- B. MSS SP-69 Type 28 or Type 29 forged steel jaw type clamp with a tie rod to lock clamp in place, suitable for rod sizes to 1-1/2 inch diameter. B-Line B3054, Anvil 228.

2.6 CONCRETE INSERTS

- A. Drilled Fasteners:
 1. Carbon steel expansion anchors, vibration resistant, with ASTM B633 zinc plating. Use drill bit of same manufacturer as anchor. Hilti, Rawl, Redhead.

2.7 ANCHORS

- A. Use welding steel shapes, plates, and bars to secure piping to the structure.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Size, apply and install supports and anchors in compliance with manufacturers recommendations.
- B. Install supports to provide for free expansion of the piping system. Support all piping from the structure using concrete inserts, beam clamps, ceiling plates, wall brackets, or floor stands. Fasten ceiling plates and wall brackets securely to the structure and test to demonstrate the adequacy of the fastening.
- C. Coordinate hanger and support installation to properly group piping of all trades.
- D. Where piping can be conveniently grouped to allow the use of trapeze type supports, use standard structural shapes or continuous insert channels for the supporting steel. Where continuous insert channels are used, pipe supporting devices made specifically for use

with the channels may be substituted for the specified supporting devices provided that similar types are used and all data is submitted for prior approval.

- E. Size and install hangers and supports, except for riser clamps, for installation on the exterior of piping insulation. Where a vapor barrier is not required, hangers may be installed either on the exterior of pipe insulation or directly on piping.
- F. Perform welding in accordance with standards of the American Welding Society.

3.2 HANGER AND SUPPORT SPACING

- A. Install hangers to provide minimum 1/2 inch space between finished covering and adjacent work.
- B. Place a hanger within 12 inches of each horizontal elbow, valve, strainer, or similar piping specialty item.
- C. Use hangers with 1-1/2 inch minimum vertical adjustment.
- D. Where several pipes can be installed in parallel and at the same elevation, provide multiple or trapeze hangers.
- E. Support riser piping independently of connected horizontal piping.
- F. Adjust hangers to obtain the slope specified in the piping section of these specifications.
- G. Space hangers for pipe as follows:

Material	Pipe Size	Max. Horiz. Spacing	Max. Vert. Spacing
Copper	1/2" through 3/4"	5'-0"	10'-0"
Copper	1" through 1-1/4"	6'-0"	10'-0"
Copper	1-1/2" through 2-1/2"	8'-0"	10'-0"

3.3 CONCRETE INSERTS

- A. Select size based on the manufacturer's stated load capacity and weight of material that will be supported. Use inserts for suspending hangers from reinforced concrete slabs and sides of reinforced concrete beams. Provide hooked rod to concrete reinforcement section for inserts carrying pipe over 4 inch size. Where concrete slabs form finished ceiling, provide inserts that are flush with the slab surface.

3.4 ANCHORS

- A. Install where indicated on the drawings and details. Where not specifically indicated, install anchors at ends of principal pipe runs and at intermediate points in pipe runs between expansion loops. Make provisions for preset of anchors as required to accommodate both expansion and contraction of piping.

END OF SECTION

SECTION 22 07 00

PLUMBING INSULATION

PART 1 GENERAL

1.1 SCOPE

- A. This section includes insulation specifications for plumbing piping and equipment. Included are the following topics:
- B. PART 1 - GENERAL
 - 1. Scope
 - 2. Related Work
 - 3. Reference
 - 4. Reference Standards
 - 5. Quality Assurance
 - 6. Description
 - 7. Definitions
 - 8. Shop Drawings
 - 9. Operation and Maintenance Data
- C. PART 2 - PRODUCTS
 - 1. Materials
 - 2. Insulation & Jackets
 - 3. Insulation Inserts and Pipe Shields
 - 4. Accessories
- D. PART 3 - EXECUTION
 - 1. Installation
 - 2. Piping, Valve and Fitting Insulation

1.2 RELATED WORK

- A. Section 22 05 00 - Common Work Results for Plumbing
- B. Section 22 11 00 - Facility Water Distribution
- C. Section 22 46 00 - Security Plumbing Fixtures

1.3 REFERENCE

- A. Applicable provisions of Division 01 govern work under this Section.

1.4 REFERENCE STANDARDS

- A. ASTM B209 Aluminum and Aluminum Alloy Sheet and Plate

- B. ASTM C165 Test Method for Compressive Properties of Thermal Insulations
- C. ASTM C177 Heat Flux and Thermal Transmission Properties
- D. ASTM C195 Mineral Fiber Thermal Insulation Cement
- E. ASTM C302 Density of Preformed Pipe Insulation
- F. ASTM C449 Mineral Fiber Hydraulic Setting Thermal Insulation Cement
- G. ASTM C518 Heat Flux and Thermal Transmission Properties
- H. ASTM C547 Mineral Fiber Preformed Pipe Insulation
- I. ASTM C553 Mineral Fiber Blanket and Felt Insulation
- J. ASTM C612 Mineral Fiber Block and Board Thermal Insulation
- K. ASTM C921 Properties of Jacketing Materials for Thermal Insulation
- L. ASTM C1136 Flexible Low Permeance Vapor Retarders for Thermal Insulation
- M. ASTM E84 Surface Burning Characteristics of Building Materials
- N. MICA National Commercial & Industrial Insulation Standards
- O. NFPA 225 Surface Burning Characteristics of Building Materials
- P. UL 723 Surface Burning Characteristics of Building Materials

1.5 QUALITY ASSURANCE

- A. Substitution of Materials: Refer to Division 01 - Basic Requirements.
- B. Label all insulating products delivered to the construction site with the manufacturer's name and description of materials.

