



# JOLIET JUNIOR COLLEGE

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1901

(Business & Auxiliary Services)  
1215 Houbolt Road  
Joliet, Illinois 60431-8938

## INSTRUCTIONS TO BIDDERS

Sealed proposals are invited for PROSTHETICS LAB DUST COLLECTOR SYSTEM pursuant to specifications.

### **PROPOSALS:**

Proposals will be received and publicly read aloud by the Joliet Junior College District #525, Joliet, Will County, Illinois, at the place, date and time hereinafter designated. You are invited to be present if you so desire.

**PLACE:** Joliet Junior College District #525  
Office of Facility Services  
L-BUILDING Room #L1005  
1215 Houbolt Road  
Joliet, IL 60431-8938

**DATE:** MARCH 25, 2014

### FAXES ARE NOT ACCEPTABLE

**TIME:** 9:00 AM

Proposals received after this time will not be accepted.

Proposals must be made in accordance with the instructions contained herein. They shall be submitted on the forms provided on the College's website in a sealed envelope addressed to the Director of Business & Auxiliary Services, L-Building Room L1005, plainly marked, with the Bidder's Name and Address and the notation:

**BID:** PROSTHETICS LAB DUST COLLECTOR SYSTEM

### **PRE-BID MEETING:**

A mandatory pre-bid meeting will be held on March 13, 2014 at 9:00 AM. The meeting will be at the Main Campus, L Building, Room L1005, 1215 Houbolt Road, Joliet, IL. Bidders who do not attend the mandatory pre-bid meeting will have their bid returned unopened.

**DELIVERY:**

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All prices must be quoted F.O.B., Joliet Junior College, 1215 Houbolt Road, Joliet, IL 60431 unless otherwise noted.

**TAX EXEMPTION:**

Joliet Junior College District #525 is exempt from Federal, State, and Municipal taxes.

**SIGNATURE ON BIDS:**

Joliet Junior College District #525 requires the signature on bid documents to be that of an authorized representative of said company.

Each bidder, by making his bid, represents that he has read and understands the bidding documents and that these instructions to bidders are a part of the specifications.

**BIDDING PROCEDURES:**

1. No bid shall be modified, withdrawn, or cancelled for sixty (60) days after the bid opening date without the consent of the College Board of Trustees.
2. Changes or corrections may be made in the bid documents after they have been issued and before bids are received. In such case, a written addendum describing the change or correction will be issued by the College to all bidders of record. Such addendum shall take precedence over that portion of the documents concerned, and shall become part of the bid documents. Except in unusual cases, addendum will be issued to reach the bidders at least five (5) days prior to date established for receipt of bids.
3. Each bidder shall carefully examine all bid documents and all addenda thereto, and shall thoroughly familiarize themselves with the detailed requirements thereof prior to submitting a proposal. Should a bidder find discrepancies or ambiguities in, or omissions from documents, or should they be in doubt as to their meaning, they shall, at once, and in any event, not later than ten (10) days prior to bid due date, notify the College who will, if necessary, send written addendum to all bidders. The college will not be responsible for any oral instructions. All inquiries shall be directed to the Director of Business & Auxiliary Services. After bids are received, no allowance will be made for oversight by bidder.

**SUBSTITUTIONS:**

1. Each bidder represents that his bid is based upon the materials and equipment described in the bidding documents.
2. Any dealer bidding an equal product must specify brand name, model number, and supply specifications of product. The Board shall be the sole judge of whether an article shall be deemed to be equal.
3. A bidder's failure to meet the minimum specifications as listed may result in disqualification of his bid.

**REJECTION OF BIDS:**

The bidder acknowledges the right of the College Board to reject any or all proposals and to waive informality or irregularity in any proposal received and to award each item to different bidders or all items to a single bidder. In addition, the bidder recognizes the right of the College Board to reject a

proposal if the proposal is in any way incomplete or irregular. The College Board may also award, at its discretion, only certain items quoted on. The College Board also reserves the right to reject the proposal of a Bidder who has previously failed to perform properly or complete on time contracts of a similar nature or a bid of a Bidder when investigation shows that Bidder is not in a position to perform the contract.

**ACKNOWLEDGEMENT OF ADDENDA:**

Signature of company official on original document shall be construed as acknowledgement of receipt of any and all addenda pertaining to this specific proposal. Identification by number of addenda and date issued should be noted on all proposals submitted.

**FAILURE TO ACKNOWLEDGE RECEIPT OF ADDENDA ON PROPOSAL SUBMITTED MAY RESULT IN DISQUALIFICATION OF PROPOSAL.**

**Bidders who obtain a copy of the bid from our web site are responsible for checking back on the site for any addenda issued.**

**CLERICAL ERRORS:**

If applicable, all errors in price extensions will be corrected by Joliet Junior College and totals for award determination corrected accordingly, unless the bidder specifies that no change be made in the total submitted. In this case, all incorrect price extensions will be noted at "lot", and award determination made on the basis of total price submitted.

**SAMPLES:**

Bidder may be required to furnish samples upon request and without charge to the College.

**BID SECURITY:**

A certified check or bank draft or bid bond, made payable to Joliet Junior College District #525, Will County, Illinois, **MUST** be submitted with the bid in the amount of **ten (10) percent of your total bid**. The bid security will be forfeited by the successful bidder in the event of the bidders failure to enter into a contract. Checks or drafts of unsuccessful bidders will be returned as soon as practicable after opening and checking the bids.

**PAYMENTS:**

Certified Payroll

1. With each pay application, contractors shall submit certified payroll in a format acceptable to Junior College District #525.

Partial Lien Waivers

1. The contractors' partial lien waiver, for the full amount of the payment, shall accompany the first payment application. Each subsequent payment application shall be accompanied by the contractor's partial waiver, and by partial waivers from all subcontractors and suppliers who were included in the immediately preceding payment application, to the extent of that payment.
2. Lien waivers from the Contractor and all subcontractors and suppliers shall accompany the first payment application when the amount of payment exceeds 50 percent of the total contract sum.

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Final Lien Waivers: The contractor's request for final payment shall include:

1. The contractor's final lien waiver in the full amount of the contract.
2. Final lien waivers in the full amount of their contracts from all subcontractors and suppliers for which final lien waivers have not previously been submitted.

## **INSURANCE:**

The successful bidder will be required to furnish a certificate of insurance in the following amounts:

The insurance coverage required here-in-under shall be the minimum amounts maintained by the Contractor and Subcontractors until all Work is completed and accepted by the Owner.

The Contractor will purchase and maintain "all risks" Builder's Risk property insurance subject only to such exclusions as have been specifically approved by the Owner in writing.

### **A. Workers Compensation**

1. State: Statutory
2. Applicable Federal: Statutory
3. Employer's Liability:
  - a. \$1,000,000 per Accident
  - b. \$1,000,000 Occupational Disease

### **B. Commercial Comprehensive Liability**

1. Each Occurrence: \$2,000,000
2. Products/Completed Operations Aggregate: \$2,000,000
3. Personal/Advertising Injury: \$2,000,000
4. General Aggregate: \$2,000,000
5. Policy shall include: \$2,000,000
  - a. Premises: Operations
  - b. Independent Contractors Liability
  - c. Products and Completed Operations: Maintained for minimum of one year after date of final Certificate for Payment, in full amount of the limits specified above.
  - d. Contractual Liability
  - e. Coverage for explosion (x), collapse (c), and underground (u).
6. The Commercial Comprehensive Liability policy shall include a contractual liability endorsement insuring the indemnity required by the contract. The indemnities shall be named as additional insured on the Contractor's Commercial Comprehensive Liability policy using Form CG 20 10 or its equivalent and shall name Joliet Junior College, its Board of Trustees, officers, employees and agents as additional insured's at a minimum. The Contractor hereby agrees to effectuate the naming of such additional insured's as unrestricted additional insured's on the Contractor's policy. The additional insured endorsement shall provide the following:
  - a. That the coverage afforded the additional insurance will be primary insurance for the additional insurance with respect to claims arising out of operations performed by or on behalf of the Contractor.

- b. That the policy shall contain a thirty (30) day notice of cancellation prior to the effective date thereof.
- c. That the additional insureds have other insurance which is applicable to the loss, such other insurance will be on an excess or contingent basis.
- d. That the amount of the company's liability under the insurance policy will not be reduced by the existence of such other insurance.
- e. That the additional insureds will not be given less than thirty (30) days prior written notice of any cancellation thereof.
- f. That the Contractor agrees to indemnify the College for any applicable deductibles.
- g. That the insurance policy from an A.M. Best rated "secured" Illinois State licensed insurer.
- h. The Contractor shall provide the College with a copy of its insurance policy or in the alternative and subject to the College's agreement, an excerpt of a page from the actual policy evidencing the additional insureds as provided for herein.
- i. Contactor acknowledges that failure to obtain such insurance on behalf of the College constitutes a material breach of the contract and subjects Contractor to liability for damages, indemnification and all other legal remedies available to College. The Contractor is to provide the College at all times with a certificate of insurance, evidencing the above requirements have been met. The failure of the College to object to the contents of the certificate or the absence of it shall not be deemed a waiver of any and all rights held by the College.
- j. That enclosed is a copy of the endorsement providing additional insured's status and that the Contractor will furnish a Certificate of insurance evidencing the foregoing provisions.
- k. Please include clause below in the policy:  
It is agreed that Joliet Junior College, its Board of Trustees, officers, employees, agents and (Architect/Engineer Name) are additional insureds on the policy.

C. Business Auto Liability (including owned, non-owned and hired vehicles).

- 1. Bodily injury
  - a. \$1,000,000 per person
  - b. \$2,000,000 per accident
- 2. Property damage: \$1,000,000      OR
- 3. Combined Single limit: \$1,000,000

D. Umbrella

- 1. Umbrella Excess Liability: \$4,000,000
- 2. If the Contractor's Workers Compensation, Commercial General Liability and Business Auto policies do not have these minimum limits, an Umbrella policy written by an insurance company acceptable to the Owner may be used to meet the minimum limits required.

All such policies of insurance shall be written by companies approved by the College and Certificates of Insurance shall be furnished to the College. The College shall be listed as an additional insured under such policies. Each policy shall require at least 30 days notice to the College in the event of cancellation. The contractor agrees to indemnify, defend, and hold harmless the College from and against all suits or claims, which may be based upon any injury to or death of any person or persons or damage to property, which may occur or which may be alleged to have occurred in the course of the performance of this Agreement by the Contractor, whether such sum claim shall be made by an employee of the Contractor, by a third person or their representatives, or whether or not it shall be claimed that the said injury, death, or damage or cause through a negligence act or omission of the Contractor; and the all charges of attorneys and all costs and other expenses arising there from or incurred in connection therewith; and if any judgment shall be rendered against the College in any such action or actions, the Contractor, at its own expense, shall satisfy and discharge the same.

**PERFORMANCE BONDS:**

The successful bidder on this proposal must furnish a performance bond and a labor and material payment bond made out to Junior College District #525, prepared on an approved form, as security for the faithful performance of their contract, within ten (10) days of their notification that their bid has been accepted. The surety thereon must be such surety company or companies as are authorized and licensed to transact business in the State of Illinois and have an A-XIV best rating. Attorneys in fact who sign bid bonds must file with each bond a certified copy of their power of attorney to sign said bonds. The performance bond is an amount equal to one hundred and ten percent (110%) of the contract sum. Such bonds shall be in force from the date of signing of the contract until one year after issuing of final certificate of payment. The cost of the bonds shall be included in the bidder's proposal.

**LAWS AND ORDINANCES:**

In execution of the work, the Contractor shall comply with applicable state and local laws, ordinances and regulation, the rules and regulations of the Board of Fire Underwriters, and OSHA standards.

**SEX OFFENDER REGISTRATION REQUIREMENT NOTIFICATION:**

Illinois Compiled Statutes (730 ILCS 150/2) requires that any person who is required by law to register as a sex offender and who is either a student or an employee at an institution of higher education, must also register with the police department of the institution they are employed by or attending. For purposes of this act, a student or employee is defined as anyone working at or attending the institution for a period of five (5) days or an aggregate period of more than thirty (30) days during a calendar year. This includes persons operating as or employed by an outside contractor at the institution. Anyone meeting the above requirements is required to register at the Campus Police Department located in G1013, within five (5) days of enrolling or becoming employed. Persons failing to register are subject to criminal prosecution.

**DAMAGE AND NEGLIGENCE:**

The Contractor agrees to indemnify and save harmless the College and employees from and against all loss, including costs and attorney's fees, by reasons or liability imposed by law upon the College for damages because of bodily injury, including death at any time resulting therefrom, sustained by any person or persons or on account of damage to property including loss of use thereof as provided

in the General Conditions and Supplementary Conditions.

College shall not be responsible for damages, delays, or failure to perform on its part resulting from acts or occurrences of force majeure. "Force majeure" means any (a) act of God, landslide, lightning, earthquake, hurricane, tornado, blizzard, floods and other adverse and inclement weather conditions; (b) fire, explosion, flood, acts of a public enemy, war, blockade, insurrection, riot or civil disturbance; (c) labor dispute, strike, work slow down, picketing, primary boycotts, secondary boycotts or boycotts of any kind and nature, or work stoppages; (d) any law, order, regulation ordinance, or requirement of any government or legal body or any representative of any such government or legal body; (e) inability to secure necessary materials, equipment, parts or other components of the project as a result of transportation difficulties, fuel or energy shortages, or acts or omission of any common carriers; or (f) any other similar cause or similar event beyond the reasonable control of College.

#### **INVESTIGATION OF BIDDERS:**

The College will make any necessary investigation to determine the ability of the bidder to fulfill the proposal requirements. Joliet Junior College reserves the right to reject any proposal if it is determined that the bidder is not properly qualified to carry out the obligation of the contract.

#### **APPRENTICESHIP AND TRAINING PROGRAMS:**

The bidder and all bidder's subcontractors must participate in applicable apprenticeship and training programs approved by and registered with the United States Department of Labor Bureau of Apprenticeship and Training. The apprenticeship and training programs(s) must be in the same trade in which the firm shall be performing work on behalf of the College under the Contract. This provision shall not apply to federally funded construction projects if, in the opinion of College, such application would jeopardize the receipt or use of federal funds in support of such project.

**A STATEMENT TO THE ABOVE EFFECT HAS BEEN ADDED TO THE BID FORM. BIDDERS MUST BE A MEMBER OF AN APPROVED APPRENTICESHIP PROGRAM PRIOR TO BID OPENING ON THE PROJECT. FAILURE TO LIST REQUIRED INFORMATION MAY RESULT IN DISQUALIFICATION OF BID".**

#### **SUBCONTRACTORS:**

Bidders must state on the proposal form all subcontractors he intends to use for this project. Failure to do so may be cause for rejection of bid.

#### **PREVAILING WAGE RATE:**

The successful bidder must pay not less than the prevailing hourly wage rate determined by the Illinois Department of Labor for the county where the contract is executed and the craft or type of worker needed to execute the contract. See the prevailing wage scale attached.

If, during the course of work under this contract, the Department of Labor revises the prevailing rate hourly wages to be paid under this contract for any trade or occupation, Owner, will notify Contractor and each Subcontractor of the changes in the prevailing rate of hourly wages. Contractor shall have the sole responsibility and duty to ensure that the revised prevailing rate of hourly wages is paid by contractor and all Subcontractors to each worker to whom a revised rate is applicable. Revisions to the prevailing wage as set forth above shall not result in an increase in the Contract Sum.

In compliance with the Office of the Attorney General the following is also required of all bidders:

**Payment of Prevailing Wage:**

- The Act requires that all laborers, workers and mechanics employed by or on behalf of a public body in the construction of public works be paid the general prevailing rate of hourly wages (including allotments for training and approved apprenticeship programs, health and welfare, insurance, vacation and pension benefits) for work of a similar character in the locality in which the work is performed. See 820 ILCS 103/3. The Act contains all relevant definitions, including those for the terms “public body”, “public works” and “general prevailing rate of hourly wages”, which will assist you in the understanding its requirements and your responsibilities. See 820 ILCS 130/2.
- The Illinois Department of Labor publishes the current prevailing wage rate. See <http://www.state.il.us/agency/idol/rates/rates.htm>. The rate is revised regularly and such revision takes effect immediately.

**Specifications and Contractual Language:**

- Public bodies must insert a provision or stipulation requiring the payment of the prevailing wage rate into every public works resolution or ordinance, call for bids, project specification and contract. See 820 ILCS 130/4(a).
- Contractors and subcontractors must insert a provision or stipulation regarding the payment of the prevailing wage rate into every public works project and bid specification, subcontract, and contractor’s bond. See 820 ILCS 130/4(b), (c).
- Contractors or construction managers who have been awarded public works contracts must post the relevant prevailing wage rate(s) at a location on the project site that is easily accessible by workers. See 820 ILCS 130/4(f).

**Record-Keeping Responsibilities:**

- All contractors and subcontractors must create and keep for at least three years, records of all laborers, mechanics, and other workers employed by them on a public works project. See 820 ILCS 130/5(a) (1).
- These records must include each worker’s name, address, telephone number (if available), social security number, classification(s), hourly wages paid in each pay period, number of hours worked each day, and the starting and ending times of each work day. Each contractor and subcontractor is required to make these records available for inspection by the public body’s agents or Illinois Department of Labor officials at a reasonable time and place upon seven business days notice. See 820 ILCS 130/5(a) (1), (b).

**Certified Payroll Records:**

- A contractor or subcontractor participating in a public works project must also submit a Certified Payroll the public body every month. This Certified Payroll must consist of a complete copy of the records required to be kept under Section 5(a)(1) of the Act, discussed above (with the exception of daily work starting and ending times). See 820 ILCS 130/5(a)(2).
- The monthly Certified Payroll shall also include a statement signed by the contractor or subcontractor submitting that: (1) the records are true and accurate; (2) the hourly rate paid to each worker is not less than the general prevailing wage rate required; and (3) the contractor or subcontractor is aware that filing a Certified Payroll that he or she knows to be false in a



class B misdemeanor. See 820 ILCS 130/5(a)(2).

- The Act requires that a public body shall keep all Certified Payrolls submitted pursuant to the Act for at least three years. See 820 ILCS 130/5(a)(2). The retention of these monthly Certified Payroll submissions for three years by public bodies is crucial to the State of Illinois' efforts to enforce the Act and will be of particular interest to the Attorney General's office in the coming months.

Failure to comply with the Act's Requirements:

- No public works project may be instituted unless the provisions of the Act have been met. The Illinois Department of Labor is empowered to sue for injunctive relief against the awarding of any public works contract, or continuation of work under any such contract, if it is not in compliance with the Act's prerequisites. Contracts that are not in compliance with the Act's prerequisites are void as against public policy. See 820 ILCS 103/11.

Please note that this is not a complete list of all relevant requirements and prerequisites under the Act. All contractors and subcontractors rendering services under this contract must comply with all requirements of the Act, including but not limited to, all wage, notice and record keeping duties. For a full understanding of all of the Act's requirements and prerequisites, as well as the text of the Act and all related regulations, please see the Illinois Department of Labor's website at [www.state.il.us/agency/idol/laws/Law130.htm](http://www.state.il.us/agency/idol/laws/Law130.htm).

**BLACKOUT PERIOD:**

After the College has advertised for bids, no pre-bid vendor shall contact any College officer(s) or employee(s) involved in the solicitation process, except for interpretation of bid specifications, clarification of bid submission requirements or any information pertaining to pre-bid conferences. Such bidders or sub-bidders making such request shall be made in writing at least seven (7) days prior to the date for receipt of bids. No vendor shall visit or contact any College officers or employees until after the bids are awarded, except in those instances when site inspection is a prerequisite for the submission of a bid. During the black-out period, any such visitation, solicitation or sales call by any representative of a prospective vendor in violation of this provision may cause the disqualification of such bidder's response.

**OTHER:**

This contract is subject to and governed by the rules and regulations of the Illinois Human Rights Act. The Customer reserves the right to request additional information after your proposal has been submitted.

**BID QUANTITIES:**

The College Board will reserve the right to increase or decrease, within reasonable limits, such quantities as need requires and at the unit price stated.

**BID AWARDS:**

The successful contractor, and/or any contractor shall not proceed on this bid until it receives a purchase order from the college. Failure to comply is the risk of that contractor.

**TERMINATION OF FUNDING:**

JJC's contractual obligations will be subject to termination and cancellation without penalty, accelerated payment, or other recoupment mechanism as provided herein in any fiscal year for which

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the Illinois General Assembly or other legally applicable funding source fails to make an appropriation to make payments under the terms of this Contract. In the event of termination for lack of appropriation, the Vendor shall be paid for services performed under this Contract up to the effective date of termination. JJC shall give notice of such termination for funding as soon as practicable after JJC becomes aware of the failure of funding.

**CHANGES TO CONTRACT AFTER BID AWARD:**

There shall be no deviations from any work without a written change order. All change orders must be approved by the Director of Business & Auxiliary Services or Vice President of Administrative Services as well as executed by the successful contractor.

If a change order or aggregate of change orders are 10% or more of the contract price, and such change orders are not approved, in writing, by either the Director of Business & Auxiliary Services or Vice President of Administrative Services, the successful contractor shall not be entitled to any type of compensation for services or materials provided.

**GENERAL:**

Joliet Junior College is committed to a policy of non-discrimination on the basis of sex, handicap, race, color, and national or ethnic origin in the admission, employment, educational programs, and activities it operates. Inquiries should be addressed to the Director of Human Resources.

The contractor (or vendor) shall agree to save and hold harmless the Joliet Junior College District #525, the members of its College Board, its agents, servants and employees, from any and all actions or causes of action, or claim for damages, including the expense of defending suit, arising or growing out of the performance of, or failure to perform its contract.



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Janice Reedus  
Director of Business & Auxiliary Services

JOLIET JUNIOR COLLEGE  
ILLINOIS COMMUNITY COLLEGE DISTRICT #525  
(Business & Auxiliary Services)  
1215 Houbolt Road  
Joliet, Illinois 60431-8938  
Telephone: (815) 280-6640  
Fax: (815) 280-6631

**INFORMATION PERTAINING TO OUR BIDS CAN BE FOUND AT THE FOLLOWING WEBSITE:**  
**<http://www.jjc.edu/info/purchasing>**

**QUESTIONS PERTAINING TO OUR BIDS CAN BE EMAILED TO:**  
**[purchasing@jjc.edu](mailto:purchasing@jjc.edu)**

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DEMOLITION**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

A. Selective demolition of building elements for alteration purposes.

**1.02 REFERENCE STANDARDS**

A. 29 CFR 1926 - U.S. Occupational Safety and Health Standards; current edition.

B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2009.

**1.03 SUBMITTALS**

A. Demolition Plan: Submit demolition plan as specified by OSHA and local authorities.

1. Indicate extent of demolition, removal sequence, bracing and shoring, and location and construction of barricades and fences.
2. Identify demolition firm and submit qualifications.
3. Include a summary of safety procedures.

B. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

**1.04 QUALITY ASSURANCE**

A. Demolition Firm Qualifications: Company specializing in the type of work required.

1. Minimum of 3 years of documented experience.

**PART 2 PRODUCTS -- NOT USED**

**PART 3 EXECUTION**

**3.01 SCOPE**

A. Remove portions of existing building components as shown on the drawings.

B. Remove other items indicated, for salvage, relocation, and recycling.

**3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS**

A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.

1. Obtain required permits.
2. Comply with applicable requirements of NFPA 241.
3. Use of explosives is not permitted.
4. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
5. Provide, erect, and maintain temporary barriers and security devices.
6. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.

7. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
  8. Do not close or obstruct roadways or sidewalks without permit.
  9. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
- B. Do not begin removal until receipt of notification to proceed from Owner.
  - C. Do not begin removal until built elements to be salvaged or relocated have been removed.
  - D. Protect existing structures and other elements that are not to be removed.
    1. Provide bracing and shoring.
    2. Prevent movement or settlement of adjacent structures.
    3. Stop work immediately if adjacent structures appear to be in danger.
  - E. Minimize production of dust due to demolition operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.
  - F. If hazardous materials are discovered during removal operations, stop work and notify Architect/Engineer and Owner; hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.
  - G. Perform demolition in a manner that maximizes salvage and recycling of materials.
    1. Dismantle existing construction and separate materials.
    2. Set aside reusable, recyclable, and salvageable materials; store and deliver to collection point or point of reuse.

### **3.03 EXISTING UTILITIES**

- A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.
- B. Protect existing utilities to remain from damage.
- C. Do not disrupt public utilities without permit from authority having jurisdiction.
- D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.
- E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.
- F. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.
- G. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

### **3.04 SELECTIVE DEMOLITION FOR ALTERATIONS**

- A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
  - 1. Verify that construction and utility arrangements are as shown.
  - 2. Report discrepancies to Architect/Engineer before disturbing existing installation.
  - 3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.
- B. Separate areas in which demolition is being conducted from other areas that are still occupied.
  - 1. Provide, erect, and maintain temporary dustproof partitions of construction wood and polyethylene plastic sheeting to separate construction areas from owner occupied spaces and to protect owner fixtures, furniture and equipment from dust contamination.
- C. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
- D. Remove existing work as indicated and as required to accomplish new work.
  - 1. Remove rotted wood, corroded metals, and deteriorated masonry and concrete; replace with new construction specified.
  - 2. Remove items indicated on drawings.
- E. Services (Including but not limited to HVAC, Fire Protection, and Electrical): Remove existing systems and equipment as indicated.
  - 1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components.
  - 2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
  - 3. Verify that abandoned services serve only abandoned facilities before removal.
  - 4. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification.
- F. Protect existing work to remain.
  - 1. Prevent movement of structure; provide shoring and bracing if necessary.
  - 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
  - 3. Repair adjacent construction and finishes damaged during removal work.
  - 4. Patch as specified for patching new work.