1.6 DESCRIPTION

- A. Furnish and install all insulating materials and accessories as specified or as required for a complete installation. The following types of insulation are specified in this section:
 - 1. Pipe Insulation
- B. Install all insulation in accordance with the latest edition of MICA (Midwest Insulation Contractors Association) Standard and manufacturer's installation instructions. Exceptions to these standards will only be accepted where specifically modified in these specifications, or where prior written approval has been obtained from the Project Representative.

1.7 DEFINITIONS

- A. Concealed: shafts, furred spaces, space above finished ceilings, utility tunnels and crawl spaces. All other areas, including walk-through tunnels, shall be considered as exposed.

1.8 SHOP DRAWINGS

- A. Submit a schedule of all insulating materials to be used on the project, including adhesives, fastening methods, fitting materials along with material safety data sheets and intended use of each material. Include manufacturer's technical data sheets indicating density, thermal characteristics, jacket type, and manufacturer's installation instructions.

1.9 OPERATION AND MAINTENANCE DATA

- A. All operations and maintenance data shall comply with the submission and content requirements specified under Division 01 - Basic Requirements.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Materials or accessories containing asbestos will not be accepted.
- B. Use composite insulation systems (insulation, jackets, sealants, mastics, and adhesives) that have a flame spread rating of 25 or less and smoke developed rating of 50 or less, with the following exceptions:
- C. Insulation which is not located in an air plenum may have a flame spread rating not over 25 and a smoke developed rating no higher than 150.

2.2 INSULATION AND JACKETS

- A. Manufacturers: Armstrong, Certainteed Manson, Childers, Dow, Extol, Halstead, H.B. Fuller, Imcoa, Knauf, Owens-Corning, Pittsburgh Corning, Rubatex, Johns-Mansville, or approved equal.
- B. Insulating materials shall be fire retardant, moisture and mildew resistant, and vermin proof. Insulation shall be suitable to receive jackets, adhesives and coatings as indicated.
- C. RIGID FIBERGLASS INSULATION:
 - 1. Minimum nominal density of 3 lbs. per cu. ft., and thermal conductivity of not more than 0.23 at 75 degrees F, minimum compressive strength of 25 PSF at 10% deformation, rated for service to 450 degrees F.
 - 2. White kraft reinforced foil vapor barrier all service jacket, factory applied to insulation with a self-sealing pressure sensitive adhesive lap, maximum permeance of .02 perms and minimum beach puncture resistance of 50 units.

D. SEMI-RIGID FIBERGLASS INSULATION:

1. Minimum nominal density of 3 lbs. per cu. ft., thermal conductivity of not more than 0.28 at 75 degrees F, minimum compressive strength of 125 PSF at 10% deformation, rated for service to 450 degrees F. Insulation fibers perpendicular to jacket and scored for wrapping cylindrical surfaces.
2. White kraft reinforced foil vapor barrier all service jacket, factory applied to insulation with a maximum permeance of .02 perms and minimum beach puncture resistance of 50 units.

E. FIREPROOFING INSULATION:

1. Mineral fiber with nominal density of 8 lbs. per cu. ft., flame spread index of 15, fuel contribution index of 0, and smoke developed index of 0, thermal conductivity of not more than 0.23 at 75 degrees F.
2. Jacket material shall be the same as jacket for adjacent insulation.

F. METAL JACKETS:

1. .016 inch thick aluminum or .010 inch thick stainless steel with safety edge.

2.3 INSULATION INSERTS AND PIPE SHIELDS

A. Manufacturers: B-Line, Pipe Shields, Value Engineered Products

B. Construct inserts with calcium silicate, minimum 140 psi compressive strength. Piping 12" and larger, supplement with high density 600 psi structural calcium silicate insert. Provide galvanized steel shield. Insert and shield to be minimum 180 degree coverage on bottom of supported piping and full 360 degree coverage on clamped piping. On roller mounted piping and piping designed to slide on support, provide additional load distribution steel plate.

C. Where contractor proposes shop/site fabricated inserts and shields, submit schedule of materials, thicknesses, gauges and lengths for each pipe size to demonstrate equivalency to pre-engineered pre-manufactured product described above. On low temperature systems, extruded polystyrene may be substituted for calcium silicate provided insert and shield length and gauge are increased to compensate for lower insulation compressive strength.

D. Precompressed 20# density molded fiberglass blocks, Hamfab or equal, of same thickness as adjacent insulation may be substituted for calcium silicate inserts with one 1" x 6" block for piping through 2-1/2" and three 1" x 6" blocks for piping through 4". Submit shield schedule to demonstrate equivalency to pre-engineered/pre-manufactured product described above.

E. Wood blocks will not be accepted.

2.4 ACCESSORIES

A. All products shall be compatible with surfaces and materials on which they are applied, and be suitable for use at operating temperatures of the systems to which they are applied.

- B. Adhesives, sealants, and protective finishes shall be as recommended by insulation manufacturer for applications specified.
- C. Insulation bands to be 3/4 inch wide, constructed of aluminum or stainless steel. Minimum thickness to be .015 inch for aluminum and .010 inch for stainless steel.
- D. Tack fasteners to be stainless steel ring grooved shank tacks.
- E. Staples to be clinch style.
- F. Insulating cement to be ANSI/ASTM C195, hydraulic setting mineral wool.
- G. Finishing cement to be ASTM C449.
- H. Fibrous glass or canvas fabric reinforcing shall have a minimum untreated weight of 6 oz./sq. yd.
- I. Bedding compounds to be non-shrinking and permanently flexible.
- J. Vapor barrier coatings to be non-flammable, fire resistant, polymeric resin.
- K. Fungicidal water base coating (Foster 40-20 or equal) to be compatible with vapor barrier coating.

PART 3 EXECUTION

- A. INSTALLATION
- B. Install insulation, jackets and accessories in accordance with manufacturers instructions and under ambient temperatures and conditions recommended by manufacturer. Surfaces to be insulated must be clean and dry.
- C. Do not insulate systems or equipment which are specified to be pressure tested or inspected, until testing, inspection and any necessary repairs have been successfully completed.
- D. Install insulation with smooth and even surfaces. Poorly fitted joints or use of filler in voids will not be accepted. Cover and seal exposed fiberglass insulation when insulation is terminated, no raw fiberglass insulation is allowed. Provide neat and coated terminations at all nameplates, uninsulated fittings, or at other locations where insulation terminates. Install with longitudinal joints facing wall or ceiling.
- E. Install fabric reinforcing without wrinkles. Overlap seams a minimum of 2 inches.
- F. Use full-length material (as delivered from manufacturer) wherever possible. Scrap piecing of insulation or pieces cut undersize and stretched to fit will not be accepted.

- G. Insulation shall be continuous through sleeves and openings. Vapor barriers shall be maintained continuous through all penetrations.
- H. Provide a complete vapor barrier for insulation on the following systems:
 - 1. Cold water

3.2 PIPING, VALVE AND FITTING INSULATION

- A. General:
 - 1. Install insulation with butt joints and longitudinal seams closed tightly. Provide minimum 2” lap on jacket seams and 2” tape on butt joints, firmly cemented with lap adhesive. Additionally secure with staples along seams and butt joints. Coat staples with vapor barrier mastic on systems requiring vapor barrier.
 - 2. Water supply piping insulation shall be continuous throughout the building and installed adjacent to and within building walls to a point directly behind the fixture that is being supplied.
 - 3. Install insulation continuous through pipe hangers and supports with hangers and supports on the exterior of insulation. Where a vapor barrier is not required, hangers and supports may be attached directly to piping with insulation completely covering hanger or support and jacket sealed at support rod penetration. Where riser clamps are required to be attached directly to piping requiring vapor barrier, extend insulation and vapor barrier jacketing/coating around riser clamp.
- B. Insulation Inserts and Pipe Shields:
 - 1. Provide insulation inserts and pipe shields at all hanger and support locations. Inserts may be omitted on 3/4” and smaller copper piping provided 12” long 22 gauge pipe shields are used.
- C. Fittings and Valves:
 - 1. Fittings, valves, unions, flanges, couplings and specialties may be insulated with factory molded or built up insulation of the same thickness as adjoining insulation. Cover insulation with fabric reinforcing and mastic or where temperatures do not exceed 150 degrees, PVC fitting covers. Secure PVC fitting covers with tack fasteners and 1-1/2” band of mastic over ends, throat, seams or penetrations. On systems requiring vapor barrier, use vapor barrier mastic.
- D. Pipe Insulation Schedule:
 - 1. Provide insulation on new and existing remodeled piping as indicated in the following schedule:

Service	Insulation Types	Insulation Thickness by Pipe Size				
		1" and smaller	1-1/4" to 2"	2-1/2" to 4"	5" to 6"	8" & larger
Hot Water and Tempered Water	Rigid Fiberglass	1.5"	1.5"	1.5"	1.5"	1.5"

END OF SECTION

SECTION 22 11 00

FACILITY WATER DISTRIBUTION

PART 1 GENERAL

1.1 SCOPE

- A. This section contains specifications for plumbing pipe and pipe fittings for this project. Included are the following topics:
- B. PART 1 - GENERAL
 - 1. Scope
 - 2. Related Work
 - 3. Reference
 - 4. Reference Standards
 - 5. Shop Drawings
 - 6. Quality Assurance
 - 7. Delivery, Storage and Handling
 - 8. Design Criteria
- C. PART 2 - PRODUCTS
 - 1. Domestic Water
 - 2. Dielectric Unions
 - 3. Unions
- D. PART 3 - EXECUTION
 - 1. General
 - 2. Preparation
 - 3. Erection
 - 4. Copper Pipe Joints
 - 5. Threaded Pipe Joints
 - 6. Domestic Water
 - 7. Dielectric Unions
 - 8. Unions
 - 9. Piping System Leak Tests

1.2 RELATED WORK

- A. 22 05 15 - Piping Specialties
- B. 22 05 29 - Hangers and Supports for Plumbing Piping and Equipment

1.3 REFERENCE

- A. Applicable provisions of Division 01 govern work under this Section.