### **3.05 DEBRIS AND WASTE REMOVAL**

- A. Remove debris, junk, and trash from site.
- B. Leave site in clean condition, ready for subsequent work.
- C. Clean up spillage and wind-blown debris from public and private lands.

**END OF SECTION**



**SECTION 03 30 00  
CAST-IN-PLACE CONCRETE**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Concrete formwork.
- B. Concrete reinforcement.
- C. Miscellaneous concrete elements, including equipment pads.
- D. Concrete curing.

**1.02 REFERENCE STANDARDS**

- A. ACI 117 - Standard Specifications for Tolerances for Concrete Construction and Materials; American Concrete Institute International; 2010.
- B. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete; American Concrete Institute International; 1991 (Reapproved 2002).
- C. ACI 301 - Specifications for Structural Concrete; American Concrete Institute International; 2010.
- D. ACI 302.1R - Guide for Concrete Floor and Slab Construction; American Concrete Institute International; 2004 (errata 2007).
- E. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; American Concrete Institute International; 2000.
- F. ACI 305R - Hot Weather Concreting; American Concrete Institute International; 2010.
- G. ACI 306R - Cold Weather Concreting; American Concrete Institute International; 2010.
- H. ACI 308R - Guide to Curing Concrete; American Concrete Institute International; 2001 (Reapproved 2008).
- I. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; American Concrete Institute International; 2011.
- J. ACI 347 - Guide to Formwork for Concrete; American Concrete Institute International; 2004.
- K. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon Billet-Steel Bars for Concrete Reinforcement; 2012.
- L. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2013.
- M. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2013.
- N. ASTM C150/C150M - Standard Specification for Portland Cement; 2012.
- O. ASTM C171 - Standard Specification for Sheet Materials for Curing Concrete; 2007.
- P. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete; 2011.

- Q. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete; 2013.
- R. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2012.

### **1.03 SUBMITTALS**

- A. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions.
- B. Mix Designs: Submit 15 days prior to start of work.
  - 1. Submit for each type of concrete specified.
  - 2. Include back-up test data.
  - 3. Indicate proposed mix design complies with requirements of ACI 301, Section 4 - Concrete Mixtures.
  - 4. Indicate proposed mix design complies with requirements of ACI 318, Chapter 5 - Concrete Quality, Mixing and Placing.

### **1.04 QUALITY ASSURANCE**

- A. Perform work of this section in accordance with ACI 301 and ACI 318.
- B. Acquire cement from same source and aggregate from same source for entire project.
- C. Follow recommendations of ACI 305R when concreting during hot weather.
- D. Follow recommendations of ACI 306R when concreting during cold weather.

## **PART 2 PRODUCTS**

### **2.01 FORMWORK**

- A. Formwork Design and Construction: Comply with guidelines of ACI 347 to provide formwork that will produce concrete complying with tolerances of ACI 117.
- B. Form Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.
  - 1. Form Coating: Release agent that will not adversely affect concrete or interfere with application of coatings.
  - 2. Form Ties: Cone snap type that will leave no metal within 1-1/2 inches of concrete surface.

### **2.02 REINFORCEMENT**

- A. Reinforcing Steel: ASTM A615/A615M Grade 60 (420).
  - 1. Type: Deformed billet-steel bars.
  - 2. Finish: Unfinished.
- B. Reinforcement Accessories:
  - 1. Tie Wire: Annealed, minimum 16 gage.
  - 2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement.

### **2.03 CONCRETE MATERIALS**

- A. Cement: ASTM C150, Type I - Normal Portland type.
- B. Fine and Coarse Aggregates: ASTM C 33.
- C. Fly Ash: ASTM C618, Class C.
- D. Water: Clean and not detrimental to concrete.

### **2.04 ADMIXTURES**

- A. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.
- B. High Range Water Reducing and Retarding Admixture: ASTM C494/C494M Type G.
- C. High Range Water Reducing Admixture: ASTM C494/C494M Type F.
- D. Water Reducing and Accelerating Admixture: ASTM C494/C494M Type E.
- E. Water Reducing and Retarding Admixture: ASTM C494/C494M Type D.
- F. Accelerating Admixture: ASTM C494/C494M Type C.
- G. Retarding Admixture: ASTM C494/C494M Type B.
- H. Water Reducing Admixture: ASTM C494/C494M Type A.

### **2.05 ACCESSORY MATERIALS**

- A. Liquid Curing Compound: ASTM C 309, Type 1, clear or translucent.

### **2.06 CURING MATERIALS**

- A. Curing Compound, Naturally Dissipating: Clear, water-based, liquid membrane-forming compound, that dissipates within 3 to 5 weeks; complying with ASTM C309.
- B. Water: Potable, not detrimental to concrete.

### **2.07 CONCRETE MIX DESIGN**

- A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.
- B. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI 301.
  - 1. For trial mixtures method, employ independent testing agency acceptable to Architect/Engineer for preparing and reporting proposed mix designs.
- C. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended by manufacturer. Submit to Architect for review and approval.
- D. Normal Weight Concrete: Type "D".
  - 1. Compressive Strength, when tested in accordance with ASTM C 39/C 39M at 28 days: 4,500 psi.
  - 2. Fly Ash Content: Maximum 15 percent of cementitious materials by weight.

3. Water-Cement Ratio: Maximum 44 percent by weight.
4. Total Air Content: 6 percent, determined in accordance with ASTM C 173/C 173M.
5. Maximum Slump: 4 inches.
6. Maximum Aggregate Size: 3/4 inch.

## **2.08 MIXING**

- A. Transit Mixers: Comply with ASTM C94/C94M.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify lines, levels, and dimensions before proceeding with work of this section.

### **3.02 PREPARATION**

- A. Formwork: Comply with requirements of ACI 301. Design and fabricate forms to support all applied loads until concrete is cured, and for easy removal without damage to concrete.
- B. Verify that forms are clean and free of rust before applying release agent.
- C. Coordinate placement of embedded items with erection of concrete formwork and placement of form accessories.

### **3.03 INSTALLING REINFORCEMENT AND OTHER EMBEDDED ITEMS**

- A. Comply with requirements of ACI 301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.

### **3.04 PLACING CONCRETE**

- A. Place concrete in accordance with ACI 304R.
- B. Notify Architect/Engineer not less than 24 hours prior to commencement of placement operations.
- C. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.
- D. Ensure reinforcement, inserts, waterstops, embedded parts, and formed construction joint devices will not be disturbed during concrete placement.
- E. Place concrete continuously without construction (cold) joints wherever possible; where construction joints are necessary, before next placement prepare joint surface by removing laitance and exposing the sand and sound surface mortar, by sandblasting or high-pressure water jetting.

### **3.05 SLAB JOINTING**

- A. Locate joints as indicated on the drawings.
- B. Saw Cut Contraction Joints: Saw cut joints before concrete begins to cool, within 4 to 12 hours after placing; use 3/16 inch thick blade and cut at least 1 inch deep but not less than one quarter (1/4) the depth of the slab.

- C. Place concrete continuously between predetermined expansion, control, and construction joints.
- D. Do not interrupt successive placement; do not permit cold joints to occur.
- E. Grout under base plates to be troweled smooth, splay neatly to 45 degrees.

**3.06 CONCRETE FINISHING**

- A. Repair surface defects, including tie holes, immediately after removing formwork.
- B. Unexposed Form Finish: Rub down or chip off fins or other raised areas 1/4 inch or more in height.
- C. Exposed Form Finish: Rub down or chip off and smooth fins or other raised areas 1/4 inch or more in height. Provide finish as follows:
  - 1. Smooth Rubbed Finish: Wet concrete and rub with carborundum brick or other abrasive, not more than 24 hours after form removal.

**3.07 CURING AND PROTECTION**

- A. Comply with requirements of ACI 308R. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
- B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
- C. Final Curing: Begin after initial curing but before surface is dry.
  - 1. Curing Compound: Apply in two coats at right angles, using application rate recommended by manufacturer.

**3.08 DEFECTIVE CONCRETE**

- A. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.
- B. Repair or replacement of defective concrete will be determined by the Architect/Engineer. The cost of additional testing shall be borne by Contractor when defective concrete is identified.
- C. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Architect/Engineer for each individual area.

**3.09 PROTECTION**

- A. Do not permit traffic over unprotected concrete floor surface until fully cured.

**3.10 SCHEDULE - CONCRETE TYPES AND FINISHES**

<b>Location</b>	<b>Mix Type</b>	<b>Concrete Finish</b>
A. Equipment pads: Exterior top: broom, non-slip	D	sides: smooth form

**END OF SECTION**

**SECTION 06 10 00  
ROUGH CARPENTRY**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Roofing nailers.
- B. Preservative treated wood materials.
- C. Fire retardant treated wood materials.
- D. Concealed wood blocking, nailers, and supports.
- E. Miscellaneous wood nailers, furring, and grounds.

**1.02 RELATED REQUIREMENTS**

- A. Section 09 21 16 - Gypsum Board Assemblies: Gypsum-based sheathing.

**1.03 REFERENCE STANDARDS**

- A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
- B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2013a.
- C. AWPA U1 - Use Category System: User Specification for Treated Wood; American Wood Protection Association; 2012.
- D. PS 20 - American Softwood Lumber Standard; National Institute of Standards and Technology, Department of Commerce; 2010.
- E. WWPA G-5 - Western Lumber Grading Rules; Western Wood Products Association; 2011.

**1.04 DELIVERY, STORAGE, AND HANDLING**

- A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.
- B. Fire Retardant Treated Wood: Prevent exposure to precipitation during shipping, storage, or installation.

**PART 2 PRODUCTS**

**2.01 GENERAL REQUIREMENTS**

- A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
  - 1. Species: Douglas Fir-Larch, unless otherwise indicated.
  - 2. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.
  - 3. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee ([www.alsc.org](http://www.alsc.org)) and who provides grading service for

the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

B. Lumber fabricated from old growth timber is not permitted.

## **2.02 DIMENSION LUMBER**

A. Grading Agency: Western Wood Products Association (WWPA).

B. Sizes: Nominal sizes as indicated on drawings, S4S.

C. Moisture Content: S-dry or MC19.

D. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:

1. Lumber: S4S, No. 2 or Standard Grade.

2. Boards: Standard or No. 3.

## **2.03 ACCESSORIES**

A. Fasteners and Anchors:

1. Metal and Finish: Hot-dipped galvanized steel per ASTM A 153/A 153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.

## **2.04 FACTORY WOOD TREATMENT**

A. Treated Lumber and Plywood: Comply with requirements of AWWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.

1. Fire-Retardant Treated Wood: Mark each piece of wood with producer's stamp indicating compliance with specified requirements.

B. Fire Retardant Treatment:

1. Interior Type A: AWWPA U1, Use Category UCFA, Commodity Specification H, low temperature (low hygroscopic) type, chemically treated and pressure impregnated; capable of providing a maximum flame spread rating of 25 when tested in accordance with ASTM E84, with no evidence of significant combustion when test is extended for an additional 20 minutes.

a. Kiln dry wood after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood.

b. Treat rough carpentry items as scheduled.

c. Do not use treated wood in applications exposed to weather or where the wood may become wet.

C. Restrictions: Do not use lumber or plywood treated with chromated copper arsenate (CCA) in exposed exterior applications subject to leaching.

## **PART 3 EXECUTION**

### **3.01 INSTALLATION - GENERAL**

A. Select material sizes to minimize waste.

B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

- C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

### **3.02 BLOCKING, NAILERS, AND SUPPORTS**

- A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.
- B. In framed assemblies that have concealed spaces, provide solid wood fireblocking as required by applicable local code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to code authorities may be used in lieu of solid wood blocking.
- C. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.
- D. Where ceiling-mounting is indicated, provide blocking and supplementary supports above ceiling, unless other method of support is explicitly indicated.
- E. Specifically, provide the following non-structural framing and blocking:
  - 1. Joints of rigid wall coverings that occur between studs.
  - 2. Joints at mechanical openings framed with nailers.

### **3.03 TOLERANCES**

- A. Framing Members: 1/4 inch from true position, maximum.
- B. Variation from Plane (Other than Floors): 1/4 inch in 10 feet maximum, and 1/4 inch in 30 feet maximum.

### **3.04 SCHEDULES**

- A. Blocking in Fire Rated Walls: Fire retardant treated.

**END OF SECTION**



**SECTION 07 62 00**  
**SHEET METAL FLASHING AND TRIM**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Fabricated sheet metal items, including flashings, counterflashings, and ductwork penetration counterflashing through exterior walls

**1.02 RELATED REQUIREMENTS**

- A. Section 06 10 00 - Rough Carpentry: Wood nailers.
- B. Section 07 90 05 - Joint Sealers.

**1.03 REFERENCE STANDARDS**

- A. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels; 2010.
- B. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2010.
- C. ASTM B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate [Metric]; 2010.
- D. ASTM D4479/D4479M - Standard Specification for Asphalt Roof Coatings - Asbestos-Free; 2007 (Reapproved 2012)e1.
- E. SMACNA (ASMM) - Architectural Sheet Metal Manual; Sheet Metal and Air Conditioning Contractors' National Association; 2012.

**1.04 SUBMITTALS**

- A. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.
- B. Samples: Submit two samples 6x6 inch in size illustrating metal finish color.

**1.05 QUALITY ASSURANCE**

- A. Perform work in accordance with SMACNA Architectural Sheet Metal Manual requirements and standard details, except as otherwise indicated.

**1.06 DELIVERY, STORAGE, AND HANDLING**

- A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
- B. Prevent contact with materials that could cause discoloration or staining.

**PART 2 PRODUCTS**

**2.01 SHEET MATERIALS**

- A. Pre-Finished Aluminum: ASTM B209 (ASTM B209M); 0.032 inch thick; plain finish shop pre-coated with fluoropolymer coating.

1. Fluoropolymer Coating: High Performance Organic Finish, AAMA 2605; multiple coat, thermally cured fluoropolymer finish system.
2. Color: As selected by Architect/Engineer from manufacturer's standard colors.

## **2.02 ACCESSORIES**

- A. Fasteners: Same material and finish as flashing metal, with soft neoprene washers.
- B. Primer: Zinc chromate type.
- C. Protective Backing Paint: Asphaltic mastic, ASTM D 4479 Type I.
- D. Sealant: Type S-5 specified in Section 07 90 05.

## **2.03 FABRICATION**

- A. Form sections true to shape, accurate in size, square, and free from distortion or defects.
- B. Form pieces in longest possible lengths.
- C. Hem exposed edges on underside 1/2 inch; miter and seam corners.
- D. Form material with flat lock seams, except where otherwise indicated. At moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.
- E. Fabricate corners from one piece with minimum 18 inch long legs; seam for rigidity, seal with sealant.
- F. Fabricate vertical faces with bottom edge formed outward 1/4 inch and hemmed to form drip.
- G. Fabricate flashings to allow toe to extend 2 inches over roofing gravel. Return and brake edges.

## **PART 3 EXECUTION**

### **3.01 PREPARATION**

- A. Install starter and edge strips, and cleats before starting installation.
- B. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil.

### **3.02 INSTALLATION**

- A. Conform to drawing details.
- B. Secure flashings in place using concealed fasteners. Use exposed fasteners only where permitted.
- C. Fit flashings tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.
- D. Seal metal joints watertight.

### **3.03 SCHEDULE**

- A. Counterflashings at Ductwork Penetrations through Exterior Walls:
  1. Material: Pre-Finished Aluminum.

2. Thickness: 0.032 inch.
3. Finish: Fluoropolymer Coating.
4. Provide exterior drip edges at perimeter of penetrations suitable to receive sealant bead and fasteners.

**END OF SECTION**

**SECTION 07 84 00  
FIRESTOPPING**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Firestopping systems.
- B. Firestopping of all joints and penetrations in fire-resistance rated and smoke-resistant assemblies, whether indicated on drawings or not, and other openings indicated.

**1.02 REFERENCE STANDARDS**

- A. ASTM E814 - Standard Test Method for Fire Tests of Through-Penetration Fire Stops; 2011a.
- B. FM 4991 - Approval of Firestop Contractors; Factory Mutual Research Corporation; 2001.
- C. UL (FRD) - Fire Resistance Directory; Underwriters Laboratories Inc.; current edition.

**1.03 DEFINITIONS**

- A. Assembly: Particular arrangement of materials specific to given type of construction described or detailed in referenced documents.
- B. Barriers: Time rated fire walls, smoke barrier walls, time rated ceiling/floor assemblies and structural floors.
- C. Firestopping: Methods and materials applied in penetrations and unprotected openings to limit spread of heat, fire gasses and smoke.
- D. Penetration: Opening or foreign material passing through or into barrier or structural floor such that full thickness of rated materials is not obtained.
- E. Joint: Interruption to a fire-rated assembly occurring at interface between 1) adjacent sections of wall, 2) intersecting walls, 3) top of wall and ceiling, structural floor or roof deck, 4) wall and edge of structural floor, 5) adjacent sections of structural floor.
- F. System: Specific products and applications, classified and numbered by Underwriters Laboratories, Inc. to close specific barrier penetrations and joints.
- G. Sleeve: Metal fabrication or pipe section extending through thickness of barrier and used to permanently guard penetration. Sleeves are described as part of penetrating system in other sections and may or may not be required.

**1.04 SUBMITTALS**

- A. Schedule of Firestopping: List each type of penetration, fire rating of the penetrated assembly, and firestopping test or design number.
  - 1. Provide manufacturer's qualified engineering judgements for non-standard applicaitons.
- B. Product Data: Provide data on product characteristics, performance ratings, and limitations.
- C. Manufacturer's Installation Instructions: Indicate preparation and installation instructions.
- D. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

## **1.05 QUALITY ASSURANCE**

- A. Fire Testing: Provide firestopping assemblies of designs that provide the scheduled fire ratings when tested in accordance with methods indicated.
  - 1. Listing in the current-year classification or certification books of UL will be considered as constituting an acceptable test report.
  - 2. Submission of actual test reports is required for assemblies for which none of the above substantiation exists.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.
- C. Installer Qualifications: Company specializing in performing the work of this section and:
  - 1. Approved by Factory Mutual Research under FM Standard 4991, Approval of Firestop Contractors .
  - 2. With minimum 3 years documented experience installing work of this type.
  - 3. Able to show at least 5 satisfactorily completed projects of comparable size and type.
  - 4. Licensed by authority having jurisdiction.

## **1.06 DELIVERY, STORAGE AND HANDLING**

- A. Deliver products in original, unopened packaging with legible manufacturer's identification.
- B. Coordinate delivery with scheduled installation date to minimize storage time at site.
- C. Store materials in a clean, dry, ventilated location. Protect materials from freezing if required by manufacturer.

## **1.07 FIELD CONDITIONS**

- A. Comply with firestopping manufacturer's recommendations for temperature and conditions during and after installation. Maintain minimum temperature before, during, and for 3 days after installation of materials.
- B. Provide ventilation in areas where solvent-cured materials are being installed.

## **PART 2 PRODUCTS**

### **2.01 FIRESTOPPING - GENERAL REQUIREMENTS**

- A. Firestopping: Any material meeting requirements.
- B. Materials: Use any material meeting requirements.
- C. Primers, Sleeves, Forms, Insulation, Packing, Stuffing, and Accessories: Type required for tested assembly design.

### **2.02 FIRESTOPPING SYSTEMS**

- A. Firestopping: Any material meeting requirements.
  - 1. Fire Ratings: Use any system listed by UL or tested in accordance with ASTM E814 that has F Rating equal to fire rating of penetrated assembly and T Rating Equal to F Rating and that meets all other specified requirements.

- B. Acceptable Manufacturers: As listed in UL (FRD) for specific UL Design Number.
- C. Fill, Void or Cavity Materials: Conform to UL (FRD) - XHHW.
- D. Firestop Devices: Conform to UL (FRD) - XHJI.
- E. Forming Materials: Conform to UL (FRD) - XHKU.
- F. Mechanical Joint Assemblies: Conform to UL (FRD) - XHLP.
- G. Packing Material: As required by specific UL Design Number for joint system or through-penetration firestop system.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify openings are ready to receive the work of this section.
  - 1. Verify barrier joints and penetrations are properly sized and in suitable condition for application of materials.

### **3.02 PREPARATION**

- A. Clean substrate surfaces of dirt, dust, grease, oil, loose material, or other matter that could adversely affect bond of firestopping material.
- B. Remove incompatible materials that could adversely affect bond.
- C. Install backing materials to arrest liquid material leakage.

### **3.03 INSTALLATION**

- A. Install materials in manner described in UL (FRD) or fire test report and in accordance with manufacturer's instructions, completely closing openings.
- B. Do not cover installed firestopping until inspected by authority having jurisdiction.

### **3.04 CLEANING**

- A. Clean adjacent surfaces of firestopping materials.

### **3.05 PROTECTION**

- A. Protect adjacent surfaces from damage by material installation.
- B. Patch or replace firestopping damaged by work of other sections.

**END OF SECTION**

**SECTION 07 90 05  
JOINT SEALERS**

**PART 1 GENERAL**

**1.01 SUMMARY**

- A. Section includes: Provide elastomeric joint sealants, joint backer materials and accessories needed to ensure a complete and durable weather tight seal at all locations indicated.

**1.02 SUBMITTALS**

- A. Product data:
1. Materials list of items proposed to be provided under this Section.
  2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
  3. Shop Drawings or catalog illustrations in sufficient detail to show installation and interface of the work of this Section with the work of adjacent trades.
  4. Manufacturer's current recommended installation procedures which, when reviewed by Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.
  5. Written documentation of applicator's qualifications, including reference projects of similar scope and complexity, with current phone contacts of architects and owners for verification.
  6. Certifications from sealant manufacturer that their products are suitable for the use indicated and comply with specification requirements.
  7. Report from sealant applicator summarizing results of pre-construction field adhesion testing.

**1.03 QUALITY ASSURANCE**

- A. Use adequate numbers of skilled workmen thoroughly trained and experienced in the necessary crafts and completely familiar with the specified requirements and methods needed for proper performance of the work of this Section.
- B. Applicator qualifications:
1. Applicator shall have at least three years experience in installing materials of types specified and shall have successfully completed at least three projects of similar scope and complexity.
  2. Applicator shall designate a single individual as project foreman who shall be on site at all times during installation.
- C. Single source responsibility for joint sealants:
1. Obtain joint sealants from single manufacturer for each different product required ensuring compatibility.
  2. Manufacturer shall instruct applicator in procedures for intersecting sealants.
- D. Perform work in accord with ASTM C-1193 guidelines except where more stringent requirements are indicated or specified.
- E. Pre-construction compatibility and adhesion testing:
1. Submit to joint sealant manufacturer samples of actual materials that will contact or affect their joint sealants in the Work for compatibility and adhesion testing.

2. This testing will not be required where sealant manufacturer is able to furnish data acceptable to Architect based on previous testing for adhesion and compatibility to materials matching those of the Work.

F. Pre-construction field adhesion testing:

1. In jobsite field samples prior to general installation, conduct field-tests for adhesion of joint sealants to actual joint substrates using proposed joint preparation methods recommended by manufacturer.
2. Conduct tests for each type of sealant and substrate.
3. Locate field-test joints where inconspicuous or as approved by Architect.
  - a. Include areas typical of those requiring removal of existing sealants and utilize methods proposed for sealant removal that have been pre-approved by Architect.
4. Test method: Use manufacturer's standard field adhesion test methods and methods proposed for joint preparation to verify proper priming and joint preparation techniques required to obtain optimum adhesion of joint sealants to joint substrate.
5. Evaluate and report results of field adhesion testing.
6. Do not use joint preparation methods or sealants that produce less than satisfactory adhesion to joint substrates during testing.

G. Standard of acceptance:

1. Joints installed during pre-construction field adhesion testing that are accepted by Architect shall be retained as standard of acceptability and incorporated into Work of that area during general installation.
2. At least one such standard of minimum 5 feet in length shall be established for each type of sealant and substrate.

H. Schedule applications of waterproofing water repellents and preservative finishes after sealant installation unless sealant manufacturer approves otherwise in writing. Ensure that installed sealant is allowed to cure sufficiently prior to subsequent applications.

#### **1.04 DELIVERY, STORAGE AND HANDLING**

- A. Deliver the materials to the job site in the manufacturer's unopened containers with all labels intact and legible at time of use.
- B. Store materials in accord with manufacturer's recommendations with proper precautions to ensure fitness of material when installed.
- C. Comply with pertinent provisions of Section 01660.

#### **1.05 SUBSTRATE CONDITIONS**

A. General:

1. Provide joints properly dimensioned to receive the approved sealant system.
2. Provide joint surfaces that are clean, dry, sound and free of voids, deformations, protrusions and contaminants that may inhibit application or performance of the joint sealant.
3. Where expansion joints having preformed joint fillers are scheduled to be sealed, provide a reservoir to accept the sealant such as by a molded breakaway joint cap or a removable block out.



## 1.06 WARRANTY

- A. Deliver to the Architect signed copies of the following written warranties against adhesive and cohesive failure of the sealant and against infiltration of water and air through the sealed joint for a period of 3 years from date of completion.
  - 1. Manufacturer's standard warranty covering sealant materials;
  - 2. Applicator's standard warranty covering workmanship.
  - 3. Require a 10 year weatherseal warranty for all perimeter and vertical joint sealing.
  - 4. Require a field adhesion test.

## PART 2 PRODUCTS

### 2.01 GENERAL

- A. Acceptable manufacturer: Bondaflex
- B. Dow Corning
- C. Pecora
- D. Compatibility:
  - 1. Provide joint sealants, joint fillers and accessory joint materials that are compatible with one another and with joint substrates under project conditions.
  - 2. Install joint sealants, joint fillers and related joint materials that are non-staining to visible joint surfaces and surrounding substrate surfaces.
- E. Provide colors selected by Architect from manufacturer's standard color range.

### 2.02 ELASTOMERIC SEALANTS

- A. Sealant Type A (S-1):
  - 1. For interior and exterior joints (that will not be painted) in vertical surfaces and non-traffic horizontal surfaces such as, but not limited to:
    - a. Control and expansion joints in cast-in-place concrete.
    - b. Joints between architectural pre-cast concrete units.
    - c. Control and expansion joints in unit masonry.
    - d. Butt joints between metal panels.
    - e. Joints between marble and/or granite.
    - f. Joints between different materials listed above.
    - g. Perimeter joints between materials listed above and frames of doors, windows, storefronts, louvers and similar openings.
    - h. Control and expansion joints in ceiling and overhead surfaces.
      - i. between metal thresholds or sheet metal seems
  - 2. Provide single-component or multi-component, low-modulus, non-sag sealant; comply with ASTM C920, Type S or M, Grade NS, Class +50/-50, Class +100/-50
  - 3. Acceptable sealants:
    - a. Silicones
      - 1) Single Component
        - (a) Bondaflex Technologies Sil 290
        - (b) Bondaflex Technologies Sil 295

- (c) Pecora 890
- (d) Dow 790

B. Sealant Type B (S-2):

1. For interior joints (that will be painted) in vertical surfaces and non-traffic horizontal surfaces such as, but not limited to:
  - a. Control and expansion joints on exposed interior surfaces of exterior walls.
  - b. Perimeter joints on exposed interior surfaces of exterior openings.
  - c. Joints on pre-cast beams and planks.
  - d. Perimeter joints between interior wall surfaces and frames of interior doors, windows, storefronts, louvers, elevator entrances and similar openings.
  - e. Trim or finish joints subject to movement.
  - f. Sheet metal seams and metal thresholds
2. Acceptable sealants
  - a. Urethanes
    - 1) Single Component
      - (a) Bondaflex Technologies PUR 25
      - (b) Pecora Dynatrol I XL
      - (c) Bostik Chemcaulk 915

C. Sealant Type C (S-3):

1. For exterior and interior joints (that will not be painted) in horizontal and sloped traffic surfaces such as, but not limited to:
  - a. Control expansion and isolation joints in cast-in-place concrete.
  - b. Control expansion and isolation joints in structural pre-cast concrete units.
  - c. Joints between architectural pre-cast concrete paving units.
  - d. Tile control and expansion joints.
  - e. Joints between different materials listed above.
2. Provide single-component silicone sealant complying with ASTM C920, Type S or M, Grade P or NS, Class 100/50.
3. Acceptable sealants:
  - a. Silicone
    - 1) Single Component
      - (a) Bondaflex Technologies Sil 728 NS
      - (b) Bondaflex Technologies Sil 728 SL
      - (c) Pecora 301 NS or 300 SL
      - (d) Dow 888 or 890

D. Sealant Type E (S-4):

1. For exterior and interior joints (that will not be painted) in vertical and horizontal surfaces of potable water storage or incidental food contact areas.
2. Provide single-component or multi-component polyurethane sealant certified by National Sanitation Foundation as conforming to the requirements of NSF Standard 61-Drinking Water System Components-Health Effects; comply with ASTM C920, Type S or M, Grade P or NS, Class 25; select color from the NSF listing.
3. Acceptable sealants:
  - a. Silicone

- 1) Single Component
  - (a) Bondaflex Technologies Sil 100 GP
  - (b) Bondaflex Technologies SIL 100 WF
  - (c) Pecora 898
  - (d) Dow 786

## **2.03 ACCESSORIES**

- A. Joint cleaner: Cleaner as recommended by sealant manufacturer for substrates indicated.
- B. Joint primer: As recommended by sealant manufacturer for substrates, conditions and exposures indicated.
- C. Bond breaker: Polyethylene tape or other adhesive faced tape as recommended by sealant manufacturer to prevent sealant contact where it would be detrimental to sealant performance.
- D. Joint backer: Closed cell, open cell polyurethane, non-gassing polyolefin or soft rod polyethylene foam rod or other compatible non-waxing, non-extruding, non-staining resilient material in dimension 25 percent to 40 percent wider than joint width as recommended by sealant manufacturer for conditions and exposures indicated.
- E. Masking tape: Non-staining, non-absorbent tape product compatible with joint sealants and adjacent joint surfaces that is suitable for masking.

## **2.04 OTHER MATERIALS**

- A. Provide other materials not specifically described but required for a complete and proper installation, as selected by the Contractor and approved by the sealant manufacturer as compatible, subject to review of the Architect.

## **PART 3 EXECUTION**

### **3.01 SURFACE CONDITIONS**

- A. Coordinate as required with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.
- B. Applicator shall examine the areas and conditions under which work of this Section will be performed.
  1. Verify conformance with manufacturer's requirements;
  2. Report unsatisfactory conditions in writing to the Architect;
  3. Do not proceed until unsatisfactory conditions are corrected.

### **3.02 PREPARATION**

- A. Prepare surfaces to receive sealants in accordance with sealant manufacturer's instructions and recommendations except where more stringent requirements are indicated.
- B. Thoroughly clean joint surfaces using cleaners approved by sealant manufacturer whether primers are required or not.
  1. Remove all traces of previous sealant and joint backer by mechanical methods, such as by cutting, grinding and wire brushing, in manner not damaging to surrounding surfaces.

2. Remove paints from joint surfaces except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer.
  3. Remove wax, oil, grease, dirt film residues, temporary protective coatings and other residues by wiping with cleaner recommended for that purpose. Use clean, white, lint-free cloths and change cloths frequently.
  4. Remove dust by blowing clean with oil-free, compressed air.
  5. Joints must be dry prior to installing sealant, otherwise bubbling may occur
  6. Install sealant immediately after surface prep. Dry tool only
- C. Provide joint backer material uniformly to depth required by sealant manufacturer for proper joint design using a blunt instrument.
1. Fit securely by compressing backer material 25 percent to 40 percent so no displacement occurs during tooling.
  2. Avoid stretching or twisting joint backer.
- D. Provide bond-breaker where indicated or recommended by sealant manufacturer, adhering strictly to the manufacturers installation requirements.
- E. Prime joint substrates where required.
1. Use and apply primer according to sealant manufacturers recommendations.
  2. Confine primers to sealant bond surfaces; do not allow spillage or migration onto adjoining surfaces.
- F. Taping:
1. Use masking tape where required to prevent sealant or primer contact with adjoining surfaces that would be permanently stained or otherwise damaged by such contact or the cleaning methods required for removal.
  2. Apply tape so as not to shift readily and remove tape immediately after tooling without disturbing joint seal.

### **3.03 INSTALLATION**

- A. Provide the approved sealant system where shown on the Drawings, and in strict accord with the manufacturer's recommendations as approved by the Architect.
- B. Install sealants immediately after joint preparation.
- C. Mix and apply multi-component sealants in accord with manufacturer's printed instructions.
- D. Install sealants to fill joints completely from the back, without voids or entrapped air, using proven techniques, proper nozzles and sufficient force that result in sealants directly contacting and fully wetting joint surfaces.
- E. Install sealants to uniform cross-sectional shapes with depths relative to joint widths that allow optimum sealant movement capability as recommended by sealant manufacturer.
- F. Tool sealants in manner that forces sealant against back of joint, ensures firm, full contact at joint interfaces and leaves a finish that is smooth, uniform and free of ridges, wrinkles, sags, air pockets and embedded impurities.
  1. Dry tool.

2. Provide concave tooled joints unless otherwise indicated to provide flush tooling or recessed tooling.
  3. Provide recessed tooled joints where the outer face of substrate is irregular.
- G. Remove sealant from adjacent surfaces in accord with sealant and substrate manufacturer recommendations as work progresses.
- H. Protect joint sealants from contact with contaminating substances and from damages. Cut out, remove and replace contaminated or damaged sealants, immediately, so that they are without contamination or damage at time of substantial completion.

**END OF SECTION**

**SECTION 09 21 16  
GYPSUM BOARD ASSEMBLIES**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Metal stud wall framing.
- B. Gypsum wallboard.
- C. Joint treatment and accessories.

**1.02 RELATED REQUIREMENTS**

- A. Section 06 10 00 - Rough Carpentry: Wood blocking product and execution requirements.

**1.03 REFERENCE STANDARDS**

- A. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2012.
- B. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members; 2011a.
- C. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2011.
- D. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2011.
- E. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness; 2011.
- F. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2007.
- G. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2011.
- H. GA-216 - Application and Finishing of Gypsum Board; Gypsum Association; 2013.

**1.04 SUBMITTALS**

- A. Product Data: Provide data on metal framing, gypsum board, accessories, and joint finishing system.

**1.05 QUALITY ASSURANCE**

- A. Installer Qualifications: Company specializing in performing gypsum board application and finishing, with minimum 5 years of documented experience.

**PART 2 PRODUCTS**

**2.01 GYPSUM BOARD ASSEMBLIES**

- A. Provide completed assemblies complying with ASTM C840 and GA-216.

## 2.02 METAL FRAMING MATERIALS

- A. Manufacturers - Metal Framing, Connectors, and Accessories:
  - 1. Clarkwestern Dietrich Building Systems LLC: [www.clarkdietrich.com](http://www.clarkdietrich.com).
  - 2. Marino: [www.marinoware.com](http://www.marinoware.com).
  - 3. The Steel Network, Inc: [www.SteelNetwork.com](http://www.SteelNetwork.com).
  - 4. Tracloc North America; Product Trakloc: [www.traklocmw.com](http://www.traklocmw.com).
  - 5. Substitutions: Not permitted.
- B. Non-Loadbearing Framing System Components: ASTM C645; sheet steel galvanized to G60 class, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/240 at 5 psf.
  - 1. Studs: "C" shaped with flat or formed webs .
  - 2. Runners: U shaped, sized to match studs.
  - 3. Ceiling Channels: C shaped.
  - 4. Furring: Hat-shaped sections, minimum depth of 7/8 inch.
  - 5. Resilient Furring Channels: 1/2 inch depth, for attachment to substrate through one leg only.
    - a. Manufacturers - Resilient Furring Channels:
      - 1) Same manufacturer as other framing materials.

## 2.03 BOARD MATERIALS

- A. Manufacturers - Gypsum-Based Board:
  - 1. CertainTeed Corporation: [www.certainteed.com](http://www.certainteed.com).
  - 2. Georgia-Pacific Gypsum: [www.gpgypsum.com](http://www.gpgypsum.com).
  - 3. Lafarge North America Inc: [www.lafargenorthamerica.com](http://www.lafargenorthamerica.com).
  - 4. National Gypsum Company: [www.nationalgypsum.com](http://www.nationalgypsum.com).
  - 5. USG Corporation: [www.usg.com](http://www.usg.com).
  - 6. Substitutions: Not permitted.
- B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
  - 1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
  - 2. Thickness:
    - a. Vertical Surfaces: 5/8 inch.
    - b. Ceilings: 5/8 inch.
    - c. Curved Surfaces: 2 layers of 1/4 inch.
    - d. Multi-Layer Assemblies: Thicknesses as indicated on drawings.
- C. Ceiling Board: Special sag-resistant gypsum ceiling board as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
  - 1. Application: Ceilings, unless otherwise indicated.
  - 2. Thickness: 5/8 inch.
  - 3. Edges: Tapered.

## 2.04 ACCESSORIES

- A. Joint Materials: ASTM C475 and as recommended by gypsum board manufacturer for project conditions.

1. Tape: 2 inch wide, coated glass fiber tape for joints and corners, except as otherwise indicated.
  2. Ready-mixed vinyl-based joint compound.
- B. High Build Drywall Surfer: Vinyl acrylic latex-based coating for spray application, designed to take the place of skim coating and separate paint primer in achieving Level 5 finish.
- C. Screws for Attachment to Steel Members Less Than 0.03 inch In Thickness, to Wood Members, and to Gypsum Board: ASTM C1002; self-piercing tapping type; cadmium-plated for exterior locations.
- D. Screws for Attachment to Steel Members From 0.033 to 0.112 Inch in Thickness: ASTM C954; steel drill screws for application of gypsum board to loadbearing steel studs.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that project conditions are appropriate for work of this section to commence.

### **3.02 FRAMING INSTALLATION**

- A. Metal Framing: Install in accordance with ASTM C754 and manufacturer's instructions.
- B. Suspended Ceilings and Soffits: Space framing and furring members as indicated.
- C. Studs: Space studs at 16 inches on center.
1. Extend partition framing to structure where indicated and to ceiling in other locations.
  2. Partitions Terminating at Ceiling: Attach ceiling runner securely to ceiling track in accordance with manufacturer's instructions.

### **3.03 BOARD INSTALLATION**

- A. Comply with ASTM C 840 and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.
- B. Single-Layer Non-Rated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.
1. Exception: Tapered edges to receive joint treatment at right angles to framing.
- C. Fire-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.
- D. Installation on Metal Framing: Use screws for attachment of all gypsum board .

### **3.04 INSTALLATION OF TRIM AND ACCESSORIES**

- A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.
1. Not more than 30 feet apart on walls and ceilings over 50 feet long.
- B. Corner Beads: Install at external corners, using longest practical lengths.
- C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials and as indicated.

### **3.05 JOINT TREATMENT**

- A. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:



1. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
  2. Level 5: Walls and ceilings to receive semi-gloss or gloss paint finish and other areas specifically indicated.
  3. Level 3: Walls to receive textured wall finish.
  4. Level 2: In utility areas, behind cabinetry, and on backing board to receive tile finish.
  5. Level 1: Wall areas above finished ceilings, whether or not accessible in the completed construction.
  6. Level 0: Temporary partitions and surfaces indicated to be finished in later stage of project.
- B. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
1. Feather coats of joint compound so that camber is maximum 1/32 inch.
  2. Taping, filling and sanding is not required at base layer of double layer applications.
- C. Where Level 5 finish is indicated, spray apply high build drywall surfacer over entire surface after joints have been properly treated; achieve a flat and tool mark-free finish.
- D. Fill and finish joints and corners of cementitious backing board as recommended by manufacturer.

### **3.06 TOLERANCES**

- A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

**END OF SECTION**

**SECTION 09 51 00  
ACOUSTICAL CEILINGS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Suspended metal grid ceiling system.

**1.02 RELATED REQUIREMENTS**

- A. Section 21 13 00 - Fire-Suppression Sprinkler Systems: Sprinkler heads in ceiling system.
- B. Section 23 37 00 - Air Outlets and Inlets: Air diffusion devices in ceiling.
- C. Section 26 51 10 - Lighting: Light fixtures in ceiling system.

**1.03 REFERENCE STANDARDS**

- A. ASTM C635 - Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings; 2007.
- B. ASTM C636/C636M - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels; 2008.
- C. ASTM E580/E580M - Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Subject to Earthquake Ground Motions; 2011.

**1.04 ADMINISTRATIVE REQUIREMENTS**

- A. Sequence work to ensure acoustical ceilings are not installed until building is enclosed, sufficient heat is provided, dust generating activities have terminated, and overhead work is completed, tested, and approved.
- B. Do not install acoustical units until after interior wet work is dry.

**1.05 SUBMITTALS**

- A. Product Data: Provide data on suspension system components.

**1.06 FIELD CONDITIONS**

- A. Maintain uniform temperature of minimum 60 degrees F, and maximum humidity of 40 percent prior to, during, and after acoustical unit installation.

**PART 2 PRODUCTS**

**2.01 SUSPENSION SYSTEM(S)**

- A. Manufacturers:
  1. Armstrong World Industries, Inc: [www.armstrong.com](http://www.armstrong.com).
  2. Chicago Metallic Corporation: [www.chicagometallic.com](http://www.chicagometallic.com).
  3. USG: [www.usg.com](http://www.usg.com).
  4. Substitutions: See Section 01 60 00 - Product Requirements.

- B. Suspension Systems - General: ASTM C635; die cut and interlocking components, with stabilizer bars, clips, splices, perimeter moldings, and hold down clips as required.
- C. Exposed Steel Suspension System Type SS1: Formed steel, commercial quality cold rolled; intermediate-duty.
  - 1. Profile: Tee; 15/16 inch wide face.
  - 2. Construction: Double web.
  - 3. Finish: White painted.

## **2.02 ACCESSORIES**

- A. Support Channels and Hangers: Galvanized steel; size and type to suit application, seismic requirements, and ceiling system flatness requirement specified.
- B. Perimeter Moldings: Same material and finish as grid.
  - 1. At Exposed Grid: Provide L-shaped molding for mounting at same elevation as face of grid.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify existing conditions before starting work.
- B. Verify that layout of hangers will not interfere with other work.

### **3.02 INSTALLATION - SUSPENSION SYSTEM**

- A. Install suspension system in accordance with ASTM C636/C636M, ASTM E580/E580M, and manufacturer's instructions and as supplemented in this section.
- B. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.
- C. Install after major above-ceiling work is complete. Coordinate the location of hangers with other work.
- D. Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.
- E. Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.
- F. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.
- G. Support fixture loads using supplementary hangers located within 6 inches of each corner, or support components independently.
- H. Do not eccentrically load system or induce rotation of runners.
- I. Perimeter Molding: Install at intersection of ceiling and vertical surfaces and at junctions with other interruptions.
  - 1. Use longest practical lengths.
  - 2. Overlap and rivet corners.

### **3.03 TOLERANCES**

- A. Maximum Variation from Flat and Level Surface: 1/8 inch in 10 feet.
- B. Maximum Variation from Plumb of Grid Members Caused by Eccentric Loads: 2 degrees.

### **3.04 SCHEDULE**

- A. At existing room locations where new ductwork is to be installed, remove portions of the existing ceiling suspension systems and discard to allow for ductwork and support system installation. Remove existing acoustical ceiling panels and store for reuse. Furnish and Install new ceiling grid to match existing at affected areas of work. Reinstall existing acoustical ceiling panels.

**END OF SECTION**

**SECTION 09 90 00  
PAINTING AND COATING**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Surface preparation.
- B. Field application of paints and other coatings.
- C. Surfaces to be finished are indicated in this section and on the Drawings.

**1.02 REFERENCE STANDARDS**

- A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.
- B. MPI (APL) - Master Painters Institute Approved Products List; Master Painters and Decorators Association; current edition, [www.paintinfo.com](http://www.paintinfo.com).
- C. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual; Master Painters and Decorators Association; 2004.

**1.03 SUBMITTALS**

- A. Product Data: Provide complete list of all products to be used, with the following information for each:
  - 1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
  - 2. MPI product number (e.g. MPI #47).
  - 3. Cross-reference to specified paint system(s) product is to be used in; include description of each system (copy of relevant MPI Manual page is acceptable).
  - 4. Manufacturer's installation instructions.
- B. Certification by manufacturer that products comply with Contract Documents and are compatible with applicable substrates and with each other.
- C. Certification: By manufacturer that all paints and coatings comply with VOC limits specified.
- D. Samples: Submit three paper "drop" samples, 8-1/2 by 11 inches in size, illustrating range of colors available for each finishing product specified.
  - 1. Where sheen is specified, submit samples in only that sheen.
  - 2. Where sheen is not specified, submit each color in each sheen available.
  - 3. Paint color submittals will not be considered until color submittals for major materials not to be painted, such as masonry, have been approved.
- E. Maintenance Data: Submit data on cleaning, touch-up, and repair of painted and coated surfaces.

**1.04 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

- B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

## **1.05 FIELD CONDITIONS**

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
- B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.
- C. Minimum Application Temperatures for Latex Paints: 45 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.
- D. Minimum Application Temperature for Varnish Finishes: 65 degrees F for interior or exterior, unless required otherwise by manufacturer's instructions.
- E. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

## **PART 2 PRODUCTS**

### **2.01 MANUFACTURERS**

- A. Provide all paint and coating products used in any individual system from the same manufacturer; no exceptions.
- B. Paints: Acceptable manufacturers are limited to the following:
  - 1. Benjamin Moore & Co: [www.benjaminmoore.com](http://www.benjaminmoore.com).
  - 2. PPG Architectural Finishes, Inc: [www.ppgaf.com](http://www.ppgaf.com).
  - 3. Sherwin Williams Company: [www.sherwinwilliams.com](http://www.sherwinwilliams.com).

### **2.02 MATERIALS - GENERAL**

- A. Volatile Organic Compound (VOC) Content:
  - 1. Provide coatings that comply with the most stringent requirements specified in the following:
    - a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
  - 2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.
- B. Paints and Coatings: Provide products listed in Master Painters Institute Approved Product List, current edition available at [www.paintinfo.com](http://www.paintinfo.com), for specified MPI Categories, except as otherwise indicated.
  - 1. Provide ready mixed paints and coatings, except field-catalyzed coatings.
  - 2. Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

- C. Patching Material: Latex filler.
- D. Fastener Head Cover Material: Latex filler.

### **2.03 PAINT SYSTEMS**

- A. Provide Premium Grade systems (2 top coats) as defined in MPI Architectural Painting Specification Manual, except as otherwise indicated.
- B. Where a specified paint system does not have a Premium Grade, provide Custom Grade system.
- C. Where sheen is not specified or more than one sheen is specified, sheen will be selected later by Architect/Engineer from the manufacturer's full line.
- D. Provide colors as scheduled on Drawings.

### **2.04 INTERIOR PAINT SYSTEMS**

- A. Plaster and Gypsum Board:
  - 1. INT 9.2M Institutional Low Odor/VOC: Latex Primer Sealer MPI #149, Institutional Low Odor/VOC MPI #145, gloss level 3.

## **PART 3 EXECUTION**

### **3.01 SCOPE -- SURFACES TO BE FINISHED**

- A. Paint all exposed surfaces except where indicated not to be painted or to remain natural; the term "exposed" includes areas visible through permanent and built-in fixtures when they are in place.
- B. Paint the surfaces described in PART 2, indicated on the Drawings, and as follows:
  - 1. If a surface, material, or item is not specifically mentioned, paint in the same manner as similar surfaces, materials, or items, regardless of whether colors are indicated or not.
  - 2. Paint surfaces behind movable equipment and furnishings the same as similar exposed surfaces.
  - 3. Paint surfaces to be concealed behind permanently installed fixtures, equipment, and furnishings, using primer only, prior to installation of the permanent item.
- C. Do Not Paint or Finish the Following Items:
  - 1. Items fully factory-finished unless specifically noted; factory-primed items are not considered factory-finished.
  - 2. Items indicated to receive other finish.
  - 3. Items indicated to remain naturally finished.
  - 4. Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.
  - 5. Brick, precast concrete, integrally colored plaster.
  - 6. Polished and brushed stainless steel, anodized aluminum, bronze, terne, and lead.
  - 7. Acoustical materials.
  - 8. Concealed piping, ductwork, and conduit.

### **3.02 EXAMINATION**

- A. Verify that surfaces are ready to receive Work as instructed by the product manufacturer.

- B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- C. Test shop-applied primer for compatibility with subsequent cover materials; report incompatible primer conditions and submit recommended changes for Architect/Engineer's approval.
- D. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
  - 1. Plaster and Gypsum Board: 12 percent.

### **3.03 PREPARATION**

- A. Prepare surfaces as specified in MPI Architectural Painting Specification Manual and as follows for the applicable surface and coating; if multiple preparation treatments are specified, use as many as necessary for best results; where the Manual references external standards for preparation (e.g. SSPC standards), prepare as specified in those standards; comply with coating manufacturer's specific preparation methods or treatments, if any.
- B. Coordinate painting work with cleaning and preparation work so that dust and other contaminants do not fall on newly painted, wet surfaces.
- C. Surface Appurtenances: Prior to preparing surfaces or finishing, remove electrical plates, hardware, light fixtures, light fixture trim, escutcheons, machined surfaces, fittings, and similar items already installed that are not to be painted.
  - 1. If removal is impractical or impossible because of the size or weight of the item, provide surface-applied protection before preparation and finishing.
  - 2. After completing painting in each space or area, reinstall items removed using workers skilled in the trades involved.
- D. Surfaces: Correct defects and clean surfaces which affect work of this section. Remove or repair existing coatings that exhibit surface defects.
- E. Marks: Seal with shellac those which may bleed through surface finishes.
- F. Impervious Surfaces: Remove mildew by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- G. Gypsum Board Surfaces to be Painted: Fill minor defects with filler compound. Spot prime defects after repair.

### **3.04 APPLICATION**

- A. Apply products in accordance with manufacturer's instructions and as specified or recommended by MPI Manual, using the preparation, products, sheens, textures, and colors as indicated.
  - 1. Remove, refinish, or repaint work not complying with requirements.
- B. Do not apply finishes over dirt, rust, scale, grease, moisture, scuffed surfaces, or other conditions detrimental to formation of a durable coating film; do not apply finishes to surfaces that are not dry.
- C. Use applicators and methods best suited for substrate and type of material being applied and according to manufacturer's instructions.