1.4 REFERENCE STANDARDS

- A. ANSI B16.3 Malleable Iron Threaded Fittings
- B. ANSI B16.4 Cast Iron Threaded Fittings
- C. ANSI B16.5 Pipe Flanges and Flanged Fittings
- D. ANSI B16.22 Wrought Copper and Wrought Copper Alloy Solder Joint Pressure Fittings
- E. ANSI B16.29 Wrought Copper and Wrought Copper Alloy Solder Joint Drainage Fittings - DWV
- F. ASTM A53 Pipe, Steel, Black and Hot-Dipped, Zinc Coated Welded and Seamless
- G. ASTM A105 Forgings, Carbon Steel, for Piping Components
- H. ASTM A126 Gray Cast Iron Castings for Valves, Flanges, and Pipe Fittings
- I. ASTM A234 Pipe Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and Elevated Temperatures
- J. ASTM B32 Solder Metal
- K. ASTM B88 Seamless Copper Water Tube
- L. ASTM B280 Seamless Copper Tube for Air Conditioning and Refrigeration Field Service
- M. ASTM B813 Liquid and Paste Fluxes for Soldering Applications of Copper and Copper Alloy Tube
- N. AWS A5.8 Brazing Filler Metal
- O. AWWA C104 Cement Mortar Lining for Ductile Iron Pipe and Fittings for Water
- P. AWWA C105 Polyethylene Encasement for Ductile Iron Piping for Water
- Q. AWWA C110 Ductile Iron and Gray Iron Fittings, 3 In. Through 48 In., for Water and Other Liquids
- R. AWWA C111 Rubber Gasket Joints for Ductile Iron and Gray Iron Pressure Pipe and Fittings
- S. AWWA C151 Ductile Iron Pipe, Centrifugally Cast in Metal Molds or Sand-Lined Molds for Water or Other Liquids

- T. AWWA C153 Ductile Iron Compact Fittings, 3 In. Through 48 In., for Water and Other Liquids
- U. AWWA C600 Installation of Ductile Iron Water Mains and Their Appurtenances
- V. AWWA C651 Disinfecting Water Mains

1.5 SHOP DRAWINGS

- A. Schedule from the contractor indicating the ASTM, AWWA or CISPI specification number of the pipe being proposed along with its type and grade if known at the time of submittal, and sufficient information to indicate the type and rating of fittings for each service.
- B. Statement from manufacturer on his letterhead that pipe furnished meets the ASTM, AWWA or CISPI specification contained in this section.

1.6 QUALITY ASSURANCE

- A. Substitution of Materials: Refer to Division 01 - Basic Requirements.
- B. Order all copper, cast iron and steel with each length marked with the name or trademark of the manufacturer and type of pipe; with each shipping unit marked with the purchase order number, metal or alloy designation, temper, size, and name of supplier.
- C. Any installed material not meeting the specification requirements must be replaced with material that meets these specifications without additional cost to the Owner.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Promptly inspect shipments to insure that the material is undamaged and complies with specifications.
- B. Cover pipe to prevent corrosion or deterioration while allowing sufficient ventilation to avoid condensation. Do not store materials directly on grade. Protect pipe, tube, and fitting ends so they are not damaged. Where end caps are provided or specified, take precautions so the caps remain in place. Protect fittings, flanges, and unions by storage inside or by durable, waterproof, above ground packaging.
- C. Storage and protection methods must allow inspection to verify products.

1.8 DESIGN CRITERIA

- A. Use only new material, free of defects, rust and scale, and meeting the latest revision of ASTM, AWWA or CISPI specifications as listed in this specification.
- B. Construct all piping for the highest pressures and temperatures in the respective system.

- C. Where ASTM B88, type L H (drawn) temper copper tubing is specified, ASTM B88, type K H (drawn) temper copper tubing may be substituted at Contractor's option.

PART 2 PRODUCTS

2.1 DOMESTIC WATER

- A. Above Ground:
 - 1. Type L copper water tube, H (drawn) temper, ASTM B88; wrought copper pressure fittings, ANSI B16.22; lead free (<.2%) solder, ASTM B32; flux, ASTM B813; copper phosphorous brazing alloy, AWS A5.8 BCuP.

2.2 DIELECTRIC UNIONS AND FLANGES

- A. Manufacturers: Watts Regulator Company, Lochinvar, Wilkins or EPCO Sales, Inc.
- B. Dielectric unions 2" and smaller; dielectric flanges 2" and larger; with iron female pipe thread to copper solder joint or brass female pipe thread end connections, non-asbestos gaskets, having a pressure rating of not less than 175 psig at 180 degrees.

2.3 UNIONS

- A. Unions, flanges and gasket materials to have a pressure rating of not less than 150 psig at 180 degrees. Gasket material for flanges and flanged fittings shall be teflon type. Treated paper gaskets are not acceptable.
- B. 2" AND SMALLER COPPER:
 - 1. ANSI B16.18 cast bronze union coupling or ANSI B15.24 Class 150 cast bronze flanges.

PART 3 EXECUTION

3.1 GENERAL

- A. Install pipe and fittings in accordance with reference standards, manufacturers recommendations and recognized industry practices.

3.2 PREPARATION

- A. Cut pipe ends square. Ream ends of piping to remove burrs. Clean scale and dirt from interior and exterior of each section of pipe and fitting prior to assembly.

3.3 ERECTION

- A. Install all piping parallel to building walls and ceilings and at heights which do not obstruct any portion of a window, doorway, stairway, or passageway. Where interferences develop in the field, offset or reroute piping as required to clear such

interferences. Coordinate locations of plumbing piping with piping, ductwork, conduit and equipment of other trades to allow sufficient clearances. In all cases, consult drawings for exact location of pipe spaces, ceiling heights, door and window openings, or other architectural details before installing piping.

- B. Maintain piping in clean condition internally during construction.
- C. Provide clearance for installation of insulation, access to valves and piping specialties.
- D. Provide anchors, expansion joints, swing joints and/or expansion loops so that piping may expand and contract without damage to itself, equipment, or building.
- E. Do not route piping through transformer vaults or above transformers, panelboards, or switchboards, including the required service space for this equipment, unless the piping is serving this equipment
- F. Install all valves and piping specialties, including items furnished by others, as specified and/or detailed. Provide access to valves and specialties for maintenance. Make connections to all equipment, fixtures and systems installed by others where same requires the piping services indicated in this section.

3.4 COPPER PIPE JOINTS

- A. Remove all slivers and burrs remaining from the cutting operation by reaming and filing both pipe surfaces. Clean fitting and tube with metal brush, emery cloth or sandpaper. Remove residue from the cleaning operation, apply flux and assemble joint to socket stop. Apply flame to fitting until solder melts when placed at joint. Remove flame and feed solder into joint until full penetration of cup and ring of solder appears. Wipe excess solder and flux from joint.

3.5 DOMESTIC WATER

- A. Maintain piping system in clean condition during installation. Remove dirt and debris from assembly of piping as work progresses. Cap open pipe ends where left unattended or subject to contamination.
- B. Install interior water piping with drain valves where indicated and at low points of system to allow complete drainage. Install shutoff valves where indicated to allow isolation of portions of system for repair. Do not install water piping within exterior walls.
- C. Prior to use, isolate and fill system with potable water. Allow to stand 24 hours. Flush each outlet proceeding from the service entrance to the furthest outlet for minimum of 1 minute and until water appears clear. Fill system with a solution of water and chlorine containing at least 50 parts per million of chlorine and allow to stand for 24 hours. Alternately a solution containing at least 200 parts per million of chlorine may be used and allowed to stand for 3 hours. Flush system with potable water until chlorine concentration is no higher than source water level.

- D. Wait 24 hours after final flushing. Take samples of water for lab testing. The number and location of samples shall be representative of the system size and configuration and are subject to approval by Engineer. Test shall show the absence of coliform bacteria. If test fails, repeat disinfection and testing procedures until no coliform bacteria are detected. Submit test report indicating date and time of test along with test results.

3.6 DIELECTRIC UNIONS

- A. Install dielectric unions or flanges at each point where a copper-to-steel pipe connection is required in domestic water systems.

3.7 UNIONS

- A. Install a union or flange at each connection to each piece of equipment and at other items which may require removal for maintenance, repair, or replacement. Where a valve is located at a piece of equipment, locate the flange or union connection on the equipment side of the valve. Concealed unions or flanges are not acceptable.

3.8 PIPING SYSTEM LEAK TESTS

- A. Isolate or remove components from system which are not rated for test pressure. Test piping in sections or entire system as required by sequence of construction. Do not insulate or conceal pipe until it has been successfully tested.
- B. If required for the additional pressure load under test, provide temporary restraints at fittings or expansion joints.
- C. For hydrostatic tests, use clean water and remove all air from the piping being tested by means of air vents or loosening of flanges/unions. Measure and record test pressure at the high point in the system.
- D. Inspect system for leaks. Where leaks occur, repair the area with new materials and repeat the test; caulking will not be acceptable.
- E. Entire test must be witnessed by the Owner’s Project Representative. All pressure tests are to be documented on forms to be provided to the contractor.