1. Brush Application: Use brushes best suited for the type of material applied; use brush of appropriate size for the surface or item being painted; produce results free of visible brush marks.
  2. Roller Application: Use rollers of carpet, velvet back, or high-pile sheep's wool as recommended by manufacturer for material and texture required.
  3. Spray Application: Use airless spray equipment with orifice size as recommended by manufacturer for material and texture required.
  4. Where application method is listed in the MPI Manual for the paint system that application method is required; otherwise any application method recommended by manufacturer for material used and objects to be painted is acceptable.
- D. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate; provide total dry film thickness of entire system as recommended by manufacturer.
1. Number of coats and film thickness required are the same regardless of application method.
  2. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance.
  3. Give special attention to ensure edges, corners, crevices, welds, and exposed fasteners receive dry film thickness equivalent to that of flat surfaces.
- E. Apply finish to completely cover surfaces with uniform appearance without brush marks, runs, sags, laps, ropiness, holidays, spotting, cloudiness, or other surface imperfections.
1. Before applying finish coats, apply a prime coat of material recommended by manufacturer, unless the surface has been prime coated by others; where evidence of suction spots or unsealed areas in first coat appear, recoat primed and sealed surfaces to ensure finish coat with no burn through or other defects due to insufficient sealing.
  2. Apply first coat to surface that has been cleaned, pretreated, or otherwise prepared as soon as practical after preparation and before subsequent surface deterioration.
  3. Do not apply succeeding coats until the previous coat has cured as recommended by manufacturer.
  4. Do not recoat until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and application of another coat will not cause the undercoat to lift or lose adhesion.
  5. If manufacturer's instructions recommend sanding to produce a smooth, even surface, sand between coats.
  6. Before applying next coat vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

### **3.05 CLEANING AND PROTECTION**

- A. Collect waste material which may constitute a fire hazard, place in closed metal containers, and remove daily from site.
- B. At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from site.
- C. Protect other work, whether being painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting as approved by Architect/Engineer.

- D. Provide "Wet Paint" signs to protect newly painted finishes. Remove temporary protective wrappings provided by others to protect their work after completing painting operations.
- E. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in MPI Manual.

**END OF SECTION**

**SECTION 22 15 00**  
**GENERAL-SERVICE COMPRESSED-AIR SYSTEMS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Pipe and Pipe Fittings.
- B. Air compressor.
- C. Air receiver and accessories.
- D. Refrigerated air dryer.
- E. Pressure reducing station.

**1.02 RELATED REQUIREMENTS**

- A. Section 23 35 14 - Dust Collection Equipment.
- B. Section 26 27 17 - Equipment Wiring: Electrical characteristics and wiring connections.

**1.03 REFERENCE STANDARDS**

- A. ASME B16.18 - Cast Copper Alloy Solder Joint Pressure Fittings; The American Society of Mechanical Engineers; 2012 (ANSI B16.18).
- B. ASME B16.22 - Wrought Copper and Copper Alloy Solder Joint Pressure Fittings; The American Society of Mechanical Engineers; 2012.
- C. ASME B16.26 - Cast Copper Alloy Fittings for Flared Copper Tubes; The American Society of Mechanical Engineers; 2011.
- D. ASME B31.1 - Power Piping; The American Society of Mechanical Engineers; 2012 (ANSI/ASME B31.1).
- E. ASME B31.9 - Building Services Piping; The American Society of Mechanical Engineers; 2011 (ANSI/ASME B31.9).
- F. ASTM B32 - Standard Specification for Solder Metal; 2008.
- G. ASTM B88 - Standard Specification for Seamless Copper Water Tube; 2009.
- H. ASTM B88M - Standard Specification for Seamless Copper Water Tube (Metric); 2005 (Reapproved 2011).
- I. MSS SP-110 - Ball Valves Threaded, Socket-Welding, Solder Joint, Grooved and Flared Ends; Manufacturers Standardization Society of the Valve and Fittings Industry, Inc.; 2010.
- J. NFPA 70 - National Electrical Code; National Fire Protection Association; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

**1.04 SUBMITTALS**

- A. Product Data: Provide manufacturers catalog literature with capacity, weight, and electrical characteristics and connection requirements.

- B. Manufacturer's Instructions: Indicate manufacturer's installation instructions, hoisting and setting requirements, starting procedures.
- C. Maintenance Data: Submit for air compressor, air receiver and accessories, after cooler, refrigerated air dryer, and pressure reducing station.
- D. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

### **1.05 QUALITY ASSURANCE**

- A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.
- B. Pressure Vessels: Conform to applicable code for installation of pressure vessels.
- C. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.

### **1.06 DELIVERY, STORAGE, AND HANDLING**

- A. Accept air compressors, refrigerated air dryer on site in factory fabricated containers with shipping skids and plastic pipe end protectors in place. Inspect for damage.
- B. Protect piping and equipment from weather and construction traffic.

### **1.07 WARRANTY**

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
- B. Provide five year manufacturer warranty for reciprocating air compressors.

## **PART 2 PRODUCTS**

### **2.01 PIPE AND PIPE FITTINGS**

- A. Copper Tube: ASTM B88 (ASTM B88M), Type K (A), drawn.
  - 1. Fittings: ASME B16.18, cast copper alloy or ASME B16.22, wrought copper and bronze.
  - 2. Joints: ASTM B32, solder, Grade Sn95.

### **2.02 VALVES**

- A. Ball Valves:
  - 1. MSS SP-110, Class 150, 400 psi CWP, bronze, two piece body, chrome plated brass ball, regular port, teflon seats and stuffing box ring, blow-out proof stem, lever handle with balancing stops, solder ends with union.

### **2.03 UNIONS AND COUPLINGS**

- A. Unions:
  - 1. Copper Tube and Pipe: 150 psi bronze unions with soldered joints.
- B. Dielectric Connections: Union with galvanized or plated steel threaded end, copper solder end, water impervious isolation barrier.

C. Flexible Connector: Neoprene with brass threaded connectors.

## **2.04 COMPRESSOR**

A. Type: Simplex compressor unit consisting of air cooled compressor tank mounted, air receiver, after cooler, operating controls.

B. Reciprocating Compressors:

1. Unit: Reciprocating compressor with positive displacement oil pump lubrication system, suction inlet screen, discharge service valves, on cast iron or welded steel base for motor and compressor with provision for V-belt adjustment.
2. Motor: Constant speed 1800 rpm with overheating protection.
3. Controls:
  - a. Control Panel: Factory wired, steel, containing power and control wiring, molded case disconnect switch, factory wired for single point power connection.
  - b. Safety Controls: Manually reset low oil pressure cutout.
  - c. Panel Face: Compressor run light, start-stop switch, elapsed time meter.

C. Capacity:

1. 80/20 duty cycle, Delivery: 4.9 cfm of free air.
2. Maximum pressure: 135 psi.

D. Electrical Characteristics:

1. 2.0 hp.
2. 120/240 volts, single phase, 60 Hz.

E. Controls:

1. Pressure Switch: Line voltage contactor to break at 100 psi with minimum differential of 20 psi.

F. Wiring Terminations: Provide terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Enclose terminal lugs in terminal box sized to NFPA 70.

G. Disconnect Switch: Factory mount disconnect switch in control panel.

H. Receiver: Vertical, built to ASME regulations for working pressure of 150 psi. Size: 30 gallons, 1/2 inch NPT outlet.

## **2.05 AIR DRYER**

A. Type: Self contained mechanical refrigeration type complete with heat exchanger, refrigeration compressor, automatic controls, moisture removal trap, internal wiring and piping, and full refrigerant charge.

B. Air Connections: Inlet and outlet connections at same level, factory insulated.

C. Heat Exchangers: Air to air and refrigerant to air coils. Provide heat exchangers with automatic control system to bypass refrigeration system on low or no load condition.

D. Moisture Separator: Centrifugal type located at discharge of heat exchanger.

- E. Refrigeration Unit: Hermetically sealed type to operate continuously to maintain specified 21 degrees F dew point. House unit in steel cabinet provided with access door and panel for maintenance and inspection.
- F. Accessories: Air inlet temperature gage, air inlet pressure gage, on/off switch, high temperature light, power on light, refrigerant gage, air outlet temperature gage, air outlet pressure gage.
- G. Capacity:
  - 1. Discharge Air: 40-50 degrees F atmospheric dew point.
  - 2. Rated Air Flow: 10 cfm.
  - 3. Inlet Air Pressure: 125 psi.
- H. Electrical Characteristics:
  - 1. 120 volts, single phase, 60 Hz.
- I. Cord and Plug: Provide unit with 6 foot cord and plug for connection to electric wiring system including grounding connector.

## **2.06 PRESSURE REDUCING VALVE**

- A. Pressure Reducing Station: Consisting of automatic reducing valve and bypass, and low pressure side relief valve and gage.

## **2.07 FILTERS AND SEPARATORS**

- A. Oil & Water Separator; Clean, carbon-free media that removes all compressor lubricants, including polyglycol emulsions. Easy change disposable filter cartridge. Rated at 20.0 SCFM.
- B. Coalescing Filter; Aluminium housing construction with binder free element for low pressure drop. Efficiency of 99.99% at 1 micron. Differential pressure gauge and automatic float drain. Rated at 20.0 SCFM at 100 PSIG.

## **PART 3 EXECUTION**

### **3.01 INSTALLATION**

- A. Install equipment in accordance with manufacturer's instructions.
- B. Install compressor unit on vibration isolators. Level and bolt in place. Refer to Section 22 05 48.
- C. Make air cock and drain connection on horizontal casing.
- D. Install line size gate valve and check valve on compressor discharge.
- E. Install valved bypass around air dryer. Factory insulate inlet and outlet connections.
- F. Install valved drip connections at low points of piping system.

### **3.02 FIELD QUALITY CONTROL**

- A. Compressed Air Piping Leak Test: Prior to initial operation, clean and test compressed air piping in accordance with ASME B31.1.
- B. Repair or replace compressed air piping as required to eliminate leaks, and retest to demonstrate compliance.

C. Cap and seal ends of piping when not connected to mechanical equipment.

**END OF SECTION**

**SECTION 23 07 13  
DUCT INSULATION**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Duct insulation.
- B. Insulation jackets.

**1.02 REFERENCE STANDARDS**

- A. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2010.
- B. ASTM B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate [Metric]; 2010.
- C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2013a.
- D. NFPA 255 - Standard Method of Test of Surface Burning Characteristics of Building Materials; National Fire Protection Association; 2006.
- E. UL 723 - Standard for Test for Surface Burning Characteristics of Building Materials; Underwriters Laboratories Inc.; Current Edition, Including All Revisions.

**1.03 SUBMITTALS**

- A. Product Data: Provide product description, thermal characteristics, list of materials and thickness for each service, and locations.
- B. Manufacturer's Instructions: Indicate installation procedures necessary to ensure acceptable workmanship and that installation standards will be achieved.

**1.04 QUALITY ASSURANCE**

- A. Applicator Qualifications: Company specializing in performing the type of work specified in this section, with minimum three years of experience and approved by manufacturer.

**1.05 DELIVERY, STORAGE, AND HANDLING**

- A. Accept materials on site in original factory packaging, labelled with manufacturer's identification, including product density and thickness.
- B. Protect insulation from weather and construction traffic, dirt, water, chemical, and mechanical damage, by storing in original wrapping.

**1.06 FIELD CONDITIONS**

- A. Maintain ambient temperatures and conditions required by manufacturers of adhesives, mastics, and insulation cements.
- B. Maintain temperature during and after installation for minimum period of 24 hours.



## **PART 2 PRODUCTS**

### **2.01 REQUIREMENTS FOR ALL PRODUCTS OF THIS SECTION**

- A. Surface Burning Characteristics: Flame spread/Smoke developed index of 25/50, maximum, when tested in accordance with ASTM E84, NFPA 255, or UL 723.

### **2.02 POLYMER FOAM**

- A. Manufacturer:
  - 1. IMCOA.
- B. Engineered polymer foam insulation: flexible, noncombustible sheet.
  - 1. 'K' value: 0.25 at 75 degrees F, when tested in accordance with ASTM C177.
  - 2. Moisture vapor transmission; 0.0 perm-in., ASTM E96.
  - 3. Water absorption; 0.0% by volume, ASTM C209
- C. Acceptable adhesives:
  - 1. IMCOA LeakTite adhesive.
  - 2. Fosters Products Corporation, 82-31 Foster Tabfas contact cement.
  - 3. Armstrong World Industries, 520 adhesive.
  - 4. TITECO, F-CON contact adhesive.
- D. Acceptable coatings:
  - 1. Childers Product Company, CP-30 low odor Chil-Perm.
  - 2. Foster Products Corporation, 30-35 Foster Tite-Fit coating.
  - 3. Mon-Eco Industries, 55-10 Eco-vapor cote coating.

### **2.03 JACKETS**

- A. Aluminum Jacket: ASTM B209 (ASTM B209M).
  - 1. Thickness: 0.016 inch sheet.
  - 2. Finish: Embossed.
  - 3. Joining: Longitudinal slip joints and 2 inch laps.
  - 4. Metal Jacket Bands: 3/8 inch wide; 0.015 inch thick aluminum.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that ducts have been tested before applying insulation materials.
- B. Verify that surfaces are clean, foreign material removed, and dry.

### **3.02 INSTALLATION**

- A. Install in accordance with manufacturer's instructions.
- B. Install in accordance with NAIMA National Insulation Standards.
- C. External Duct Insulation Application:
  - 1. Secure insulation with vapor barrier with wires and seal jacket joints with vapor barrier adhesive or tape to match jacket.

2. Secure insulation without vapor barrier with staples, tape, or wires.
3. Install without sag on underside of duct. Use adhesive or mechanical fasteners where necessary to prevent sagging. Lift duct off trapeze hangers and insert spacers.
4. Seal vapor barrier penetrations by mechanical fasteners with vapor barrier adhesive.

### **3.03 SCHEDULES**

#### **A. Ducts Exposed to Outdoors:**

1. Polymer Foam Insulation: 2 inches thick.

**END OF SECTION**

**SECTION 23 09 13**  
**INSTRUMENTATION AND CONTROL DEVICES FOR HVAC**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Automatic dampers.
- B. Damper operators.
- C. Miscellaneous accessories.
- D. Rough-in, wiring to, and final connections to products specified in this Section.

**1.02 REFERENCE STANDARDS**

- A. AMCA 500-D - Laboratory Methods for Testing Dampers for Rating; Air Movement and Control Association International, Inc.; 2012.
- B. NFPA 90A - Standard for the Installation of Air-Conditioning and Ventilation Systems; National Fire Protection Association; 2012.

**1.03 SUBMITTALS**

- A. Product Data: Provide description and engineering data for each control system component. Include sizing as requested. Provide data for each system component and software module.
- B. Shop Drawings: Indicate complete operating data, system drawings, wiring diagrams, and written detailed operational description of sequences. Submit schedule of valves indicating size, flow, and pressure drop for each valve. For automatic dampers indicate arrangement, velocities, and static pressure drops for each system.
- C. Project Record Documents: Record actual locations of control components, including panels, thermostats, and sensors. Accurately record actual location of control components, including panels, thermostats, and sensors.
  - 1. Revise shop drawings to reflect actual installation and operating sequences.

**PART 2 PRODUCTS**

**2.01 EQUIPMENT - GENERAL**

- A. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc., as suitable for the purpose specified and indicated.

**2.02 DAMPERS**

- A. Performance: Test in accordance with AMCA 500-D.
- B. Frames: Galvanized steel, welded or riveted with corner reinforcement, minimum 12 gage.
- C. Blades: Galvanized steel, maximum blade size 8 inches wide, 48 inches long, minimum 22 gage, attached to minimum 1/2 inch shafts with set screws.
- D. Blade Seals: Synthetic elastomeric inflatable mechanically attached, field replaceable.

- E. Jamb Seals: Spring stainless steel.
- F. Shaft Bearings: Lubricant free, stainless steel, single row, ground, flanged, radial, antifriction type with extended inner race.
- G. Leakage: Less than one percent based on approach velocity of 2000 ft/min and 4 inches wg.
- H. Maximum Pressure Differential: 6 inches wg.

## **2.03 DAMPER OPERATORS**

- A. General: Provide smooth proportional control with sufficient power for air velocities 20 percent greater than maximum design velocity and to provide tight seal against maximum system pressures. Provide spring return for two position control and for fail safe operation.
  - 1. Provide sufficient number of operators to achieve unrestricted movement throughout damper range.
  - 2. Provide one operator for maximum 36 sq ft damper section.
- B. Electric Operators:
  - 1. Spring return, adjustable stroke motor having oil immersed gear train, with auxiliary end switch.
  - 2. Product:
    - a. Belimo.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify existing conditions before starting work.
- B. Verify that systems are ready to receive work.
- C. Beginning of installation means installer accepts existing conditions.
- D. Coordinate installation of system components with installation of mechanical systems equipment such as air handling units and air terminal units.

### **3.02 INSTALLATION**

- A. Install in accordance with manufacturer's instructions.
- B. Install damper motors on outside of duct in warm areas. Do not install motors in locations at outdoor temperatures.
- C. Mount control panels adjacent to associated equipment on vibration free walls or free standing angle iron supports. One cabinet may accommodate more than one system in same equipment room. Provide engraved plastic nameplates for instruments and controls inside cabinet and engraved plastic nameplates on cabinet face.
- D. Electrical material and installation shall be in accordance with appropriate requirements of Division 26.
  - 1. Provide conduit and back boxes for products specified in this Section in accordance with the requirements of Sections 26 05 34 and 26 05 37.
  - 2. Surface raceways are not permitted. Coordinate rough-ins at time of wall erection.

3. Provide electrical wiring and final connections to products specified in this Section in accordance with the requirements of Section 26 27 26.
4. Provide conduit for all control wiring exposed to view. This includes but is not limited to all storage rooms, mechanical rooms, and similar spaces.
5. Provide conduit for all control wiring concealed in inaccessible spaces. This includes but is not limited to wiring above/behind drywall and plaster ("hard") ceilings or soffits, and wiring within vertical chase spaces, regardless of whether access doors are provided or not.
6. Control wiring that is concealed above readily accesible ceilings such as acoustical lay-in ceilings, need not be run in conduit.

**END OF SECTION**

**SECTION 23 33 00  
AIR DUCT ACCESSORIES**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Duct test holes.
- B. Fire dampers.
- C. Flexible duct connections.

**1.02 REFERENCE STANDARDS**

- A. NFPA 90A - Standard for the Installation of Air-Conditioning and Ventilating Systems; National Fire Protection Association; 2012.
- B. SMACNA (DCS) - HVAC Duct Construction Standards; 2005.
- C. UL 33 - Heat Responsive Links for Fire-Protection Service; Underwriters Laboratories Inc.; Current Edition, Including All Revisions.
- D. UL 555 - Standard for Fire Dampers; Underwriters Laboratories Inc.; Current Edition, Including All Revisions.

**1.03 DELIVERY, STORAGE, AND HANDLING**

- A. Protect dampers from damage to operating linkages and blades.

**PART 2 PRODUCTS**

**2.01 DUCT TEST HOLES**

- A. Temporary Test Holes: Cut or drill in ducts as required. Cap with neat patches, neoprene plugs, threaded plugs, or threaded or twist-on metal caps.
- B. Permanent Test Holes: Factory fabricated, air tight flanged fittings with screw cap. Provide extended neck fittings to clear insulation.

**2.02 FIRE DAMPERS**

- A. Manufacturers:
  - 1. Ruskin Company.
  - 2. Greenheck.
  - 3. Air Balance.
  - 4. Vent Products.
- B. Fabricate in accordance with NFPA 90A and UL 555, and as indicated.
- C. Horizontal Dampers: Galvanized steel, 22 gage frame, stainless steel closure spring, and lightweight, heat retardant non-asbestos fabric blanket.
- D. Multiple Blade Dampers: 16 gage galvanized steel frame and blades, oil-impregnated bronze or stainless steel sleeve bearings and plated steel axles, 1/8 x 1/2 inch plated steel concealed linkage, stainless steel closure spring, blade stops, and lock.

- E. Fusible Links: UL 33, separate at 160 degrees F with adjustable link straps for combination fire/balancing dampers.
- F. Rating: Dampers shall be marked with 1-1/2 or 3-hour fire protection rating as required for damper location.

## **2.03 FLEXIBLE DUCT CONNECTIONS**

- A. Fabricate in accordance with SMACNA HVAC Duct Construction Standards and as indicated.
- B. Flexible Duct Connections: Fabric crimped into metal edging strip.
  - 1. Fabric: UL listed fire-retardant neoprene coated woven glass fiber fabric to NFPA 90A, minimum density 30 oz per sq yd.

## **PART 3 EXECUTION**

### **3.01 INSTALLATION**

- A. Install accessories in accordance with manufacturer's instructions, NFPA 90A, and follow SMACNA HVAC Duct Construction Standards. Refer to Section 23 31 00 for duct construction and pressure class.
- B. Provide duct test holes where indicated and required for testing and balancing purposes.
- C. Provide fire dampers at locations indicated, where ducts and outlets pass through fire rated components. Install with required perimeter mounting angles, sleeves, breakaway duct connections, corrosion resistant springs, bearings, bushings and hinges.
- D. Demonstrate re-setting of fire dampers to Owner's representative.
- E. At fans and motorized equipment associated with ducts, provide flexible duct connections immediately adjacent to the equipment.

**END OF SECTION**

**SECTION 23 35 14**  
**DUST COLLECTION EQUIPMENT**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Ductwork and duct fittings.
- B. Dust elimination and collection devices.
- C. Variable speed drive control system.
- D. Accessories.

**1.02 RELATED REQUIREMENTS**

- A. Section 26 27 17 - Equipment Wiring: Electrical characteristics and wiring connections.

**1.03 REFERENCE STANDARDS**

- A. ACGIH (IV) - Industrial Ventilation, A Manual of Recommended Practice; American Council of Governmental Industrial Hygienists; 2010, 28th edition.
- B. AMCA 99 - Standards Handbook; Air Movement and Control Association International, Inc.; 2010.
- C. AMCA 210 - Laboratory Methods of Testing Fans for Aerodynamic Performance Rating; Air Movement and Control Association International, Inc.; 2007.
- D. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2011.
- E. NFPA 91 - Standard for Exhaust Systems for Air Conveying of Vapors, Gases, Mists, and Noncombustible Particulate Solids; National Fire Protection Association; 2010.
- F. SMACNA (DCS) - HVAC Duct Construction Standards; 2005.
- G. SMACNA (ROUND) - Round Industrial Duct Construction Standards; Sheet Metal and Air Conditioning Contractors' National Association; 1999.
- H. SMACNA (RIDC) - Rectangular Industrial Duct Construction Standards; Sheet Metal and Air Conditioning Contractors' National Association; 2004.
- I. UL 181 - Standard for Factory-Made Air Ducts and Air Connectors; Underwriters Laboratories Inc.; Current Edition, Including All Revisions.

**1.04 SUBMITTALS**

- A. Shop Drawings: Indicate dimensions, sizes, weights and point loadings, material thickness, and locations and sizes of field connections. Submit construction layout and details for inlet fittings.
- B. Product Data: Provide manufacturers literature and data indicating rated capacities, dimensions, weights and point loadings, accessories, electrical characteristics and connection requirements, wiring diagrams, and location and sizes of field connections.
- C. Provide fan curves with specified operating point clearly plotted.



- D. Submit sound power levels for both fan inlet and outlet at rated capacity.
- E. Manufacturer's Installation Instructions: Indicate assembly and installation instructions.
- F. Operation and Maintenance Data: Include instructions for lubrication, motor and drive replacement, spare parts list, and wiring diagrams.
- G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
  - 1. See Section 01 60 00 - Product Requirements, for additional provisions.
  - 2. Extra Filter Separator Filters: One.

## **1.05 QUALITY ASSURANCE**

- A. Fans:
  - 1. Performance Ratings: Conform to AMCA 210 and bear the AMCA Certified Rating Seal.
- B. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc., as suitable for the purpose specified and indicated.

## **PART 2 PRODUCTS**

### **2.01 CENTRIFUGAL FANS**

### **2.02 DUCTWORK AND DUCT ACCESSORIES**

- A. Materials:
  - 1. Galvanized Steel Ducts: Hot-dipped galvanized steel sheet, ASTM A653/A653M, FS Type B, with G90/Z275 coating.
- B. Ductwork:
  - 1. Fabricate and support in accordance with:
    - a. SMACNA HVAC Duct Construction Standards 6 inch pressure class.
    - b. SMACNA Round Industrial Duct Construction Standard and Rectangular Industrial Duct Construction Standard.
    - c. ACGIH Industrial Ventilation Manual.
  - 2. Construct T's, bends, and elbows with radius of not less than 1-1/2 times width of duct on centerline.
  - 3. Increase duct sizes gradually, not exceeding 15 degrees divergence wherever possible; maximum 30 degrees divergence upstream of equipment and 45 degrees convergence downstream.
  - 4. Fabricate continuously welded round and oval duct fittings two gages heavier than duct gages indicated in SMACNA Standard. Prime coat welded joints.
  - 5. Joints shall be clamp together design utilizing a gasket and locking clamp for the final connection.
    - a. Clamp together 4" to 26" diameter ducts. Duct clamp shall be all welded stainless steel clamp fitted with winged O-ring gasket of N-butyl rubber. Clamp shall fully encompass the entirety of the duct rolled lips.
    - b. Flanged together 28" and larger ducts. Interior gasket for flanged connections shall be Ductmate 440 butyl rubber.
    - c. Manufacturer; K&B Duct.

- C. Flexible Connectors: UL listed, fire-retardant chloroprene or chlorosulfonated polyethylene impregnated fabric, minimum density 20 oz per sq yd, approximately 2 inches wide, crimped into metal edging strip.
- D. Angle rings: Carbon Steel, unpainted, leg out, drilled with bolt holes.
- E. Blast Gates: Full collar of cast aluminum, with galvanized steel slide, set screw. Provide rolled lip for clamping to match ductwork system.