System	Test Medium	Initial Test		Final Test	
		Pressure	Duration	Pressure	Duration
Above Ground Domestic Water	Water	N/A	N/A	100 psig	8 hrs

END OF SECTION



PIPING SYSTEM TEST REPORT

DANE COUNTY PUBLIC SAFETY BUILDING
115 WEST DOTY STREET, MADISON, WISCONSIN
JAIL SHOWERS & SPLIT PODS IMPROVEMENTS - REBID
DANE COUNTY PUBLIC WORKS BID NO. 316037

PLEASE TYPE OR PRINT LEGIBLY

DATE SUBMITTED: _____ **CONTRACTOR:** _____

PLUMBING **FIRE SPRINKLER**

Test Medium: Air Water Other: _____

Test Performed Per Specification Section No.: _____

Specified Test Duration: _____ Hours Specified Test Pressure: _____ PSIG

System Identification: _____

Location Description: _____

Test Date _____	
Start Test Time: _____	Initial Pressure: _____ PSIG
Stop Test Time: _____	Final Pressure: _____ PSIG

Tested By: _____ Witnessed By: _____

Title: _____ Title: _____

Signed: _____ Signed: _____

Date: _____ Date: _____

Comments: _____

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SECTION 22 46 00

SECURITY PLUMBING FIXTURES

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Security Plumbing Fixtures

1.2 REFERENCES

- A. American Society of Mechanical Engineers:
 - 1. ASME A112.18.1 - Plumbing Fixture Fittings.

1.3 SUBMITTALS

- A. Product Data: Submit catalog illustrations of fixtures, sizes, utility sizes, trim, and finishes.
- B. Manufacturer's Installation Instructions: Submit installation methods and procedures.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: Submit fixture, trim, exploded view and replacement parts lists.
- B. Refer to 01 00 00 - Basic Requirements

PART 2 PRODUCTS

2.1 PENAL SHOWERS

- A. Bradley Corp. Model SXWS9557FM-TTST-SX or approved equal.
 - 1. **SH-1** Fixture shall be high security, penal type single head shower made of high quality type 304 stainless steel and be of heavy gauge of not less than 14 gauge with seamless welded surfaces. Shower must be able to be mounted and accessed from front of wall with welded secure stainless steel frame to be supplied by manufacturer for shower to attach to. Securing of frame to wall or stall is responsibility of installing contractor. Shower panel to have beveled edges to ensure tight fit to wall surface. Recessed soap dish, along with shower heads and push buttons are to be secured from back for vandal resistant and secure installation. Stainless steel security screws are required to attach shower panel to frame at six points and to be supplied by manufacturer.
 - 2. Shower head shall be severe service type shower head "SX" with fixed directional spray that has 2.5 gpm adjustable pattern by orifice with 1/8 inch

Allen wrench. All finishes shall be machined to #4 polished satin. Shower heads and buttons shall be brass and triple chrome plated.

3. Valving for single station shower shall be Bradley Touch Time electronic metering. Push button assembly will have self contained, integral electronic circuitry that controls operation and timing of 24V, 50/60 Hz, ½ amp electronic solenoid valve that is supplied, and will have timing of 180 seconds with each push button activation, and then shut off. Shower will operate on 24 volts by means of step down transformer such as Bradley 4RT transformer. One transformer is required per four solenoid valves.

B. Bradley Corp. Model SXWS 9148FM-TTST-SX or approved equal.

1. **SH-2** Fixture shall be high security, penal type dual head shower for both standard and ADA applications made of high quality type 304 stainless steel and be of heavy gauge of not less than 14 gauge with seamless welded surfaces. Shower must be able to be mounted and accessed from front of wall with welded secure stainless steel frame to be supplied by manufacturer for shower to attach to. Securing of frame to wall or stall is responsibility of installing contractor. Shower panel to have beveled edges to ensure tight fit to wall surface. Recessed soap dish, along with shower heads and push buttons are to be secured from back for vandal resistant and secure installation. Stainless steel security screws are required to attach shower panel to frame at ten points and to be supplied by manufacturer.
2. Shower heads shall be of severe service type shower head “SX” with fixed directional spray that has 2.5 gpm adjustable pattern by orifice with 1/8 inch Allen wrench. All finishes shall be machined to #4 polished satin. Shower heads and buttons shall be brass and triple chrome plated.
3. Valving for dual station shower shall each be Bradley Touch Time electronic metering. Push button assembly will have self contained, integral electronic circuitry that controls operation and timing of 24V, 50/60 Hz, ½ amp electronic solenoid valves that are supplied, and will have timing of 60 seconds with each push button activation, and then shut off. Shower will operate on 24 volts by means of step down transformer such as Bradley 4RT transformer. One transformer is required per four solenoids.

C. Acorn Engineering Co. fixtures would be acceptable as long as they can adapt to field conditions, and no modifications are to be made to accommodate their equipment.

2.2 TEMPERATURE MIXING VALVES

A. Bradley Corp. Model S59-2025-T-P-SE or approved equal.

1. **T-1** Thermostatic mixing valve shall be housed in 18 gauge surface mounted white enamel steel cabinet with cylinder lock. Valve shall have complete piped assembly with inlet and outlet shutoff ball valves. Valve shall be of lead free brass design with integral strainer check stops on inlets sides of valve. Valve to control temperature at minimum flow of 2 gpm and be pre- set at factory to 110 degrees Fahrenheit outlet temperature. Valve to have integral outlet dial thermometer on valve to be able to monitor outlet temperature at valve. Valve needs to have positive shut off in event of cold water supply loss. One valve shall be required per shower room.

2. **T-2** Same as tempering valve **T-1**, except less surface mounted steel cabinet.
- B. Acorn Engineering Co. valves would be acceptable as long as they can adapt to field conditions, and no modifications are to be made to accommodate their equipment.

2.3 LEAK DETECTION SYTEM

- A. Detectors - Water Alert Model SS or approved equal.
 1. Water alert detectors shall be activated by liquid bridging adjustable sensors. Detectors shall detect water film from zero height to 1/8" height. Units shall be factory adjusted to activate with 1/32" water film. Detector shall be constructed with 1/8" thick high-polystyrene & include nickel-gold plated adjustable sensing probes, corrosion resistant. Unit shall include 100 dB piezoelectric buzzer.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify walls and floor finishes are prepared and ready for installation of fixtures.
- B. Verify electric power is available and of correct characteristics.

3.2 PREPARATION

- A. Rough-in fixture piping connections in accordance with minimum sizes indicated in fixture rough-in schedule for particular fixtures.

3.3 INSTALLATION

- A. Install Work in accordance with State of Wisconsin code standards.

3.4 INTERFACE WITH OTHER PRODUCTS

- A. Review millwork shop-drawings. Confirm location and size of fixtures and openings before rough in and installation.

3.5 ADJUSTING

- A. Section 01 00 00 - Basic Requirements: Testing, adjusting, and balancing.
- B. Adjust stops or valves for intended water flow rate to fixtures without splashing, noise, or overflow.

3.6 CLEANING

- A. Clean plumbing fixtures and equipment.

3.7 PROTECTION OF INSTALLED CONSTRUCTION

- A. Installed construction shall be protected.
- B. Do not permit use of fixtures before final acceptance.

END OF SECTION

SECTION 23 01 30.51

HVAC AIR DUCT CLEANING

PART 1 GENERAL

1.1 SCOPE

- A. This section includes specifications for cleaning duct and HVAC systems on this project. Included are these topics:
- B. PART 1 - GENERAL
 - 1. Scope
 - 2. Reference
 - 3. Reference Standards
 - 4. Quality Assurance
 - 5. Shop Drawings
 - 6. Design Criteria
- C. PART 2 - PRODUCTS
 - 1. General
 - 2. Cleaners and Biocides
 - 3. Equipment
 - 4. Access Doors
- D. PART 3 - EXECUTION
 - 1. General
 - 2. Cleaning
 - 3. Biocides
 - 4. Cleaning Report
 - 5. Access Doors

1.2 REFERENCE

- A. Applicable provisions of Division 01 govern work under this Section.

1.3 REFERENCE STANDARDS

- A. NADCA 1992-01 Mechanical Cleaning of Non-Porous Air Conveyance System Components
National Air Duct Cleaners Association
- B. NADCA Understanding Microbial contamination in HVAC Systems
- C. NAIMA Cleaning Fibrous Glass Insulated Air Duct Systems

1.4 QUALITY ASSURANCE

- A. Refer to Division 01, Instructions to Bidders – Qualifications of Bidder and General Conditions - Equals and Substitutions.
- B. Regular Member in good standing of NADCA (National Air Duct Cleaners Association). Maintain membership for entire duration of the Work. Maintain staff of at least one Certified Air System Cleaning Specialist (ASCS). If membership of firm, or any certification of any staff performing work is terminated or expires during duration of the Work, contact Owner immediately.

1.5 SHOP DRAWINGS

- A. Refer to Division 01, Basic Requirements, Submittals.
- B. Include manufacturer's data and / or Contractor data for these:
 - 1. List of equipment to be used.
 - 2. Product description and MSDS sheets for cleaners and biocides.
 - 3. Access doors.

PART 2 PRODUCTS

2.1 GENERAL

- A. Use products which conform to NFPA 90A, possessing flame spread rating of not over 25 and smoke developed rating no higher than 50.

2.2 CLEANERS and BIOCIDES

- A. Manufacturer: H.B. Fuller / Foster, Porter, or approved equal.
- B. Cleaners and biocides shall be water-based products specifically designed for application to HVAC duct interiors and capable of being applied with airless spray equipment. Biocides must be colored differently than substrate to be coated.
- C. Biocidal agents to be formulated for long term fungicidal activity with no loss on aging. Biocidal agents must be registered with U.S. Environmental Protection Agency for use on interior of HVAC duct systems.
- D. Cured biocides must provide tough washable elastic protective finish able to withstand light impact or abrasion without breaking down over time or releasing fibers.

2.3 EQUIPMENT

- A. Particulate Collection Equipment: Fan / filter unit sized to create sufficient quantity of negative pressure for capture and filtration of air and contaminants dislodged during duct cleaning. Equipment to include pre-filtration and HEPA final filtration with 99.97% collection efficiency for 0.3 micron size particles.

- B. Portable pressure washers to be capable of 500 psig to 1000 psig operation.
- C. Power brush systems designed specifically for duct cleaning.

PART 3 EXECUTION

3.1 GENERAL

- A. Use products and equipment in accordance with manufacturers instructions.