## 2.03 FILTER SEPARATOR

### A. Manufacturers:

1. Amtech; Model TV-24.
2. Filter-1.
3. Airflow Systems.

### B. Principle of Operation:

1. Dust laden air is drawn into a top inlet of the collector by the system blower. The air is distributed uniformly across the interior of the cabinet. Air then moves downward into the vertical filter section. Most of the dust/fume continues to travel downward to the dual hoppers due to air movement and gravity. A portion of the dust/fume is collected on the vertical filters as the air passes through them. The clean air passes through the system fan and is exhausted from the collector. The clean air can be ducted to another location if required. Once the vertical filters become loaded the reverse jet pulse cleaning system is activated either manually or automatically. Compressed air is blasted through the vertical jet pulse venturis located in the clean air duct (CAD), then up through the filters and expelled out into the downward air flow where gravity assists in the conveying of the contaminant to the hoppers.

### C. Cabinet Construction:

1. The cabinet shall be fabricated of 11 Gauge steel minimum. Areas under excessive loads and stress such as filter sealing flanges, motor mounts, rib bracing, and filter clamping mechanism shall be constructed of 7 Gauge steel as needed to assure integrity. All seams and joints shall be continuously welded. After the weld process, each seam that separates the contaminated air and clean air shall be inspected to assure all dust is filtered and there is no bypass. The doors shall include a welded, 2" open width, continuous hinge with a 3/8" pin minimum. A proper door seal shall be accomplished by providing a steel cord, extruded neoprene gasket. The gasket shall be secure without adhesives. The door latching shall be with six (6) threaded latches to assure an effective air tight seal under all conditions. The bottom internal edge of the door incorporates a dust baffle to prevent build up around the door opening. The cabinet shall be polyester powder coated. The baked curing shall be in accordance to the powder manufacturer's standard.

### D. Filter Specification:

1. Filters shall be made of 80/20 blend Polyester/Cellulose media. Each filter shall have 254 square feet of media. 24 each filters shall be installed in the ATV-24 for a total of 6,096 square feet of media surface area to obtain a 2:1.0 Air to Media Ratio. The filters shall be industry standard sized, the configuration shall be 13.8" O.D. x 9.4" I.D. x 26" Long and open/open end

cap style. The external media support shall be with nylon bands,  $\frac{3}{4}$ " wide and secured with adhesive. External expanded metal cage supports are not expectable.

E. Filter Arrangement:

1. The collector shall include 24 each pleated cartridge filters. The cartridge filters shall be positioned in the collector vertically and supported from the bottom by a clean air duct (CAD). Air flow into the collector shall be from above the filter section and continuously flow downward. No more than 2 filters per filter stack. The inside of the filters must be free of obstruction. The securing of the filters must be accomplished without any devices within the filter that would hinder the reverse jet pulse or airflow.

F. Reverse Jet Pulse Design Specification:

1. The reverse jet pulse cleaning shall be the vertical venturi assisted jet pulse design. The reverse jet pulse cleaning shall be accomplished with compressed air, released into lateral blow pipe of 1.5" diameter. The pipe shall be Schedule 80. A 1.5" fast acting, double diaphragm solenoid valve shall control the compressed air. When actuated the compressed air shall flow into the blow pipe and directed into the clean side of the filters with a GOCO nozzle and cone assembly. There shall not be more than 4 filters per pulse valve. There shall be 1 ea. each 0.75" diameter nozzle with GOCO Cone per filter stack.

G. Pulse Valve Specification:

1. The compressed air for the reverse jet pulse cleaning shall be released via a 1.5" double diaphragm valve. Valves shall have cycle time of less than .20 seconds. The valve body shall be aluminum. Valve actuation is with a 120 volt solenoid.

H. Reverse Jet Pulse Control Specification: Digital Micro-Processor with Off Line (Cycle Down) Cleaning Feature:

1. Controller shall have a BA 12000 turbo digital pressure differential sensor. Controller will sense the filter differential pressure and initiate a cleaning cycle automatically. When pressure reaches the normal operating point the cleaning cycle stops. The control shall have a "Cycle Down" feature. This feature automatically initiates a cleaning cycle whenever the fan is shut down. The controller shall be programmed easily to adjust the cleaning cycle sequence timing to best fit the application. This shall include the low differential set point, high differential set point, valve on-time, valve off time and number of cycles required for the "Cycle Down" feature.

I. Hopper Specification:

1. The hoppers shall be a fabricated square to round transition with solid welded seams.
2. The hoppers shall be constructed of 14 gauge steel. The slope of the hoppers shall be 60 degree minimum. The discharge has a 14"Ø collar. The hoppers shall be polyester powder coated. The baked curing shall be in accordance to the powder manufacturer's standard.

J. Leg Specification:

1. The legs shall be constructed of 3" x 3" x .250" angle with 2" x 2" x .125" bracing with welded joints. Foot pads shall be pre-drilled for  $\frac{3}{4}$ " anchors. Legs shall be bolted to the hopper assembly to ease installation and increase structural rigidity. The leg assembly shall be polyester powder coated. The baked curing shall be in accordance to the powder manufacturer's standard.

K. Drum Lid Kit & 55 Gallon Drum:

1. A 14" Drum Lid Kit shall provide the connection from the dust collector hopper outlet to a 55 Gallon Drum for dust storage. Kit shall include standard 14" hopper outlet adaptor, flex hose connection, hose clamps, drum lid with gasket, clamps and a 55 Gallon Drum.

L. Blower Specification:

1. The blower shall be a direct drive, 24" diameter 100% wheel width and of class III construction as designed and manufactured by New York Blower Company. Blower shall have a full length inlet venturi to enhance performance. Motor shall be a Premium High Efficiency 50 HP Totally Enclosed Fan Cooled with cast iron frame and 1.15 Service Factor, 3ph/60hz/460V. The fan will be balance to AMCA standards. Blower shall be designed for 14,000 CFM @ 14.0" Total Static Pressure. The blower shall be capable of performing up to 14.0" of static pressure water gauge.

M. Silencer Specification:

1. The silencer shall be installed to the discharge section of the blower. The silencer shall be approximately 5 feet in length. Construction shall include 3-6" Sound Damper lining with expanded metal retainer. Sound pressure at 5' not exceed a weighted dBA with silencer installed.

N. Abrasive Inlet:

1. Abrasive Inlet is internal to the unit located under the dirty air inlet and is fabricated of 7 gage steel construction minimum. Abrasive inlet prevents wear to the filters.

O. Catwalk with Ladder:

1. Catwalk and Ladder shall be fabricated from 2" x 2" x .25" angle iron, 4" x 4" x .375" Angle iron, 1" x .125" bar grate and .75" bar stock. Handrails fabricated from 1.5" x 1.5" x .125" square tubing. Safety kick plate fabricated from 4" x .187" steel plate. Catwalk and Ladder shall meet or exceed OSHA standard 1910.27.

P. Accessories:

1. Over pressure kit: Disable variable frequency drive if ductwork pressure exceeds static high pressure setpoint.

## 2.04 EXTRACTION ARMS

A. Manufacturers:

1. PlymoVent; Model LM-2.
2. Substitutions: Approved Equal.

B. A 6.25 inches telescopic ball bearing fume/particulate extraction arm shall be provided with a mounting bracket, counterweight system and weight guide tube, internal support shoulder mechanism, multi-section telescopic tube, universal wrist joint, hood positioning collar and clip on hood with safety mesh, all connected by 6.25 inches flexible hose.

1. The mounting bracket shall be provided with 3/8" mounting bolts holes and extend from the mounting surface by 15 inches; support a counter weight guide tube and double pulley system; a hanging flange will have a female spider pivot joint for connection to the machined steel shaft and house a ball bearing pivot and externally adjustable friction brake.
2. The counterweight system shall be comprised of: counter weight guide tube mounted 2" off mounting surface and directly to the mounting bracket; a double pulley and cable guide sleeve

mounted to the bracket and machined steel pivot to smoothly feed the cable to counterweight. The counterweight shall not exceed 10 lbs and will have a pulley and cable connection point. The cable shall be fed through the shoulder joint and down three square shafts. The shafts shall decrease in size and shall have nylon bushings to allow for smooth telescopic action.

3. The internal support shoulder mechanism shall consist of an airfoil friction pad pivot connected to the largest square telescopic tube, a short counterbalance steel spring connected to the telescopic tube and the airfoil shoulder pivot..
4. The universal wrist joint shall be supplied with an adjustable double plane, double pivot to allow the hood to be angled 110 degrees throughout a 360 degree rotation; connect the hood mounting collar and 11.5" diameter positioning ring with ratcheted manual shut off damper.
5. The capture hood will be durable spun metal hood housing a safety mesh to prevent large debris from entering the arm. It will have a specific cone shape angle of 60 degrees for greatest capture efficiency and will have an opening of 11.75" in diameter connected to the hood collar through the use of an adjustable latch. The hood shall have the capacity to be retrofitted with a halogen light kit.
6. The flexible hose will be flame resistance double wall, neoprene coated, woven polyamide with an internal steel helix.
7. The 6.25" diameter fume extraction arm shall have precise airflows and static pressure curves as tested in accordance with AMCA Standard 500-D-98.

## **2.05 COLLECTOR DRIVE CONTROL PANEL**

### **A. Manufacturers:**

1. IVEC Systems; Model Intelligent Panel System Plus (IPSP).
2. Ecogate Systems.
3. PlymoVent.

### **B. Variable frequency drive and controls to modulate dust collector fan speed to match air flow requirements of extraction arms in use.**

1. NEMA 12 enclosure.
2. 0-5 inch differential pressure transducer.
3. Hand/Off/Auto selector switch.
4. Thermostatically controlled fan with filter.
5. Electrical diagram and termination/installation diagram.
6. Drive OK indication LED.
7. Emerson control techniques frequency drive with Modbus RTU communications port.
8. Remote start/stop capability.
9. Zero speed relay.
10. Main fuses and 100 VA transformer.
11. Programming receptacle for easy programming and cloning.
12. Pilot tube kit for ambient air cleaner with installation bracket, tie straps, brass barb for ductwork and 1/4-inch tubing between control panel and ductwork sensor.
13. Filter monitoring; A green, yellow and red light in the face of the panel shall indicate the stages of differential pressure across the filters indicating the filter loading
14. Electrical; 460/3/60.
15. U.L. labeled.

C. Sequence of Operation;

1. The enclosure shall have a "Hands-Off-Auto" selector switch on the front door. In "Hand" position the fan will run at a preset speed that is set in the variable frequency drive parameter. In "Auto" position the fan speed will follow the differential pressure transducer to maintain the inches of w.c. that is set in the variable frequency drive parameter. In the "Off" position the variable frequency drive is disabled and the fan will not run.
2. As dampers are manually opened and closed the output of the differential pressure transducer changes in relation to the ductwork pressure and the variable frequency drive controls the speed of the fan to maintain the inches of w.c. setpoint.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that field measurements are as indicated.

### **3.02 INSTALLATION**

- A. Install equipment in accordance with manufacturer's instructions.
- B. Do not operate fans for any purpose until ductwork is clean, filters are in place, bearings lubricated, and fan has been test run under observation.
- C. Install flexible connections at fan inlet and discharge. Ensure metal bands of connectors are parallel with minimum 1 inch flex between ductwork and fan while running.
- D. Locate ducts with sufficient space around equipment to allow normal operating and maintenance activities.

**END OF SECTION**

**SECTION 23 37 00  
AIR OUTLETS AND INLETS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

A. Registers/grilles.

**1.02 RELATED REQUIREMENTS**

A. Section 09 90 00 - Painting and Coating: Painting of ducts visible behind outlets and inlets.

**1.03 REFERENCE STANDARDS**

A. ASHRAE Std 70 - Method of Testing the Performance of Air Outlets and Inlets; American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc.; 2006 (R2011).

**1.04 SUBMITTALS**

A. Product Data: Provide data for equipment required for this project. Review outlets and inlets as to size, finish, and type of mounting prior to submission. Submit schedule of outlets and inlets showing type, size, location, application, and noise level.

**1.05 QUALITY ASSURANCE**

A. Test and rate air outlet and inlet performance in accordance with ASHRAE Std 70.

**PART 2 PRODUCTS**

**2.01 MANUFACTURERS**

- A. Price Industries.
- B. Titus.
- C. Tuttle & Bailey.
- D. Nailor.

**2.02 CEILING EGG CRATE EXHAUST AND RETURN GRILLES (R-1)**

- A. Type: Egg crate style face consisting of 1 x 1 x 1 inch grid core.
- B. Fabrication: Grid core consists of aluminum with baked enamel finish.
- C. Frame: Channel lay-in frame for suspended grid ceilings.
- D. Accessories: Provide integral, gang & face operated opposed blade damper

**PART 3 EXECUTION**

**3.01 INSTALLATION**

- A. Install in accordance with manufacturer's instructions.
- B. Check location of outlets and inlets and make necessary adjustments in position to conform with architectural features, symmetry, and lighting arrangement.

- C. Install diffusers to ductwork with air tight connection.
- D. Provide balancing dampers on duct take-off to diffusers, and grilles and registers, despite whether dampers are specified as part of the diffuser, or grille and register assembly.
- E. Paint ductwork visible behind air outlets and inlets matte black. Refer to Section 09 90 00.

**END OF SECTION**



**SECTION 26 05 00**  
**BASIC ELECTRICAL REQUIREMENTS**

**PART 1 GENERAL**

**1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

**1.02 SECTION INCLUDES**

- A. Basic Electrical Requirements specifically applicable to Division 16 Sections, in addition to Division 1 - General Requirements.

**1.03 REGULATORY REQUIREMENTS**

- A. Conform to NFPA 70 - National Electrical Code, 2002 edition with amendments as adopted by the City of Joliet, IL.
- B. IBC International Building Code, 2003 Edition, with local amendments.
- C. ADA-AG - American with Disabilities Act - Accessibility Guidelines.
- D. Illinois Accessibility Code, 1997 Edition (Illinois Administrative Code, Title 71, Chapter I, Subchapter , Part 400.
- E. Install electrical Work in accordance with the NECA Standard of Installation.

**1.04 DELIVERY, STORAGE AND HANDLING**

- A. Store and protect all materials as specified under the provisions of Section 01600 and as specified herein.
- B. Deliver products to the project properly identified with names, model numbers, types, grades, compliance labels, and other information needed for identification.
- C. Ship products to the job site in their original packaging. Receive and store products in a suitable manner to prevent damage or deterioration. Keep equipment upright at all times.
- D. Investigate the spaces through which equipment must pass to reach its final destination. Coordinate with the manufacturer to arrange delivery at the proper stage of construction and to provide shipping splits where necessary.

**1.05 PROJECT/SITE CONDITIONS**

- A. Install work in locations shown on Drawings, unless prevented by Project conditions. Drawings have omitted certain branch circuitry in areas for ease of reading. All branch circuitry is to be provided by Contractor.
- B. Prepare drawings showing proposed rearrangement of Work to meet Project conditions, including changes to Work specified in other Sections. Obtain permission from Architect/Engineer before proceeding as specified under modification procedures.

## **1.06 QUALITY ASSURANCE**

- A. Provide Work as required for a complete and operational electrical installation.
- B. All products shall be designed, manufactured, and tested in accordance with industry standards. Standards, organizations, and their abbreviations as used hereafter, include the following:
  - 1. American National Standards Institute, Inc (ANSI).
  - 2. American Society for Testing and Materials (ASTM).
  - 3. National Electrical Manufacturers Association (NEMA).
  - 4. Underwriters Laboratories, Inc. (UL).
- C. Install all Work in accordance with the NECA Standard of Installation.

## **PART 2 PRODUCTS**

**2.01 Not used.**

## **PART 3 EXECUTION**

**3.01 Not used.**

**END OF SECTION**

**SECTION 26 05 01  
MINOR ELECTRICAL DEMOLITION**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Electrical demolition.

**1.02 SUMMARY**

- A. Section Includes:
  - 1. Electrical demolition: Remove or relocate electrical system components as necessary to accommodate equipment installation.

**PART 2 PRODUCTS**

**2.01 MATERIALS AND EQUIPMENT**

- A. Materials and equipment for patching and extending work: As specified in individual sections.

**PART 3 EXECUTION**

**3.01 EXAMINATION**

- A. Verify that abandoned wiring and equipment serve only abandoned facilities.
- B. Beginning of demolition means installer accepts existing conditions.
- C. Demolition Drawings are based on casual field observation and are intended to identify the limits of the construction site. Remove all electrical systems in their entirety in proper sequence with the Work.

**3.02 PREPARATION**

- A. Provide temporary wiring and connections to maintain existing systems in service during construction. When work must be performed on energized equipment or circuits, use personnel experienced in such operations.
- B. Existing Electrical and Life Safety Systems: Maintain existing system in service. Disable system only to make switchovers and connections. Notify Owner, Architect/Engineer and local fire service at least 24 hours before partially or completely disabling system. Minimize outage duration. Make temporary connections to maintain service in areas adjacent to work area.

**3.03 DEMOLITION AND EXTENSION OF EXISTING ELECTRICAL WORK**

- A. Remove, relocate, and extend existing installations to accommodate new construction.
- B. Remove abandoned wiring to source of supply.
- C. Repair adjacent construction and finishes damaged during demolition and extension work.
- D. Maintain access to existing electrical installations that remain active. Modify installation or provide access panel as appropriate.

**END OF SECTION**

**SECTION 26 05 19  
CONDUCTORS AND DEVICES**

**PART 1 GENERAL**

**1.01 SUMMARY**

- A. Section Includes:
1. Wiring Methods.
  2. Wire and Cable
  3. Wiring Devices and Wall Plates
  4. Damper Controller.
  5. Wiring Connections.

**1.02 SUBMITTALS**

- A. Product Data: Provide data on wiring devices and cover plates.

**1.03 QUALITY ASSURANCE**

- A. Perform Work in accordance with NECA Standard of Installation.
- B. Products: Listed and classified by Underwriters Laboratories Inc. as a suitable for purpose specified as shown.

**PART 2 PRODUCTS**

**2.01 WIRING METHODS**

- A. All locations: Building wire in raceway.
- B. Use no wire smaller than 12 AWG for power and lighting circuits, and no smaller than 14 AWG for control wiring.
1. Use 10 AWG conductor for 20 ampere, 120 volt branch circuit home runs longer than 100 feet.  
Use minimum #10 AWG conductor wire in all the following locations:
    - a. All programmable panel branch circuits (larger where indicated).
    - b. All emergency lighting and exit branch circuits.

**2.02 WIRE AND CABLE**

- A. Manufacturers:
1. Okonite.
  2. Southwire.
  3. Collyer.
- B. Building Wire:
1. Feeders and Branch Circuits Larger Than 6 AWG: Copper, stranded conductor, 600 volt insulation.
  2. Feeders and Branch Circuits 6 AWG and Smaller: Copper conductor, 600 volt insulation. 6 and 8 AWG, stranded conductor; smaller than 8 AWG, stranded conductor (solid for device terminations).
  3. Control Circuits: Copper, stranded conductor, 600 volt insulation.
  4. Use 10 AWG conductors for 20 ampere, 120 volt branch circuits longer than 75 feet.

5. Use 10 AWG conductors for 20 ampere, 277 volt branch circuits longer than 200 feet.
6. Use conductor not smaller than 12 AWG for power and lighting circuits.
7. Use conductor not smaller than 16 AWG for control circuits.

C. Locations:

1. Concealed Dry Interior Locations: Use only building wire with Type THHN insulation in raceway.
2. Exposed Dry Interior Locations: Use only building wire with Type THHN insulation in raceway.
3. Above Accessible Ceilings: Use only building wire with Type THHN insulation in raceway.
4. Wet or Damp Interior Locations: Use only building wire with Type THWN insulation in raceway.
5. Exterior Locations: Use only building wire with Type XHHW insulation in raceway.
6. Underground Installations: Use only building wire with Type XHHW insulation in raceway.

## 2.03 WIRING DEVICES AND WALL PLATES

A. Single Pole Switch: Specification grade.

1. Hubbell Model 1121.
2. P & S Model 521.
3. Leviton Model 1121.
4. Color: Ivory.

B. Momentary Contact Switch

1. Hubbell.
2. P & S.
3. Leviton Model 1257.
4. Color: Ivory.

C. Duplex Convenience Receptacle: Nema 5-20R, duplex, specification grade.

1. Hubbell.
2. Bryant.
3. Leviton.
4. Color: Ivory.

D. Decorative Cover Plate:

1. Hubbell.
2. Bryant.
3. Leviton.
4. Description: Ivory, metal.

E. Weatherproof die cast cover.

1. Intermatic Model WP1030MC (Two-Gang).
2. Approved Equal.

## 2.04 DAMPER CONTROLLER

A. Manufacturers:

1. Single Pole Switches.

B. Description:

1. Dust Collector Room Dampers Master Control Panel: Multi-function on-off NEMA 1 enclosure, gang with multiple single pole switches.
  - a. Cover Plate: Room A Damper, Room B Damper.
  - b. Label: Open/Close.

## **2.05 WIRING CONNECTIONS:**

- A. Make permanent splice connections to achieve no measurable temperature rise:
  1. Wire size up to #6 AWG: Spring wire cap.
  2. Over #6 AWG: Crimp type Compression connector. Rubber under wrap with insulated plastic tape over wrap.
- B. Make terminations to achieve no measurable temperature rise:
  1. Wire size upto #6 AWG: Set screw type compression terminal lug.
  2. Wire size over #6 AWG: Crimp type compression connector to spade lug.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION AND PREPARATION**

- A. Verify that interior of building is physically protected from weather.
- B. Verify that mechanical work which is likely to injure conductors has been completed.
- C. Completely and thoroughly swab raceway system before installing conductors.

### **3.02 INSTALLATION**

- A. Neatly train and secure wiring inside boxes, equipment, and panelboards.
- B. Use wire pulling lubricant for pulling 4 AWG and larger wires.
- C. Route wire and cable as required to meet project conditions.
  1. Wire and cable routing indicated is approximate unless dimensioned.
  2. Where wire and cable destination is indicated and routing is not shown, determine exact routing and lengths required.
- D. Pull all conductors into raceway at same time.
- E. Protect exposed cable from damage.
- F. Neatly train and lace wiring inside boxes, equipment and panelboards.
- G. Support cables above accessible ceilings to keep them from resting on ceiling tiles.
- H. Make splices, taps, and terminations to carry full ampacity of conductors without perceptible temperature rise.
- I. Use split bolt connectors for copper conductor splices and taps, 6 AWG and larger. Tape uninsulated conductors and connector with electrical tape to 150 percent of insulation rating of conductor.
- J. Terminate spare conductors with electrical tape.
- K. Do not share neutral conductor on load side of dimmers.

- L. Install wiring devices in accordance with manufacturer's instructions.
  - 1. Install wall switches at height shown on drawings, OFF position down.
  - 2. Install convenience receptacles at height shown on drawings grounding pole on bottom.
  - 3. Install specific purpose receptacles at heights shown on Drawings.
  
- M. Install wall plates flush and level.
  - 1. Install decorative plates on switch, receptacle, and blank outlets in finished areas.
  - 2. Install galvanized steel plates on outlet boxes and junction boxes in unfinished areas, above accessible ceilings, and on surface-mounted outlets.

**END OF SECTION**

**SECTION 26 05 35  
RACEWAYS AND BOXES**

**PART 1 GENERAL**

**1.01 SUMMARY**

- A. Section Includes:
  - 1. Raceway Requirements.
  - 2. Metallic Conduit and Fittings.
  - 3. Electrical Boxes.
  - 4. Penetration Sealants.

**1.02 REFERENCES**

- A. American National Standards Institute (ANSI)
  - 1. ANSI C80.1 - Specification for Rigid Steel Conduit, Zinc-Coated.
  - 2. ANSI C80.3 - Specification for Electrical Metallic Tubing, Zinc-Coated.
- B. ANSI/NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit and Cable Assemblies.
- C. NECA "Standard of Installation"
- D. Underwriter's Laboratory Fire Resistance Directory.

**1.03 QUALITY ASSURANCE**

- A. Install all raceways in accordance with applicable building codes and NECA "Standard of Installation."

**1.04 SUBMITTALS**

- A. Shop Drawings: Submit intended routing of all conduits exposed in rooms or under slab. Due to the exposed nature of this Work, careful lay-out procedures are necessary to provide an acceptable aesthetic appearance and to avoid crossing of conduits.

**1.05 PROJECT CONDITIONS**

- A. Verify that field measurements are as shown on Drawings.
- B. Verify routing and termination locations of conduit prior to rough-in.
- C. Conduit routing is shown on Drawings in approximate locations unless dimensioned. Route as required to complete wiring system.
- D. Electrical boxes are shown on Drawings in approximate locations unless dimensioned. Install at locations required for box to serve intended purpose. Include in base bid, installation within 10 feet of location shown.

**PART 2 PRODUCTS**

**2.01 RACEWAY REQUIREMENTS**

- A. Use only specified raceway in the following locations:



1. Branch Circuits and Feeders:
  - a. Concealed Dry Interior Locations: Electrical metallic tubing.
  - b. Exposed Dry Interior Finished Locations: Electrical metallic tubing.
  - c. Exposed Dry Interior Unfinished Locations: Electrical metallic tubing.
  - d. Equipment Subject to Vibration, Dry Location: Flexible Conduit
  - e. Equipment Subject to Vibration, All other areas: Liquid-tight Flexible Conduit.
  - f. All other locations: Galvanized Rigid Metallic Conduit.

B. Size raceways for conductor type installed.

1. Minimum Size Conduit Homerun to Panelboard: 3/4-inch unless noted otherwise.

## **2.02 METALLIC CONDUIT AND FITTINGS**

A. Conduit:

1. Rigid Steel Conduit: ANSI C80.1.
2. Electrical metallic tubing: ANSI C80.3.
3. Flexible Conduit: UL 1, zinc-coated steel.
  - a. Liquidtight Flexible Conduit: UL360. Fittings shall be specifically approved for use with this raceway.

B. Conduit Fittings:

1. Metal Fittings and Conduit Bodies: NEMA FB 1.
  - a. EMT fittings: Use set-screw indentor-type fittings.

## **2.03 ELECTRICAL BOXES**

A. Manufacturers:

1. Raco.
2. Steel City.
3. Appleton.
4. Substitutions: Or Approved Equal.

B. Sheet Metal Outlet Boxes: ANSI/NEMA OS 1, galvanized steel, suitable for installation in masonry:

C. Equipment Support Boxes: Rated for weight of equipment supported; include 2 inch male fixture studs where required.

D. Wet Location Outlet Boxes: Cast aluminum: Cast alloy, deep type, gasket cover, threaded hubs.

## **2.04 PENETRATION SEALANTS**

A. Fire-rated assemblies: Provide firestopping of all penetrations made by Work under this Contract in accordance with provisions of Section 07 84 00 requirements.

B. Thermal and Moisture Protection: Provide thermal and moisture protection made by Work under this Contract of all exterior wall, floor and roof penetrations in accordance with Division 7 requirements.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION AND PREPARATION**

- A. Verify that interior of building is physically protected from weather.
- B. Verify that mechanical work which is likely to injure conductors has been completed.
- C. Completely and thoroughly swab raceway system before installing conductors.
- D. Verify that supporting surfaces are ready to receive work.
- E. Electrical boxes are shown on Drawings, in approximate locations, unless dimensioned.
  - 1. Obtain verification from Architect/Engineer for locations of outlets throughout prior to rough-in.
- F. Degrease and clean surfaces to receive wire markers.

### **3.02 INSTALLATION**

- A. Arrange conduit to maintain headroom and to present neat appearance.
  - 1. Route raceway parallel and perpendicular to walls and adjacent piping.
  - 2. Maintain minimum 6 inch clearance to piping and 12 inch clearance to heat surfaces such as flues and heating appliances.
  - 3. Maintain required fire, acoustic, and vapor barrier rating when penetrating walls, floors, and ceilings.
  - 4. Use conduit hangers and clamps; do not fasten with wire or perforated pipe straps.
  - 5. Use conduit bodies to make sharp changes in direction.
  - 6. Terminate conduit stubs with insulated bushings.
  - 7. Use suitable caps to protect installed raceway against entrance of dirt and moisture.
  - 8. Install expansion joints where raceway crosses building expansion joints.
- B. Install electrical boxes as shown on the drawings, and as required for splices, taps, wire pulling, equipment connections and regulatory requirements.
  - 1. Locate and install electrical boxes to allow access. Provide access panels if required.
  - 2. Locate and install electrical boxes to maintain headroom and to present neat mechanical appearance.
  - 3. Install pull boxes and junction boxes above accessible ceilings or in unfinished areas.
  - 4. Provide knockout closures for unused openings.
  - 5. Coordinate mounting heights and locations of outlets above counters, benches, backsplashes and furniture.
- C. Use recessed outlet boxes in finished areas and where indicated.
  - 1. Secure boxes to interior wall and partition studs, accurately positioning to allow for surface finish thickness.
  - 2. Use stamped steel stud bridges for flush outlets in hollow stud wall, and adjustable steel channel fasteners for flush ceiling outlet boxes.
  - 3. Locate boxes in masonry walls to require cutting corner only. Coordinate masonry cutting to achieve neat openings for boxes.
  - 4. Do not install boxes back-to-back in walls; provide 6 inches separation, minimum; except provide 24 inches separation, minimum in acoustic-rated walls.

- 5. Do not damage insulation.
- D. Install conduit to preserve fire resistance rating of walls, floors, partitions and other elements, using materials and methods recognized by Underwriters Laboratory Fire Resistance Directory.
- E. Provide anchors, fasteners, and supports in accordance with NECA "Standard of Installation".
- F. Do not fasten supports to pipes, ducts, mechanical equipment, and conduit.
- G. Do not use powder-actuated anchors.
- H. Cut or core structural members and thermal and moisture barriers only upon receiving permission from Architect. Each Contractor shall be responsible for making necessary penetrations for the completion of it's Work.
- I. Fabricate supports from structural steel or steel channel. Rigidly weld members or use hexagon head bolts to present neat appearance with adequate strength and rigidity. Use spring lock washers under all nuts.
- J. Use sheet metal channel to bridge studs above and below cabinets and panelboards recessed in hollow partitions.

**END OF SECTION**

**SECTION 26 05 53**  
**IDENTIFICATION FOR ELECTRICAL SYSTEMS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Electrical identification requirements.
- B. Identification nameplates and labels.
- C. Wire and cable markers.

**1.02 RELATED REQUIREMENTS**

- A. Section 09 90 00 - Painting and Coating.

**1.03 REFERENCE STANDARDS**

- A. NFPA 70 - National Electrical Code; National Fire Protection Association; Most Recent Edition  
Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

**1.04 ADMINISTRATIVE REQUIREMENTS**

- A. Coordination:
  - 1. Verify final designations for equipment, systems, and components to be identified prior to fabrication of identification products.
- B. Sequencing:
  - 1. Do not conceal items to be identified, in locations such as above suspended ceilings, until identification products have been installed.
  - 2. Do not install identification products until final surface finishes and painting are complete.

**1.05 SUBMITTALS**

- A. Product Data: Provide manufacturer's standard catalog pages and data sheets for each product.

**1.06 QUALITY ASSURANCE**

- A. Conform to requirements of NFPA 70.
- B. Products: Listed and classified by Underwriters Laboratories Inc. as suitable for purpose specified on drawings.

**1.07 FIELD CONDITIONS**

- A. Do not install adhesive products when ambient temperature is lower than recommended by manufacturer.

**PART 2 PRODUCTS**

**2.01 IDENTIFICATION REQUIREMENTS**

- A. Identification for Equipment:
  - 1. Use identification nameplate to identify each piece of electrical distribution and control equipment and associated sections, compartments, and components.

- a. Motor Control Centers:
    - 1) Use identification nameplate to identify load(s) served for each branch device. Do not identify spares and spaces.
  - b. Enclosed switches, circuit breakers, and motor controllers:
    - 1) Identify load(s) served. Include location when not within sight of equipment.
- B. Identification for Conductors and Cables:
- 1. Color Coding for Power Conductors 600 V and Less: Comply with Section 26 05 19.
  - 2. Use wire and cable markers to identify circuit number or other designation indicated for power, control, and instrumentation conductors and cables at the following locations:
    - a. At each source and load connection.
    - b. Within boxes when more than one circuit is present.

## 2.02 IDENTIFICATION NAMEPLATES AND LABELS

- A. Identification Nameplates:
- 1. Manufacturers:
    - a. Brimar Industries, Inc: [www.brimar.com](http://www.brimar.com).
    - b. Kolbi Pipe Marker Co: [www.kolbipipemarkers.com](http://www.kolbipipemarkers.com).
    - c. Seton Identification Products: [www.seton.com](http://www.seton.com).
  - 2. Materials:
    - a. Indoor Clean, Dry Locations: Use plastic nameplates.
    - b. Outdoor Locations: Use plastic nameplates suitable for exterior use.
  - 3. Plastic Nameplates: Two-layer or three-layer laminated acrylic or electrically non-conductive phenolic with beveled edges; minimum thickness of 1/16 inch; engraved text.
  - 4. Mounting Holes for Mechanical Fasteners: Two, centered on sides for sizes up to 1 inch high; Four, located at corners for larger sizes.
- B. Identification Labels:
- 1. Manufacturers:
    - a. Brady Corporation: [www.bradyid.com](http://www.bradyid.com).
    - b. Brother International Corporation: [www.brother-usa.com](http://www.brother-usa.com).
    - c. Panduit Corp: [www.panduit.com](http://www.panduit.com).
  - 2. Materials: Use self-adhesive laminated plastic labels; UV, chemical, water, heat, and abrasion resistant.
  - 3. Text: Use factory pre-printed or machine-printed text. Do not use handwritten text unless otherwise indicated.
- C. Format for Equipment Identification:
- 1. Minimum Size: 1 inch by 2.5 inches.
  - 2. Legend:
    - a. Equipment designation or other approved description.
  - 3. Minimum Text Height:
    - a. Equipment Designation: 1/4 inch.
    - b. Individual Loads: 1/8 inch.
  - 4. Color:
    - a. Normal Power System: White text on black background.

- D. Format for Control Device Identification:
  - 1. Minimum Size: 3/8 inch by 1.5 inches.
  - 2. Legend: Load controlled or other designation indicated.
  - 3. Text: All capitalized unless otherwise indicated.
  - 4. Minimum Text Height: 3/16 inch.
  - 5. Color: Black text on clear background.

## **2.03 WIRE AND CABLE MARKERS**

- A. Manufacturers:
  - 1. Brady Corporation: [www.bradyid.com](http://www.bradyid.com).
  - 2. HellermannTyton: [www.hellermanntyton.com](http://www.hellermanntyton.com).
  - 3. Panduit Corp: [www.panduit.com](http://www.panduit.com).
- B. Markers for Conductors and Cables: Use wrap-around self-adhesive vinyl cloth type markers suitable for the conductor or cable to be identified.
- C. Markers for Conductor and Cable Bundles: Use plastic marker tags secured by nylon cable ties.
- D. Legend: Power source and circuit number or other designation indicated.
- E. Text: Use factory pre-printed or machine-printed text, all capitalized unless otherwise indicated.
- F. Minimum Text Height: 1/8 inch.
- G. Color: Black text on white background unless otherwise indicated.

## **PART 3 EXECUTION**

### **3.01 PREPARATION**

- A. Clean surfaces to receive adhesive products according to manufacturer's instructions.

### **3.02 INSTALLATION**

- A. Install products in accordance with manufacturer's instructions.
- B. Install identification products to be plainly visible for examination, adjustment, servicing, and maintenance. Unless otherwise indicated, locate products as follows:
  - 1. Surface-Mounted Equipment: Enclosure front.
  - 2. Flush-Mounted Equipment: Inside of equipment door.
  - 3. Free-Standing Equipment: Enclosure front; also enclosure rear for equipment with rear access.
  - 4. Elevated Equipment: Legible from the floor or working platform.
  - 5. Branch Devices: Adjacent to device.
  - 6. Interior Components: Legible from the point of access.
  - 7. Conduits: Legible from the floor.
  - 8. Boxes: Outside face of cover.
  - 9. Conductors and Cables: Legible from the point of access.
- C. Install identification products centered, level, and parallel with lines of item being identified.
- D. Secure nameplates to exterior surfaces of enclosures using stainless steel screws and to interior surfaces using self-adhesive backing or epoxy cement.

- E. Install self-adhesive labels and markers to achieve maximum adhesion, with no bubbles or wrinkles and edges properly sealed.
- F. Install underground warning tape above buried lines with one tape per trench at 3 inches below finished grade.

### **3.03 FIELD QUALITY CONTROL**

- A. Replace self-adhesive labels and markers that exhibit bubbles, wrinkles, curling or other signs of improper adhesion.

**END OF SECTION**

**SECTION 26 06 20.26  
WIRING CONNECTIONS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Electrical connections to equipment and devices not an integral part of the electrical distribution system.

**1.02 REFERENCE STANDARDS**

**1.03 ADMINISTRATIVE REQUIREMENTS**

- A. Provide conduit rough-in and electrical connection to powered equipment and devices identified in the Project Manual and on the Drawings. Refer specifically, but not limited to, these Specification Sections for further information:
  - 1. Section 23 35 14 Dust Collection Equipment
  - 2. Section 23 09 13 Instrumentation and Control Devices
  - 3. Section 22 15 00 General-Service Compressed-Air Systems
- B. Coordination: Determine connection locations and requirements.
  - 1. Do not rely solely on the Drawings and Project Manual for execution of the Work of this Section.
  - 2. Include necessary field evaluation time to inspect connection requirements of equipment.
  - 3. Coordinate with other trades to determine exact rough-in requirements for each piece of equipment or device.
  - 4. Obtain and review shop drawings, product data, and manufacturer's instructions for equipment.
- C. Sequencing:
  - 1. Sequence rough-in of electrical connections to coordinate with installation schedule for equipment.
  - 2. Sequence electrical connections to coordinate with start-up schedule for equipment.

**PART 2 PRODUCTS**

**2.01 Not Used**

**PART 3 EXECUTION**

**3.01 EXAMINATION**

- A. Verify that equipment is ready for electrical connection, wiring, and energization.

**3.02 ELECTRICAL CONNECTIONS**

- A. Make electrical connections in accordance with equipment manufacturer's instructions.
- B. Make conduit connections to equipment using flexible conduit. Use liquidtight flexible conduit with watertight connectors in damp or wet locations.
- C. Make wiring connections using wire and cable with insulation suitable for temperatures encountered in heat producing equipment.



- D. Provide suitable strain-relief clamps and fittings for cord connections at outlet boxes and equipment connection boxes.
- E. Install disconnect switches, controllers, control stations, and control devices for all equipment.
- F. Modify equipment control wiring with terminal block jumpers as directed by manufacturer's installation instructions.
- G. Provide interconnecting conduit and wiring between devices and equipment as directed by manufacturer's installation instructions.

### **3.03 ELECTRICAL CONDUIT ROUGH-IN**

- A. Obtain manufacturer's installation instructions and rough-in electrical conduit system as detailed in manufacturer's installation instructions.
- B. Extend conduit to accessible ceiling locations where complete conduit system is not required.

**END OF SECTION**

**SECTION 26 24 16  
PANELBOARDS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Overcurrent protective devices for panelboards.

**1.02 RELATED REQUIREMENTS**

- A. Section 26 05 26 - Grounding and Bonding for Electrical Systems.
- B. Section 26 05 53 - Identification for Electrical Systems: Identification products and requirements.
- C. Section 26 28 13 - Fuses: Fuses for fusible switches and spare fuse cabinets.

**1.03 REFERENCE STANDARDS**

- A. NECA 1 - Standard for Good Workmanship in Electrical Construction; National Electrical Contractors Association; 2010.
- B. NEMA PB 1.1 - General Instructions for Proper Installation, Operation and Maintenance of Panelboards Rated 600 Volts or Less; National Electrical Manufacturers Association; 2007.

**1.04 SUBMITTALS**

- A. Product Data: Provide manufacturer's standard catalog pages and data sheets for panelboards, enclosures, overcurrent protective devices, and other installed components and accessories.
  - 1. Include characteristic trip curves for each type and rating of overcurrent protective device upon request.
- B. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.
- C. Project Record Documents: Record actual installed locations of panelboards and actual installed circuiting arrangements.
- D. Maintenance Data: Include information on replacement parts and recommended maintenance procedures and intervals.

**1.05**

**PART 2 PRODUCTS**

**2.01 MANUFACTURERS**

- A. Schneider Electric; Square D Products: [www.schneider-electric.us](http://www.schneider-electric.us).
- B. Match Existing Panelboard Manufacturer..

## **2.02 OVERCURRENT PROTECTIVE DEVICES**

### **PART 3 EXECUTION**

#### **3.01 EXAMINATION**

- A. Verify that field measurements are as shown on the drawings.
- B. Verify that the ratings and configurations of the panelboards and associated components are consistent with the indicated requirements.
- C. Verify that mounting surfaces are ready to receive panelboards.
- D. Verify that conditions are satisfactory for installation prior to starting work.

#### **3.02 INSTALLATION**

- A. Install products in accordance with manufacturer's instructions.
- B. Install panelboard accessories securely, in a neat and workmanlike manner in accordance with NECA 1 (general workmanship), NECA 407 (panelboards), and NEMA PB 1.1.
- C. Arrange equipment to provide minimum clearances in accordance with manufacturer's instructions and NFPA 70.
- D. Install all field-installed branch devices, components, and accessories.
- E. Provide filler plates to cover unused spaces in panelboards.

#### **3.03 ADJUSTING**

- A. Adjust tightness of mechanical and electrical connections to manufacturer's recommended torque settings.
- B. Adjust alignment of panelboard fronts.

#### **3.04 CLEANING**

- A. Clean dirt and debris from panelboard enclosures and components according to manufacturer's instructions.

**END OF SECTION**

**SECTION 26 24 19**  
**MOTOR-CONTROL CENTERS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Motor control centers - Modifications..

**1.02 RELATED REQUIREMENTS**

- A. Section 26 05 53 - Identification for Electrical Systems: Identification products and requirements.
- B. Section 26 28 13 - Fuses.
- C. Section 26 43 00 - Surge Protective Devices.

**1.03 REFERENCE STANDARDS**

- A. NEMA ICS 2.3 - Instructions for the Handling, Installation, Operation, and Maintenance of Motor Control Centers; National Electrical Manufacturers Association; 1995 (R2008).
- B. NEMA KS 1 - Enclosed and Miscellaneous Distribution Equipment Switches (600 Volts Maximum); National Electrical Manufacturers Association; 2001 (R2006).

**1.04 SUBMITTALS**

- A. Product Data: Provide catalog sheets showing voltage, controller size, ratings and size of switching and overcurrent protective devices, short circuit ratings, dimensions, and enclosure details.

**PART 2 PRODUCTS**

**2.01 MANUFACTURERS**

- A. Existing Motor Control Center: Square D Model 5 (Discontinued Product)\_\_\_\_\_.

**2.02 DESCRIPTION**

**2.03 DISCONNECTS**

- A. Fusible Switch Assemblies: NEMA KS 1, enclosed knife switch with externally operable handle. Fuse clips: Designed to accommodate Class R fuses. Provide retro-fit bucket with 5 year warranty.

**PART 3 EXECUTION**

**3.01 EXAMINATION**

- A. Verify that surfaces are suitable for motor control center installation.
- B. Verify that field measurements are as indicated instructed by manufacturer.

**3.02 INSTALLATION**

- A. Tighten accessible bus connections and mechanical fasteners after placing motor control center.
- B. Provide fuses in fusible switches; refer to Section 26 28 13 for product requirements.

C. Identify motor control centers in accordance with Section 26 05 53.

**END OF SECTION**

**SECTION 26 28 13  
FUSES**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

A. Fuses.

**1.02 REFERENCE STANDARDS**

- A. NEMA FU 1 - Low Voltage Cartridge Fuses; National Electrical Manufacturers Association; 2002 (R2007).
- B. NFPA 70 - National Electrical Code; National Fire Protection Association; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- C. UL 248-1 - Low-Voltage Fuses - Part 1: General Requirements; Current Edition, Including All Revisions.
- D. UL 248-12 - Low-Voltage Fuses - Part 12: Class R Fuses; Current Edition, Including All Revisions.

**1.03 SUBMITTALS**

A. Product Data: Provide manufacturer's standard data sheets including voltage and current ratings, interrupting ratings, time-current curves, and current limitation curves.

**1.04 QUALITY ASSURANCE**

A. Conform to requirements of NFPA 70.

**PART 2 PRODUCTS**

**2.01 MANUFACTURERS**

- A. Cooper Bussmann, a division of Cooper Industries: [www.cooperindustries.com](http://www.cooperindustries.com).
- B. Cutler-Hammer: [www.cutler-hammer.eaton.com](http://www.cutler-hammer.eaton.com).
- C. GE Industrial: [www.geindustrial.com](http://www.geindustrial.com).
- D. Mersen (formerly Ferraz Shawmut): [ferrazshawmut.mersen.com](http://ferrazshawmut.mersen.com).
- E. Littelfuse, Inc: [www.littelfuse.com](http://www.littelfuse.com).

**2.02 APPLICATIONS**

A. Individual Motor Branch Circuits: Class RK5, time-delay.

**2.03 FUSES**

- A. Provide products listed and classified by Underwriters Laboratories Inc. as suitable for the purpose indicated.
- B. Unless specifically indicated to be excluded, provide fuses for all fusible equipment as required for a complete operating system.
- C. Provide fuses of the same type, rating, and manufacturer within the same switch.

- D. Comply with UL 248-1.
- E. Unless otherwise indicated, provide cartridge type fuses complying with NEMA FU 1, Class and ratings as indicated.
- F. Voltage Rating: Suitable for circuit voltage.
- G. Class R Fuses: Comply with UL 248-12.

### **PART 3 EXECUTION**

#### **3.01 EXAMINATION**

- A. Verify that fuse ratings are consistent with circuit voltage and manufacturer's recommendations and nameplate data for equipment.
- B. Verify that conditions are satisfactory for installation prior to starting work.

#### **3.02 INSTALLATION**

- A. Do not install fuses until circuits are ready to be energized.
- B. Install fuses with label oriented such that manufacturer, type, and size are easily read.

**END OF SECTION**



# CONTRACT AGREEMENT

Purchase Order#: XXXXXX Account #: XXX-XXX-XXX.XXX

Date: XXXXXX

Project: XXXXX

Between:

Joliet Junior College  
1215 Houbolt Road  
Joliet, Illinois 60431

AND

Contractor  
Address  
Address

In the amount of \$ xxxxxxxxxxxxxxxxxxxxxxxxxxxx and 00/100

## ARTICLE 1

### THE WORK

1.1 The Trade Contractor and JJC agree that the materials and equipment to be furnished and the work to be done by the Trade Contractor are as follows:

The Contract Sum includes, but is not limited to the following:

- 110% Performance and payment bond to Joliet Junior College, Illinois Community College District No. 525
- Insurance in accordance with Schedule "A" Insurance Requirements.

The Contract Sum excludes the following:

- All sales, consumer, use and other similar taxes on equipment and materials incorporated into the work for this project. Tax Exempt No E9992-4773-06 for Joliet Junior College, Illinois Community College District No. 525

1.2 The Trade Contractor shall be held accountable for the following Project related responsibilities: furnish all labor and supervision; furnish, supply and install all equipment, material supplies, tools, scaffolding, hoisting, transportation, unloading and handling; do all things required to complete the work described above on the Project all in accordance with the drawings, documents and specifications prepared by the Architect/Engineer/Owner; and furnish all necessary information, shop drawings, details, samples, brochures,



etc. for Owner/Architect approval, as may be required.

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**ARTICLE 2**

**TIME OF COMMENCEMENT AND COMPLETION**

2.1 Trade Contractor shall start the work upon notice to proceed and shall execute the work with diligence and so as to maintain such schedules and milestones as established by JJC's Construction Manager. The Trade Contractor agrees to complete portions and the whole of the work by the following anticipated dates:

2.2 The Trade Contractor is cautioned that schedules and milestones are subject to review and revision. It is the sole responsibility of the Trade Contractor to attend job meetings, keep itself informed of any revisions, and conform to any such revisions.

2.3 In the event that the Trade Contractor should fail to maintain JJC's progress schedule or the schedule as established above, the JJC Construction Manager reserves the right, after 48 hours formal notice, either by letter or confirmed email to the Trade Contractor, to procure the materials, equipment, and labor necessary to proceed with, or to complete the work, or any portion thereof from other sources and charge the cost thereof to the Trade Contractor.

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**ARTICLE 3**

**THE CONTRACT SUM**

3.1 JJC agrees to pay the Trade Contractor for the satisfactory performance of his work the total sum of:

Contract Amount: \$ .00

Contract amount is made up of the following:

- Base Bid .....\$
- Alternate Bid No. ....\$
- Total Contract Amount.....\$

Allowances (if applicable):

Unit Prices (furnished and installed unless stated otherwise)

**In current funds subject to additions and deductions for changes, as may be agreed upon, and to make payments on account thereof as follows:**

- 3.2 On the established day of each month, the Trade Contractor shall deliver to the JJC Construction Manager (2) completed copies of the JJC Payment Application Package showing values of all materials delivered and work completed up to the established billing date for which payment is being requested. It is specifically understood and agreed that prior to submission of the first statement the Trade Contractor will deliver to the JJC Construction Manager, for review and approval, a detailed breakdown of this contract sum showing a schedule of values for the various parts of the work. Once accepted, this schedule of values will be used as a basis for checking the Trade Contractor's monthly statement.
- 3.3 The Trade Contractor shall, with the second and each succeeding monthly request for payment, submit a waiver of lien showing all payments made for labor and materials and on account for all work covered in the previous months request for payment. Affidavit and waiver of liens may be required to be submitted from Trade Contractors, suppliers, and/or Trade-Trade Contractors (all tier).
- 3.3.1 The Trade Contractor shall, with the second and each succeeding monthly request for payment, submit certified payroll for all labor and sub labor.
- 3.4 Ten percent (10%) of each payment shall be retained, unless specific provisions to the contrary are indicated in the contract documents.
- 3.5 No payment made under this Agreement, including the final payment, shall be conclusive evidence of the performance of the work, either wholly or in part, and no payment shall be construed as an acceptance of defective work or improper materials.
- 3.6 The Trade Contractor shall save and keep JJC's property free from all mechanics' and material liens and all other liens and claims, legal or equitable, arising out of the Trade Contractors work hereunder. In the event any such lien or claim is filed by anyone claiming by, through, or under the Trade Contractor, the Trade Contractor shall remove and discharge same, by bonding or otherwise, within five (5) days of the filing thereof.

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**ARTICLE 4**

**THE CONTRACT DOCUMENTS**

- 4.1 The contract documents consist of this Agreement and any exhibits attached hereto; general conditions, supplementary, special and other conditions, the drawings, specifications, general instructions to bidders, supplements to bidder's documents, form of proposal, all addenda issued prior to and all modifications issued after execution of the Agreement. Any post bid review and/or pre-construction document shall be considered part of this Agreement.
- 4.2 The Trade Contractor agrees to perform the work under the general direction of the JJC Construction Manager.
- 4.3 If there is a provision for liquidated damages in the contract documents, the Trade Contractor shall be liable for any liquidated damages by reason of the failure of the Trade Contractor to prosecute the work diligently and properly.
- 4.4 No extra work shall be performed under this Agreement, except upon receipt of a written change

order from JJC. Should the Trade Contractor proceed with any work they consider extra to this contract without a fully executed JJC change order form, it is considered at their own risk and cost.