3.2 CLEANING

- A. Clean ductwork systems and associated turning vanes, dampers, coils, VAV boxes, drain pans, plenums, diffusers, registers, grilles and louvers; air handling units and associated fans, coils, drain pans, plenums and dampers; fans; terminal units and other equipment described below:

<u>System / Component</u>	<u>Location</u>	<u>Action</u>
Supply Duct Systems	See drawings	Clean
Return Duct Systems	See drawings	Clean
Transfer Duct Systems	See drawings	Clean
Exhaust / Relief Duct Systems	See drawings	Clean
Outside Air / Mixed Air Duct Systems	See drawings	Clean

- B. Visually inspect systems and site prior to cleaning. Document and report damaged system components to Owner's Construction Representative prior to cleaning. Mark damper and other component positions prior to cleaning and reset after cleaning to original position. Establish specific, coordinated plan detailing how each area of building will be protected during various phases of the Work.
- C. Protect building occupants, components and furnishings from cleaning activities. Use polyethylene sheeting covers and barriers where cleaning will disperse debris outside HVAC systems. Install critical barriers within building, at inlets / outlets and within system to prevent migration of dust and debris to clean areas.
- D. Use particulate collection equipment to remove and capture debris. Connect to system downstream of cleaning operations. Wherever possible, duct exhaust to exterior of building. Avoid discharge near air intakes and points of entry. Arrange source of makeup air to flow from clean area to work area negatively pressurizing work area. Take measures to control offensive odors and vapors during cleaning process.
- E. Clean systems using mechanical cleaning methods, such as vacuum cleaning, compressed air sweeping and mechanical brushing, designed to extract contaminants from within HVAC system and safely remove contaminants from facility. No cleaning methods are to be used which damage components of system or negatively alter integrity of system.
- F. Clean fibrous glass thermal or acoustical insulation with HEPA vacuuming equipment. Document locations of damage, deterioration, delamination, mold, fungus growth or excessive moisture which cannot be restored by cleaning or resurfacing with repair

coating. Report locations and conditions to Architect / Engineer and Owner's Project Representative for determination of removal and / or replacement.

- G. Where fibrous glass thermal or acoustical insulation is to be removed, scrape and brush metal clean. Remove loose fasteners, weld pins where required for cleaning work and sheet metal covers associated with insulation. Patch and seal fastener openings.
- H. Owner shall clean coils to restore pressure drop to within 10% of design rating. Where design rating is unknown, coils must be cleaned free of foreign material and chemical residue. Cleaning methods used must not bend, erode or damage coil surfaces, fins or tubes. Clean coil drain pans and drain. Make drain fully operational. Where wet methods are used, thoroughly rinse coils and drains pans with clean water to remove latent residues. Provide temporary drain pans below coils without drain pans to capture water.
- I. Where systems and equipment containing filters are cleaned, obtain replacement filters from building occupant and replace existing filters.
- J. Verification of HVAC system cleanliness will be performed after cleaning and prior to application of biocides. Contractor shall notify Owner's Construction Representative and Architect / Engineer in advance of verification. Verification will consist of inspection by Contractor, Owner's Construction Representative and / or Architect / Engineer. If surfaces are visibly clean, no contaminants are evident through visual inspection and coils are within 10% of design pressure drop, HVAC system shall be considered clean. However Owner reserves right to further verify system cleanliness through third party gravimetric or wipe testing analysis per NADCA standards.

3.3 BIOCIDES

- A. Biocides are to be applied only after cleaning and verification have been completed and surfaces are dry. System fans are to remain off and critical barriers maintained to prevent migration of biocides from HVAC systems.
- B. Apply biocides to these surfaces which are suspected of or have been tested and verified for microbial contamination:
 - 1. Plenums and ductwork around and 5' downstream of cooling coils and humidifiers.
 - 2. Cooling coil drain pans.
 - 3. Outdoor air intake drain pans.
- C. Biocides to be directly sprayed (not fogged), brushed or rolled onto surfaces to achieve continuous film of thickness recommended by manufacturer. Increase application rate on porous or rough surfaces. Protect coils, fan blades, bearings, damper linkages and seals, fire / smoke dampers, humidifiers, airflow sensors, pressure sensors, temperature sensors and humidity sensors during application of biocides. Clean any overspray from these components immediately. Allow products to fully cure prior to using HVAC systems. Operate systems during unoccupied hours flushing with fresh air to purge system prior to occupied use.

3.4 CLEANING REPORT

- A. Provide a report describing pre-cleaning inspection and damage, systems cleaned, methods and materials used, problems encountered, final verification and any remaining problems noted. Submit three (3) copies to Owner's Construction Representative.

3.5 ACCESS DOORS

- A. Install access doors where access is required for cleaning or inspection.
- B. Size and numbers of duct access doors to be sufficient to perform intended service. Minimum access door size shall be 8 x 8 inch size for hand access, 18 x 18 inch size for shoulder access, or other size as indicated. Install access doors on both inlet and outlet sides of reheat coils as well as other duct mounted coils if not existing.

END OF SECTION