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## **ARTICLE 5**

### **INSURANCE AND INDEMNITY**

5.1 The Trade Contractor agrees to at the time of execution of this Agreement furnish the Construction Manager with certificates of an insurance company (or other source). These certificates should certify that the Trade Contractor is protected on the work with worker's compensation and employer's liability, public liability and bodily injury, property damage insurance, and any other insurance as required by the contract documents and in accordance with the attachment to this Agreement entitled "Insurance Specifications". The Trade Contractor will not be permitted to start work at the site until these certificates are filed with the JJC Construction Manager. Compliance by the Trade Contractor with the foregoing requirements, as to carrying insurance and furnishing certificates, shall not relieve the Trade Contractor of its liabilities and obligations.

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## **ARTICLE 6**

### **PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND**

6.1 The Trade Contractor agrees to furnish and pay for a 110% Performance Bond and a 110% Labor and Material Payment Bond. The bonds are to be delivered within 10 days of receipt of a purchase order and execution of this agreement.

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## **ARTICLE 7**

### **WARRANTY**

7.1 The Trade Contractor agrees to promptly make good, without cost to the JJC, any and all defects, due to faulty workmanship and/or materials, which may appear within the guarantee or warranty period so established in the contract documents. If no such period be stipulated in the contract documents, then such guarantee shall be for a period of one (1) year from date of completion and acceptance of the work by JJC. The Trade Contractor further agrees to provide any and all guarantees as required by the terms of the contract documents, as a condition precedent to final payment.

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## **ARTICLE 8**

### **CHANGES IN THE WORK**

- A. 8.1 The Trade Contractor may be ordered in writing by JJC, without invalidating this Agreement, to make changes in the work within the general scope of this Agreement. These changes may consist of additions, deletions, or other revisions, the contract sum and the contract time being adjusted accordingly. The Trade Contractor, prior to the commencement of such changed or revised work, shall submit promptly to the JJC Construction Manager written copies of any claim for adjustment

to the contract sum and contract time for such revised work in a manner consistent with the contract documents. Any extra work done by the Contractor will be considered performed at no extra cost to JJC unless a written JJC change order form has been fully executed and signed by the Director of Business and Auxiliary Services. A contractor shall not be entitled to any compensation for extra work/material based on verbal conversations or email exchanges (the contractor is considered proceeding with extra work at their own risk without a fully executed JJC change order form). It is the contractor's responsibility to obtain a fully executed change order form from JJC. A change order or a combination of multiple change orders may not exceed 10% of the original contract without JJC seeking approval from the Board of Trustees.

8.2 Where changes in the work involve both additions and deletions, percentages for overhead and profit shall be applied to the net increase only of such values for labor and materials.

8.3 The amount to be paid by the Owner for changes in the work, as outlined in paragraph 8.1 above, shall be made on the basis of one of the following methods:

(a) by mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation and agreed upon by the JJC Construction Manager and the Trade Contractor, or

(b) by unit prices stated in the contract documents, or

(c) if no such unit prices are set forth and if the parties cannot agree upon a lump sum, then the actual net cost in money to the Trade Contractor of materials and labor (including insurance and applicable taxes) required, plus rental of plant equipment (other than small tools and small equipment) plus compensation for overhead and for profit as noted in Article 12, field overhead will not be considered as part of actual net cost, or

(d) by the method provided in subparagraph 8.4.

8.4 If none of the above methods set forth in clauses 8.3 (a), 8.3 (b), 8.3 (c) is agreed upon, the Trade Contractor, provided he receives a written order signed by JJC shall promptly proceed with the work involved. The cost of such work shall be determined by the JJC Construction Manager on the basis of reasonable expenditures and savings of performing the work attributable to the change, including, in the case of an increase in the contract sum, a reasonable allowance for overhead and profit as set forth in the bid documents. In such case, and also under clauses 8.3 (c) and 8.3 (d) above, the Trade Contractor shall keep and present, in such form as the JJC Construction Manager may prescribe, an itemized accounting together with appropriate supporting data for inclusion in a change order. Unless otherwise provided in the contract documents, cost shall be limited to the following: cost of materials including sales tax and cost of delivery, cost of labor including social security, old age and unemployment insurance and fringe benefits required by Agreement or custom; workers or workmen's compensation insurance; bond premiums; rental value of equipment and machinery; and the additional costs of supervision and field office personnel directly attributable to the change. Pending final determination of cost, payments, on account shall be made as determined by the JJC. The amount of credit to be allowed by the Trade Contractor for any deletion or change which results in a net decrease in the contract sum will be the amount of the actual net cost as confirmed by JJC when both additions and credits covering related work or substitutions are involved in any one change, the allowance for overhead and profit shall be figured on the basis of the net increase, if any with respect to that

change.

8.5 For work performed by a Trade-Trade Contractor, the Trade Contractor will be allowed to add 5% only and said Trade-Trade Contractor mark-up shall not exceed the agreed upon percentages noted in Article 11 for overhead and profit.

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## ARTICLE 9

### TRADE CONTRACTOR RESPONSIBILITIES

9.1 The Trade Contractor shall provide sufficient, safe, and proper facilities at all times for the inspection of the work by JJC. The Trade Contractor shall, within a 24-hour notice from the JJC Construction Manager, proceed to take down all portions of the work and remove from the grounds or buildings, all materials, whether worked or unworked, which the JJC Construction Manager shall condemn as unsound or improper, or as in any way failing to conform to the contract documents. The Trade Contractor shall make good at its own expense, all work damaged or destroyed thereby.

9.2 The Trade Contractor agrees, in the performance of this Agreement, to comply with all federal, state, municipal, and local laws, ordinances, codes and governing regulations, to pay all costs and expenses required thereby; to pay all fees, charges, assessments, and taxes, including sales and use taxes, and to pay all fringe and other benefits required by Agreement or law.

9.3 The Trade Contractor shall pay all royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall save JJC harmless from loss on account thereof, except that JJC shall be responsible for all such loss when a particular design, process or the product of a particular manufacturer or manufacturers is specified, but if the Trade Contractor has reason to believe that the design, process or product specified is an infringement of a patent, he shall be responsible for such loss unless he promptly gives such information to the JJC Construction Manager.

9.4 Should the Trade Contractor become insolvent, or at any time, refuse or neglect to supply a sufficiency of properly skilled workers, or equipment and materials of the proper quality, or fail in any respect to prosecute the work with promptness and diligence, or fail in the performance of any of the Agreements herein contained, JJC shall be at liberty, after 48 hours written notice to the Trade Contractor, to provide any such labor, equipment, and materials and deduct the cost thereof, from any money then due or thereafter to become due to the Trade Contractor, under this Agreement if such refusal, neglect, or failure is sufficient ground for such actions, JJC shall also be at liberty to terminate the employment of the Trade Contractor. Consequently, JJC may enter upon the premises to take possession, for the purpose of completing the work included under this Agreement, of all materials, tools, and appliances thereon, and to employ any other person or persons to finish the work and provide the materials therefore. In case of such discontinuance of the employment, the Trade Contractor shall not be entitled to receive any further payment under this Agreement until the said work shall be wholly finished. If such expense shall exceed such unpaid balance, the Trade Contractor shall pay the difference to JJC. The expense incurred by JJC, as herein provided, either for furnishing materials, or finishing the work, and any damage incurred through such default, shall be chargeable to the Trade Contractor. In the event that a Termination for Cause is not upheld by a properly empowered judicial or arbitral authority, then the Termination for Cause shall be deemed a Termination for Convenience and construed under Section 9.4.1. hereof.

9.4.1 Notwithstanding the above paragraph, JJC reserves the right to terminate this Agreement for its convenience upon written notice to the Trade Contractor. In such instance the Trade Contractor will be paid

its share of the contract amount proportionate to the percentage of its work completed and other reasonable cancellation costs incurred as a result of said termination. No payments shall be made for anticipated overhead and profit. Prior to making any payments under this clause, JJC shall have the right to audit the records of the Trade Contractor.

9.5 The Trade Contractor agrees to adhere to the federal occupational safety act, state and local safety regulations and JJC's safety and health program so as to avoid injury or damage to persons or property, and to be directly responsible for damage to persons and property resulting from failure to do so.

9.6 In the event the Trade Contractor after a 24-hour written notice from JJC fails to take corrective action to insure compliance with said safety regulations or removal of rubbish and debris resulting from his work, JJC shall undertake these obligations and charge the cost of same to the Trade Contractor's account without further notice to the Trade Contractor.

9.7 The Trade Contractor agrees to notify the JJC Construction Manager of all accidents which may occur to persons or property and shall provide a copy of all accident reports on appropriate forms. All reports shall be signed by the Trade Contractor or his authorized representative and submitted within five (5) days of occurrence.

9.8 The Trade Contractor shall procure its materials from such sources, and employ such labor subject to contract terms and conditions in order to ensure harmonious labor relations on the site and prevent strikes or labor disputes by its employees or other trade employees. The Trade Contractor, in the event of a labor dispute including strikes, shall take whatever action is required in order to prevent the disruption of work on the Project site.

9.9 The Trade Contractor will not assign this Agreement or any moneys due or to become due under this Agreement, or sublet the whole or any part of the work to be performed hereunder, without the written consent of the Owner. In the event of such consent, a Trade-Trade Contractor must comply with all the requirements of this Agreement.

9.10 The Trade Contractor agrees that all disputes concerning the jurisdiction of trades shall be adjusted in accordance with any plan for the settlement of jurisdictional disputes which may be in effect either nationally or in the locality in which the work is being done. The Trade Contractor shall be bound by, and shall abide by, all such adjustments and settlements of jurisdictional disputes, whether or not the Trade Contractor is signature bound by the Agreement establishing the impartial jurisdictional disputes board and/or its successors. The Trade Contractor agrees not to cause work stoppage, due to the jurisdictional assignment of work.

9.11 The Trade Contractor shall submit to the JJC Construction Manager upon request, copies of orders placed for the various materials required for the Project or authentic stock lists if such material is normally a stock item. Order copies need not reflect prices but should indicate type of material, quantity, vendor name, and address, etc. The Trade Contractor shall be required to submit to the JJC Construction Manager a monthly material status report, or more often if required by the JJC Construction Manager, as a prerequisite for the monthly progress payment. The Trade Contractor shall notify the JJC Construction Manager immediately upon learning of a change of status of any material, equipment, or supplies.

9.12 The Trade Contractor shall continuously and adequately protect all his work and will immediately replace all damaged and defective work.

9.13 The Trade Contractor agrees to maintain an adequate force of experienced workers and the necessary materials, supplies, and equipment to meet the requirements of the JJC Construction Manager and other trades in order to maintain construction progress schedules, as established by the JJC Construction Manager. In the event that his force is, in the judgment of the JJC Construction Manager, inadequate to meet the established schedules during the regular working hours, the Trade Contractor agrees to work sufficient overtime hours or increase his work force to meet such schedules at no extra cost to JJC. If for reasons not already stated, the JJC Construction Manager requires and directs the Trade Contractor to work overtime, including Saturdays, Sundays or Holidays, the Trade Contractor will be reimbursed the net premium rate only. The net premium rate is understood to mean the actual premium labor cost, including applicable taxes and wage additives required by trade Agreement or by law, but without additives for overhead, labor efficiency, or profit.

9.14 The Trade Contractor agrees to employ competent administrative, supervisory, and field personnel to accomplish the work, including layout, engineering, and preparation and checking of shop drawings. If required, the Trade Contractor shall substantiate this employment of competent personnel to JJC's Construction Manager's satisfaction before initiating any work.

9.15 The Trade Contractor shall insure that all construction tools, equipment, temporary facilities, and other items used in accomplishing the work, whether purchased, rented, or otherwise provided by the Trade Contractor or provided by others, are in a safe, sound, and good condition, must be capable of performing the functions for which they are intended and must be maintained in conformance with applicable laws and regulations.

9.16 If the Trade Contractor is delayed at any time in the progress of the work by any act or neglect of JJC, the Architect/Engineer, or by any employee of either, or by any separate contractor employed by JJC, or by changes ordered in the work, or by labor disputes, fire, unusual delay in transportation, adverse weather conditions not reasonably anticipatable, unavoidable casualties or any causes beyond the Trade Contractor's control, or by delay authorized by JJC, or by any other cause which the JJC Construction Manager determines may justify the delay, then the contract time shall be extended by amendment for such reasonable time as the JJC Construction Manager may determine. In the event that a conflict exists between this section (9.16) and a like clause contained in a document having higher precedence, such like clause shall have preference to the extent of the conflict.

9.17 Right-To-Know- each Trade Contractor is required to implement the provisions of the right-to-know law, if any, as enacted by the state in which the work is being performed. Before using on site any material listed in the right-to-know substance list, each Trade Contractor will furnish the Construction Manager a copy of the material safety data sheet for that substance.

9.18 In the event the Trade Contractor employs independent contractors, as well as payroll labor, to discharge its obligations hereunder, the Trade Contractor acknowledges and understands that it does so at its own risk and that federal, state and/or local agencies may dispute the independent contractor status and assess penalties, fines, and costs should there be a determination to reclassify such workers. In that event, the Trade Contractor agrees that it will defend, indemnify and hold JJC harmless from any fines, costs, damages, penalties, attorneys fees, and causes of action, including without limitation, personal injury or property damage, arising out of or relating in any way to such a determination.

9.19 The Trade Contractor will have competent supervision on site at all times when work is proceeding. No subcontractor should be working on site without representation/supervision by this Trade Contractor. The JJC Construction Manager reserves the right to hire proper supervision of subcontractors, and fully back charge

this Trade Contractor for such services.

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## ARTICLE 10

### EQUAL OPPORTUNITY

10.1 During the performance of this Agreement, the Trade Contractor agrees not to discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Trade Contractor will take affirmative action to insure that applicants are employed without regard to their race, color, religion, sex, or national origin. The Trade Contractor will comply with all provisions of Executive Order No. 11246, Section 503 of the Rehabilitation Act of 1973, as Amended, the Vietnam Era Veterans' Readjustment Assistance Act of 1974, as Amended, (38 U.S.C. 4212) and their implementing regulations at 41 CFR Chapter 60.

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## ARTICLE 11

### ALTERATIONS

11.1 The overhead and profit allowable under Article 8.3. A, 8.3 B, 8.3 C is:

- For the Trade Contractor, for any Work performed by the Trade Contractor's own forces- 12 percent of the cost
- For the Trade Contractor, for Work performed by his Subcontractor - 5 percent of the amount due the Subcontractor

11.2 All proposals, except those less than \$200 shall be accompanied by a complete itemization of costs including, labor, materials and subcontractors. Labor and material shall be itemized in the manner prescribed in Article 11.1. Where major cost items are subcontracts, they shall be itemized also. In no case will a change involving over \$200 be approved without such itemization.

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## ARTICLE 12

### COMPLETE AGREEMENT

12.1 This Agreement, together with all documents, specifications, drawings, incorporated herein by reference, constitutes the entire Agreement between JJC and Trade Contractor. There are no terms, conditions, or provisions, either oral or written, between the parties hereto, other than those contained herein. This Agreement supersedes any and all written representations, inducements, or understandings of any kind or nature between the parties hereto, relating to the particular Project involved herein.

12.2 The said parties for themselves, their heirs, successors, executors, administrators and assigns, do hereby agree to the full performance of the covenants herein contained.

12.3 Governing Law; Venue - The validity, construction and interpretation of this Agreement shall be governed by the laws of the State of Illinois. The parties hereto irrevocably agree that all actions or proceedings in any way, manner or respect arising out of or from or related to his Agreement shall be litigated only in the Circuit Court, Twelfth Judicial Circuit, Will County, Illinois. Each party hereby consents and submits to personal jurisdiction in the State of Illinois and waives any rights such party may have to transfer the venue of any such action or proceeding.



In witness whereof they have hereunder set their hands the day and date first above written.  
In the presence of

Trade Contractor

\_\_\_\_\_  
Witness

Accepted by: \_\_\_\_\_ (Signature)

Name: \_\_\_\_\_ (Print name)

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

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

Joliet Junior College  
Owner

\_\_\_\_\_  
Witness

By: \_\_\_\_\_ (Signature)

Joliet Junior College

Name: \_\_\_\_\_ (Print name)

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

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

SAMPLE

Date:  
Time:  
Project Title / Location:  
Project Number:

FOR  
**(Contractor's name)**

1. **Introductions:** All project members are to introduce themselves including their name, organization, title, and role on the project.

A. Joliet Junior College Personnel:

1. Construction Manager:

- a. Phone:
- b. Cell:
- c. Fax:
- d. Email:

2. Alternate Contact:

- a. Phone:
- b. Cell:
- c. Fax:
- d. Email:

B. Contractor Personnel

1. Project Manager:

- a. Phone:
- b. Cell:
- c. Fax:
- d. Email:

2. Construction Superintendent:

- a. Phone:
- b. Cell:
- c. Fax:
- d. Email:

2. **Communications:**

A. Communications related to the project between Joliet Junior College and the Contractor shall be conducted through the Joliet Junior College Construction Manager (CM) only, unless directed otherwise.

**Preconstruction Conference Checklist**

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- B. In the event of an emergency the Contractor is to contact Campus Police at 815-280-2234, or may pick-up any campus phone and dial 2911.
- C. RFI's: Requests for Information (RFI's): All Requests for Information shall be in written form to JJC's CM with a copy to the A/E when required. All responses will come from JJC or the A/E in writing addressed to the Contractor's Project Manager
- D. Weekly Construction Reports: Contractor is to provide a weekly construction report to JJC CM. This report is to be inclusive of daily activities, potential delays, stoppage, problems, accidents, near misses, significant decisions, meetings, requests by JJC, etc.
- E. Correspondence: All correspondence shall be directed to the Construction Manager

Joliet Junior College  
Facilities Services Department  
ATTN: \_\_\_\_\_  
1215 Houbolt Road  
Joliet, IL 60431

Include Project Title, Project Number, Purchase Order Number on ALL correspondence.

**3. Construction Schedule:**

- A. Schedule of Values: Contractor is to provide a schedule of values (AIA document recommended) broken down into each division of the work as a minimum. The schedule of values will include as a minimum a listing of the work elements or branch values, the cost of each work element, and the percentage of total project "award" cost that the work element represents. The schedule of values will become the basis for "work elements" a.k.a. "branch values" of the Construction Schedule. These same "work elements" shall be used as the basis for the "branch values" of the Construction Progress Report as listed in item #2D above.
- B. Construction Schedule: Contractor is to submit within one week of pre-construction meeting, a fully developed gantt chart type construction schedule.
  - 1. Provide a task for each construction activity or "work element".
  - 2. No progress payment will be processed until the construction schedule is submitted and approved.
  - 3. Provide a revised, updated schedule with each progress payment request.

**Preconstruction Conference Checklist**

**Performance:**

A. Commencement, Prosecution & Completion of Work

1. Purchase order/notice to proceed received: \_\_\_\_\_
2. Contract Amount: \_\_\_\_\_
3. Total Amount of Alternates Accepted: \_\_\_\_\_
4. Proposed start/mobilization date : \_\_\_\_\_
5. Preconstruction Submittals Received: Check one Y \_\_\_\_\_ N \_\_\_\_\_
6. Bonding & Insurance Requirements Received: Check one Y \_\_\_\_\_ N \_\_\_\_\_
7. Completion date: \_\_\_\_\_
8. Delays and time extensions: The Contractor is responsible for the completion of project work within the time designated above and in the construction schedule. Justified change orders may qualify a delay and require a time extension which must be discussed and approved by the JJC CM. Failure to complete the project on time will result in a negative evaluation of Contractor performance on the JJC project close-out documents.
9. All shop drawings will be submitted to the JJC CM or A/E when required. Material samples shall be submitted for approval when required.
10. The JJC CM and/or the A/E will provide a list of punch list items. The final punch list shall be completed within 2 weeks upon substantial completion. 10% of the contract amount will be withheld until all punch list items are completed.
11. Construction status meetings between the Contractor and JJC CM shall be held on a weekly basis in the JJC CM's office. At the JJC CM's discretion, this weekly meeting may be held via conference telephone call as the project dictates.
12. As-built drawings shall be maintained and kept on-site daily. Final as-built drawings are required to be turned over to the JJC CM at project completion. When AutoCAD drawings are available from the A/E, the Contractor will revise the drawings to reflect as-built conditions. Final payment will not be processed until all as-built drawings are received.

B. Coordination of Work:

1. The Contractor is responsible for coordination of all elements of the work and every aspect of the coordination of his subcontractors work.
2. The Contractor is required to have a competent construction supervisor in charge of the work at all times. Construction supervisor may be a working foreman.

**Preconstruction Conference Checklist**

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3. When the shut down of utilities is required, the Contractor shall coordinate with the JJC CM to schedule the shut down process. Allow a minimum of 5 days notice to allow for a shut down. Unless otherwise stated during the bidding process, a utility shut down will be required between the hours of 10:00 p.m. to 6:00 a.m.

C. Contractor Evaluation:

At the completion of the project, the JJC CM will complete a contractor evaluation. This evaluation is kept on file and is taken into consideration when considering the Contractor for future projects.

**13. Mobilization:** Prior to the Contractor mobilizing on site, the following requirements must be met and reviewed.

A. Pre-mobilization requirements:

1. Safety plan submitted and approved.
2. Schedule of Values and Construction Schedule submitted and approved.
3. Review Contractor's plan for mobilizing on site, including phasing, timing elements, crane operations, dumpster locations, gang box locations, deliveries, parking, storage of material, etc.
4. The Contractor's safety plan shall be submitted to the JJC CM addressing issues of excavation, crane lifts, hot work and other construction hazards.
5. Contractor check-in with Facility Services. The Contractor's employees are required to obtain vehicle tags and I.D. badges. Any ticketing by Campus Police as a result of no vehicle tag will be the responsibility of the Contractor.

**14. Housekeeping and Clean-up:** The Contractor is primarily responsible for housekeeping in its respective work areas, and for work performed by its employees and subcontractors. This means the Contractor's work area is required to be maintained in an orderly, safe and productive condition at all times.

- A. Accumulation of combustibles, flammable liquids, chemical products, tools not in use, trash and/or refuse is not acceptable and will not be allowed.
- B. Parking, staging and storage of materials and equipment shall be confined to designated areas only.
- C. When a Contractor's work material may be dislodged by wind and could create a hazard when left in an open area, it shall be secured by the Contractor.

**Preconstruction Conference Checklist**

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- D. The Contractor will police its work area(s) at the end of the shift and leave the area in a condition that is acceptable to the JJC CM.
- E. In the event that housekeeping in a Contractor's work area is found to be in an unacceptable condition by the JJC CM, the CM will give notice once verbally to the Contractor's on-site supervisor or foreman. If the deficiency is not corrected in a timely manner (and no later than the end of the day's work shift), the JJC Facility Services Department may make provisions for clean-up (which may or may not be done by outside services), and fully back charged to the Contractor. The Contractor will be liable for all costs associated with clean-up at a minimum rate of \$100/man hour plus materials.
- F. The Contractor shall provide and install safety fencing or barricades around areas requiring protecting (including but not limited to trees, plantings, etc.). This includes installing cyclone fencing for outdoor projects to prevent anyone from entering the construction zone.
- G. The Contractor will be responsible for daily cleaning of mud off roadways where required, or caused by this Contractor.
- H. The Contractor will provide tree protection and install silt fencing when working in areas that such protection or erosion control is required.
- I. The Contractor will provide berms around storm drains to prevent mud run-off from entering the lake.

**15. Conduct and Behavior:**

The Contractor's employees must take into consideration the environment around them when holding conversations with fellow employees as well as JJC staff as to not interrupt classes that may be in session, or students in concourses that may be studying. Profanity/foul language, derogatory remarks or harassment of students will not be tolerated and will be an immediate means for the employee dismissal from the project.

**16. Progress Payments/Invoicing and Change Orders:**

- A. A "pencil" copy of progress invoicing shall be submitted to the JJC CM & the A/E by the 15<sup>th</sup> of every month for review and approval. Final invoicing shall be in by the third week of the month for processing and board approval. No invoice will be processed without lien waiver(s) and certified payroll.

**Preconstruction Conference Checklist**

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- B. Any extra work done by the Contractor will be considered performed at no extra cost to JJC unless a written JJC change order form has been fully executed and signed by the Director of Business and Auxiliary Services. A contractor shall not be entitled to any compensation for extra work/material based on verbal conversations or email exchanges (the contractor is considered proceeding with extra work at their own risk without a fully executed JJC change order form). It is the contractor's responsibility to obtain a fully executed change order form from JJC. A change order, or a combination of multiple change orders may not exceed 10% of the original contract without JJC seeking approval from the Board of Trustees.

**17. Miscellaneous:**

- A. Soliciting or canvassing and posting or distributing printed material (except as permitted by law) is prohibited.
- B. Smoking is restricted to designated signed areas outside. The use of any tobacco products (including chewing) indoors is prohibited, and must be done in the designated outdoor smoking areas during break time.
- C. Drinking, using, possessing or being under the influence of alcohol or controlled substances are prohibited, and a cause for immediate dismissal.
- D. No radios are allowed on site in areas that can be disruptive to students or staff.
- E. The Contractor shall perform his/her work in accordance to no less than the minimum requirements as established by the Occupational Safety and Health Association. Personal Protection equipment shall be provided by the Contractor and worn at all times.
- F. The Contractor will be responsible for securing materials and tools and shall be solely responsible for any such theft or damage.

By signing below, the Contractor certifies that he, his employees, subcontractors, or assigns will abide to this Preconstruction Conference Checklist during the course of the project.

Print name: \_\_\_\_\_

Sign name: \_\_\_\_\_

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

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

JJC CM: \_\_\_\_\_

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

August 2008

# **Safety Requirements for Contractors and Subcontractors**

Environmental Health and Safety

Facility Service Department

(815) 280-2384

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Environmental Health and Safety

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# **Safety Requirements for Contractors And Subcontractors**

Environmental Health and Safety

Facility Services Department

1215 Houbolt Rd.

Joliet, IL 60431

Phone: (815) 280-2384 Fax (815) 280-6673

[http: // www.jjc.edu/ehs](http://www.jjc.edu/ehs)

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## SAFETY REQUIREMENTS FOR CONTRACTORS AND SUBCONTRACTORS

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# Introduction

## EHS Information

The mission of Environmental Health and Safety (EHS) is to:

- Work toward providing a safe and healthful living, learning, and working environment for every member of the greater college community by assuring safe work practices through educating, training, and assisting individuals and departments;
- Help individuals and departments achieve compliance with all health and safety state and federal regulations and college policies as economically as possible and
- Act as liaison with external regulatory agencies, and to monitor college compliance with mandatory health and safety standards whenever necessary.

## Purpose

Joliet Junior College developed *Safety Requirements for Contractors and Subcontractors* to assure the safety of college employees and the public who may be in proximity to renovation, demolition, installation, or maintenance operations performed by Contractors or Subcontractors. Every Contractor is expected to take steps as necessary to protect the safety and health of college employees, students, and visitors during the performance of their work. Each Contractor that coordinates the work of Subcontractors shall assure that they abide by the requirements outlined herein.

## Application

Each department that coordinates or uses the services of a Contractor to perform maintenance, repair, installation, renovation or construction-related operations is expected to designate one or more persons to coordinate this program within his or her department. These coordinators are expected to assure that the Contractor is:

- Informed of the presence of hazards in or near the work area.
- Informed about JJC's requirements related to lead, confined space entry, lockout/tagout, hot work, and excavation operations.
- Aware of the colleges' expectations regarding safety compliance and the control of worksite hazards.

A representative from EHS will serve as the coordinator for the purposes of this program on capital renovation and construction projects.

## Scope

This program applies to all JJC properties, and to all work performed by Contractors and Subcontractors in or on property owned, leased or occupied by JJC or employees of JJC.

# General Requirements

## Contractual Obligations

A copy of this document shall be made available upon request to prospective bidders/offerors at the pre-bid/pre-proposal conference for the work. This document shall be either included with, or referenced in, the contract documents.

Contractors performing building, facilities or equipment-related construction, repair, installation, renovation or maintenance activities shall attend a safety orientation as follows:

- On capital projects, this orientation will be conducted during the pre-construction conference or as determined by the Project Manager.
- For non-capital construction/renovation work, the Project Coordinator shall arrange the safety orientation with EHS and the Contractor prior to the start of work by contacting EHS at (815) 280-2384. Contractors retained on a term contract need only attend one safety orientation held prior to the award of the first project under that contract.

The Contractor shall provide the Project Manager/Coordinator with emergency contact phone number(s), usable 24 hours a day, for the Contractor's representative. These phone numbers shall be copied to EHS and the JJC Police Department prior to the work.

The Contractor bears sole responsibility for the safety of his or her employees. The Contractor is expected to take all steps necessary to establish, administer, and enforce safety rules that meet the regulatory requirements of the Illinois Department of Labor (IDOL) and the Occupational Safety and Health Administration (OSHA). These regulations include, but are not limited to:

- Title 29 of the Code of Federal Regulations (CFR) Parts 1910, Occupational Safety and Health Administration (OSHA) Standards for General Industry,
- Title 29 of the Code of Federal Regulations (CFR) Parts 1926, Occupational Safety and Health Administration (OSHA) Standards for the Construction Industry.

The Contractor bears sole responsibility for communication of safety-related information and requirements to his or her Subcontractors. Contractors shall assure that their Subcontractors comply with the requirements outlined herein.

## Submittals

Submittals, where required from the Contractor by this document, shall be made in writing, directly to the Project Manager/Coordinator and copied to EHS. Submittals shall be made sufficiently in advance to avoid delay of the project. Where review, approval, or coordination of submittals is required, submittals shall be made at least ten (10) working days prior to the start of the project unless prior arrangements have been made. Post-job submittals, where required

## SAFETY REQUIREMENTS FOR CONTRACTORS AND SUBCONTRACTORS

as outlined in this document, shall be made no later than fifteen (15) working days after completion of the project or as specified herein.

### Control of Fugitive Emissions

The Contractor shall take all reasonable precautions necessary to control fugitive emissions from the job site. Fugitive emissions include, but are not limited to: nuisance dust, chemical odors/vapors/gases, hazardous materials (such as lead dust or asbestos), and noise.

Where the product(s) or material(s) to be used by the Contractor has a permissible exposure limit (PEL) established by OSHA or IDOL and where college employees or the public may be exposed to the product or material, the Contractor shall take all reasonable steps to maintain exposures below the PEL where an exposure condition during use exceeding the PEL could reasonably be anticipated. In such instances, the Contractor shall monitor, or shall contract to have monitored, work area exposure conditions. Monitoring shall occur, at a minimum, during the start of work and whenever there is a change in procedure, process, or chemical or material used. If it is deemed not practicable to maintain exposures below the PEL, the Contractor shall restrict access to all areas where exposures exceed the PEL to authorize personnel only.

### Accidental Spills and Releases

In the event of an accidental release or spill of chemicals or other hazardous materials the Contractor shall:

- Immediately take action as appropriate to contain the spill if this action can be taken without jeopardizing the health or safety of employees,
- Notify the fire department, campus police, or other entities as needed or required,
- Contact EHS, and
- Contact the Project Manager/Coordinator.

EHS emergency response personnel may be reached after normal business hours by contacting the Campus Police Department at (815) 280-2234 or 2811 from a house phone.

The following phone numbers may be used in the event of an emergency during normal working hours:

	Outside	On-Campus
Joliet Fire Department and Ambulance		911
JJC Campus Police	(815) 280-2911	Extension 2911
North Campus-Romeoville Fire/Ambulance	911	911
Morris Fire/Ambulance	911	911
Environmental, Health and Safety	(815) 280-2384	Extension 2384
East Joliet Fire/Ambulance	(815) 723-1504	911
Facility Services	(815) 280-2332	Extension 2332

## SAFETY REQUIREMENTS FOR CONTRACTORS AND SUBCONTRACTORS

All college costs associated with responding to or remediation of a chemical or hazardous material spill or release may be assessed by the Contractor.

### **General Work Requirements**

The Contractor shall abide by the requirements of any sign posted in a building that requires the use of specific personal protective equipment, that restricts access to qualified or authorized persons only, or that establishes other requirements for entry.

The Contractor shall not conduct work or operations that obstruct exits or the means of egress from an occupied building without the prior approval of EHS and the Project Manager/Coordinator. Equipment and materials are not to be stored in exits or exit stairwells at any time, and may not be stored in the means of egress without prior approval. Fire rated doors shall not be chocked or blocked open except temporarily and event of a building fire alarm or similar emergency.

Compressed gases shall be stored, used and transported in accordance of the NFPA, OSHA and DOT. New compressed gas installations shall comply with these agency requirements.

All tents, stages and temporary structures shall comply with the requirements of the NFPA.

Contractors shall not use College equipment or vehicles nor shall the Contractor allow college employees to use the Contractors' equipment or vehicles without the approval of Risk Management and EHS. If an employee of a Contractor needs to use specialized equipment owned by JJC, such as powered industrial trucks, the Contractor must provide suitable documentation that the employee has been trained and certified (if required) to use such equipment.

# Specific Program Requirements

## Non-capital Projects

### Asbestos and Suspect Asbestos Containing Building Materials

It is the responsibility of the Contractor to provide his or her own asbestos awareness program which shall include, but is not limited to, the information contained in this section and the OSHA asbestos-related regulations (29 CFR 1926.1101). Verification that this training has been conducted shall be supplied to the college upon request.

Contractors employed by the college to perform building or facilities-related maintenance, repair or renovation shall be informed by the Project Coordinator of the location of suspect and known asbestos-containing materials (ACM) in the work area(s) to which they are assigned by one of the following means:

- The Project Coordinator shall provide the Contractor with a copy of a completed "Work Order Review Form" or an asbestos inspection report specific to their work and the materials that are to be distributed, or
- Where the construction documents for a project clearly detail asbestos material locations within the work area, these documents may serve in lieu of the "Work Order Review Form" or inspection report.

The "Work Order Review Form" is used internally at the College to document that the proposed scope of work has been reviewed for the presence of suspect or known ACM. The "Work Order Review Form" will be completed by either EHS or the individual within the Department approved by EHS to perform this review. Questions related to this issue should be addressed to EHS at (815) 280-2384. An asbestos inspection report may, at the discretion of the Contracting Department, be prepared by an asbestos consultant licensed in Illinois to perform the duties of Asbestos Inspector and Asbestos Management Planner, this report shall be copied to EHS upon receipt.

Contractors shall, under no circumstances, damage or disturb suspect or known *friable* ACM unless they are a licensed Illinois Asbestos Abatement Contractor and have been specifically employed to perform asbestos repair or removal. Contractors may remove *non-friable* ACM, or perform work that will potentially disturb non-friable ACM, only with prior approval by EHS of the Contractors proposed work methods, employee training and waste disposal site. If suspect asbestos materials are discovered during the course of the work, the Contractor shall stop work immediately and notify the Project Coordinator or other person as indicated in the contract documents.

The Contractor shall not proceed with any change in work which requires a material to be disturbed that the "Work Order Review Form", asbestos inspection report, or construction documents show has not previously been tested (e.g., "suspect" ACM). If a change in the scope of work becomes necessary, the revised scope of work shall be reviewed and pre-approved by EHS or other authorized person.

Asbestos materials may not be used or installed in College facilities.



## Lead-Containing Building Materials

Contractors employed by the college to perform building or facilities-related maintenance, repair or renovation shall be informed by the Project Coordinator of the location of lead-containing building materials in the work area(s) to which they are assigned by one of the following means:

- The Project Coordinator shall provide the Contractor with a copy of the completed “Work Order Review Form” or a lead inspection report specific to their work and the materials that are to be disturbed, or
- Where the construction documents for a project clearly detail the location of lead-containing building materials within the work area, these documents may serve in lieu of the “Work Order Review Form” or inspection report.

The Project Coordinator may obtain information regarding the location of lead materials within a work site from the Department Safety Representative or by contacting EHS at (815) 280-2384. A lead inspection report may, at the discretion of the Contracting Department, be prepared by a lead consultant licensed in Illinois to perform the duties of Lead Inspector, this report shall be copied to EHS upon receipt. Contractors that will disturb lead-containing building materials during the course of work shall take all necessary precautions to protect college employees and the public from exposure to lead dust or contamination. These measures shall conform, at a minimum, to the OSHA requirements detailed in 29 CFR 1926.62 and applicable local, state and federal regulation. The Contractor shall submit a copy of his or her lead compliance program, as required by 29 CFR 1926.62(e), with required supporting documentation for prior review and approval to EHS. This submittal shall be made sufficiently in advance of construction to avoid delay of the project. Where the Contractor is engaged in work in child-occupied facilities (as defined by 40 CFR Part 745), such work shall be performed in accordance with 40 CFR Part 745, and clearance testing shall be performed by EHS or a licensed consultant at the conclusion of the project in accordance with the requirements of this regulation.

A copy of the analytical report(s) for any personal air samples taken during the course of the work shall be provided to EHS.

The Contractor shall not proceed with any change in work that requires a material be disturbed that the “Work Order Review Form”, lead inspection report, or construction documents shows has not previously been tested unless pre-approved work procedure will be followed.

On projects where lead-containing materials will be disturbed or removed during the course of work, the Project Designer shall contact EHS at (815) 280-2384 to determine disposal requirements. If the lead-containing materials will constitute a hazardous waste, disposal of these materials shall be coordinated with EHS. The disposal requirements must be established during the design of the project.

## Confined Spaces

When the College arranges to have a Contractor perform work that involves entry into a confined space, the Project Coordinator shall:

- Inform the Contractor that the workplace contains confined spaces and that the entry is allowed only through compliance with a confined space program meeting the requirements set forth by the DOL and the OSHA.
- Apprise the Contractor of the elements, including the hazard(s) identified and the college's experience with the space.
- Apprise the Contractor of any precautions or procedures that the college has implemented for the protection of college employees in or near confined spaces where contractor personnel will be working.
- Coordinate entry operations with the Contractor when both College personnel and contractor personnel will be working in or near confined spaces.
- Debrief the Contractor at the conclusion of the entry operations regarding the confined space program followed and any hazards confronted or created in confined spaces during entry operations
- Provide a copy of JJC Confined Space Entry Program to the Contractor upon request.

Information on JJC Confined Space Program and information on specific confined spaces on JJC Properties may be obtained by contacting EHS at (815) 280-2384.

Each Contractor who is retained to perform work that will require permit space entry operations shall:

- Coordinate entry operations with the Project Coordinator when both the Contractor and College personnel will be working in or near permit spaces;
- Inform the Project Coordinator in writing of the permit space program the Contractor will follow;
- Inform the Project Coordinator of any hazards confronted or created in permit spaces during entry operations;
- Provide a copy of the Contractor's Confined Space Program to the College upon request;
- Inform the Project Coordinator in writing of the rescue services/team they will be using during permit entry; and
- Provide a copy of the canceled permit(s) to the Project Coordinator and EHS at the conclusion of entry operation.

## Confined Spaces

The Contractor shall maintain, on-site, Material Safety Data Sheets (MSDS's) for all chemicals used or stored at his or her job site as required by IDOL/OSHA regulations and the contract documents. The Contractor shall provide copies of MSDS's to the Project Coordinator and EHS upon request.

Chemicals are used extensively on the JJC campus. Chemicals use and/or storage is routine in, but not limited to, the following areas or locations:

- Laboratories
- Fume hood exhausts on the roofs of laboratory buildings. (In general, signs have been posted on the roof access hatch or door restricting access to the roofs of buildings where fume hood exhausts are located).
- Chemical stock rooms.
- Agricultural Shops, Areas, and Chemical Storage.
- Chemical waste accumulation areas.
- Facility Services and Kitchen, paint and chemical storage areas.
- Custodial Closets.

The Project Coordinator shall inform the Contractor of the following:

- Known hazards and any required safety procedures that must be followed in the Contractor's work area.
- Methods for obtaining access to Material Safety Data Sheets (MSDS) for hazardous chemicals present in the Contractor's work area.
- Information about the labeling system used in the work area (NFPA 701).
- Emergency procedures that the Contractor is to follow in the event of accidental exposures or releases of hazardous chemicals.

If the work will be conducted on the roof of a building where fume hood exhausts are located, the Project Coordinator shall coordinate access with Facility Services, the departments within the building, and EHS, as necessary to ensure that:

- Fume hoods within, or adjacent to, the work area are shut down,
- No experiments are in-progress that would generate toxic or hazardous airborne contaminants;
- All chemicals stored within the fume hoods are capped or otherwise sealed; and
- The Contractor is informed of any special precautions that must be taken to prevent employee exposure to hazardous chemicals.

A minimum of seven days advance notice is generally required to coordinate fume hood shutdowns. In emergency situations (for example, when the Contractor's personnel must conduct work on, or in proximity to, active fume hood exhausts), the Contractor may access these roof areas if appropriate personal protective equipment is used. The Contractor shall be

## SAFETY REQUIREMENTS FOR CONTRACTORS AND SUBCONTRACTORS

informed in writing by the Project Coordinator of the precautions that should be taken to protect his or employees while conducting such work. This information may be obtained by contacting EHS at (815) 280-2384.

Given the number of chemicals used, and changing work within chemical laboratories, it is impractical for the college to provide the Contractor with a MSDS for any chemical potentially in-use within any given laboratory. However, MSDS's are required to be maintained and to be accessible to employees in each work area, and MSDS's for all chemicals may be obtained from Campus Police or EHS.

The Contractor shall assume that all hazardous chemicals or materials are handled and disposed of in accordance with federal and state regulations. Where a hazardous waste disposal manifest is required by these regulations, the Contractor shall contact EHS at (815) 280-2384 to assure that manifesting, storage, and the proposed disposal method and disposal site meet college and EPA requirements. The Contractor shall supply a copy of the completed waste manifest to EHS within 24 hours of receipt.

Where the Contractor has secured air samples documenting employee exposure to airborne chemical or particulate hazards during the course of his or her work, a copy of all air sample results shall be provided to EHS within 24-hours of receipt by the Contractor.

### **Electrical Safety and Lockout/Tagout**

If College employees will be present on the Contractors worksite, and employees of either JJC and/or the Contractor will be performing work that requires the use of lockout and/or tagout devices, the following requirements shall apply:

- The Project Coordinator and Contractor shall inform each other of their respective lockout/tagout procedures.
- The Project Coordinator and Contractor shall each inform their personnel regarding the energy control procedures that are to be followed on the project site.
- A copy of JJC 's Electrical Safety and Lockout/Tagout programs shall be provided to the Contractor upon request.
- A copy of the Contractors electrical safety and lockout/tagout program shall be made available to the college upon request.

### **Trenching and Excavations**

The Contractor shall coordinate trenching and excavation work with the Project Coordinator, Facility Services, and JULIE to assure the coordination of work and shutdown of utilities if necessary.

The design of sloping and benching systems, support systems, shield systems or other protective systems shall conform, at a minimum, to the OSHA requirements detailed in 29 CFR 1926 Subpart P requirements.

## SAFETY REQUIREMENTS FOR CONTRACTORS AND SUBCONTRACTORS

Trenching or excavations below the level of the base or footing of any foundation or retaining wall, or adjacent to any utility, sidewalk or roadway, will not be permitted unless:

- A support system, such as underpinning, is provided to ensure the safety of employees and the stability of the structure, or
- The excavation is in stable rock, or
- A registered professional engineer has approved the determination that such excavation work will not pose a hazard to employees or the structure.

This determination is the responsibility of the Contractor except as permitted, required or otherwise allowed by the project specifications or drawings

The Contractor shall notify the Project Coordinator of the name of the individual that is to serve as the Contractor's competent person as defined by this program and the OSHA regulations. The Contractor's designated competent person shall maintain a written log of the daily inspections made of excavations, adjacent areas, and protective systems. A copy of this written log shall be made available to the college upon request.

Where the design of a sloping and benching system, support system, shield systems or other protective systems requires review and approval by a registered professional engineer, the Contractor shall submit a copy of the completed review to the Project Coordinator and EHS prior to the start of work.

### **Hot Work**

Contractors performing hot work shall maintain a Hot Work Permit Program and employee-training program that meets the OSHA requirements found in 29 CFR 1926.352 and ANSI Z49.1-88 and NFPA 51B. Examples of hot work include, but are not limited to, use of open flames, compressed gasses or supplied fuel burning, brazing, cutting, grinding, soldering, thawing, pipe, torch applied roofing, and welding.

A copy of the canceled permit(s) shall be provided to the Project Coordinator and EHS after completion of the work.

### **Capital Projects**

#### **Asbestos and Suspect Asbestos Containing Building Materials**

It is the responsibility of the Contractor to provide his or her own asbestos awareness program which shall include, but is not limited to, the information contained in this section and the OSHA asbestos-related regulations (29 CFR 1926.1101). Verification that this training has been conducted shall be supplied to the Architect/Engineer of record for the project and/or the college upon request.

The location of asbestos materials, where present within the jobsite, will be detailed in the construction documents for that project.

## SAFETY REQUIREMENTS FOR CONTRACTORS AND SUBCONTRACTORS

Asbestos materials may not be used or installed in College facilities.

### **Lead-containing Building Materials**

The location of lead materials, where present, will be detailed in the construction documents for that project.

Contractors that will disturb lead-containing building materials during the course of work shall take all necessary precautions to protect college employees and the public from exposure to lead dust or contamination. These measures shall conform, at a minimum, to the OSHA requirements detailed in 29 CFR 1926.62 and applicable local, state and federal regulations related to health, safety, transportation and disposal.

### **Confined Spaces**

Where the work of the Contractor involves entry into confined spaces, the Contractor shall perform such entry in accordance with the OSHA (e.g., 29 CFR 1926.20 and/or 1910.146) requirements. Where the work involves an existing college permit-required confined space, the Project Manager and/or Field Engineer shall coordinate with EHS to assure that:

- The Contractor is apprised of the elements, including the hazard(s) identified and the college's experience with the space, that make it a permit-required confined space.
- The Contractor is apprised of any precautions or procedures that the college has implemented for the protection of college employees in or near permit spaces where contractor personnel will be working.
- The Contractor is debriefed at the conclusion of the entry operations regarding the permit space program followed and any hazards confronted or created in permit spaces during entry operations.

The Contractor shall provide at least 24-hours advance notice to the Field Engineer when both college personnel and the Contractor's personnel will be working in or near permit-required confined spaces. The Field Engineer shall notify EHS at (815) 280-2384, and EHS shall assure that the college personnel have been informed of the precautions and procedures to be followed during entry operations. Under these circumstances the Contractor shall:

- Inform EHS of the permit space procedures the Contractor will follow;
- Inform EHS of any hazards confronted or created in permit spaces during entry operations.

### **Hazard Communication**

## SAFETY REQUIREMENTS FOR CONTRACTORS AND SUBCONTRACTORS

The Contractor shall maintain, on-site, Material Safety Data Sheets (MSDS's) for all chemicals used or stored at the job site as required by IDOL/OSHA regulations and the contract documents.

Chemicals are used extensively on the JJC campus. Chemical use is routine in, but not limited to, the following areas or locations:

- Laboratories.
- Fume hood exhausts on the roofs of laboratory buildings. (In general, signs have been posted on the roof access hatch or door restricting access to the roofs of buildings where fume-hood exhausts are located).
- Chemical stock rooms.
- Agricultural shop, areas, and chemical storage.
- Chemical waste accumulation areas.
- Facility Services and Residential and Dining Programs paint and chemical storage areas.
- Custodial closets.

Where necessitated by the work, the Field Engineer and/or Project Manager shall coordinate with EHS to assure that the Contractor is informed of the following:

- Known hazards and any required safety procedures that must be followed in the Contractor's work area.
- Methods for obtaining access to Material Safety Data Sheets (MSDS) for hazardous chemicals present in the Contractor's work area.
- Information about the labeling system used in the work area (NFPA 701).
- Emergency procedures that the Contractor is to follow in the event of accidental exposures or releases of hazardous chemicals.

If work will be conducted on the roof of a building, where fume hood exhausts are located, the Field Engineer shall coordinate access with Facility Services, the departments within the building and EHS as necessary to ensure that:

- Fume hoods within, or adjacent to, the work area are shut down,
- No experiments are in-progress that would generate toxic or hazardous airborne contaminants;
- All chemicals stored within the fume hoods are capped or otherwise sealed; and,
- The Contractor is informed of any special precautions that must be taken to prevent employee exposure to hazardous chemicals.

A minimum of seven days advance notice is generally required to coordinate fume hood shutdowns. In emergency situations (for example, when the Contractor's personnel must conduct work on, or in proximity to, active fume hood exhausts), the Contractor may access these roof areas if appropriate personal protective equipment is used. The Contractor shall be informed in writing by EHS of the precautions that should be taken to protect his or her

## SAFETY REQUIREMENTS FOR CONTRACTORS AND SUBCONTRACTORS

employees while conducting such work. The Field Engineer may request this information by contacting EHS at (815) 280-2384.

Given the number of chemicals used, and changing work within chemical laboratories, it is impractical for the college to provide the Contractor with a MSDS for any chemical potentially in-use within any given laboratory. However, MSDS's are required to be maintained and to be accessible to employees in each work area, and MSDS's for all chemicals may be obtained from EHS.

The Contractor shall assure that all hazardous chemicals or materials are handled and disposed of in accordance with federal and state regulations and the contract requirements.

### **Electrical Safety and Lockout/Tagout**

If college employees will be present on the Contractors worksite, and employees of either JJC and/or the Contractor will be performing work that requires the use of lockout and/or tagout devices, the following requirements shall apply:

- The EHS representative and the Contractor shall inform each other of their respective lockout/tagout procedures.
- The Project Manager and/or Field Engineer will coordinate with the EHS representative to assure that college personnel understand the energy control procedures that are to be followed in the project site.
- The Contractor shall assure that his/her personnel understand the energy control procedures that are to be followed on the project site.
- A copy of JJC's Electrical Safety and Lockout/Tagout programs shall be provided to the Contractor upon request.
- A copy of the Contractors electrical safety and lockout/tagout procedures shall be made available to the college upon request.

### **Trenching and Excavations**

The Contractor shall coordinate trenching and excavation work with the Project Manager and/or Field Engineer and JULIE to assure the coordination of work and shutdown of utilities as necessary.

The design of sloping and benching systems, support systems, shield systems or other protective systems shall conform, at a minimum, to the OSHA requirements detailed in 29 CFR 1926 Subpart P, and the requirements of the contract.

### **Hot Work**

Contractors performing hot work shall maintain a Hot Work Permit Program and employee-training program that meets the OSHA requirements found in 29 CFR 1926.352 and ANSI Z49.1-88 and NFPA 51B. Examples of hot work include, but are not limited to, use of open



## SAFETY REQUIREMENTS FOR CONTRACTORS AND SUBCONTRACTORS

flames, compressed gases or supplied fuel burning, brazing, cutting, grinding, soldering, thawing pipe, torch applied roofing, and welding.

### **Agencies/Firms With No Contractual Relationship with JJC**

All agencies/firms conducting work on JJC property shall comply with the requirements of NFPA, EPA, DOL, OSHA and this program, even where no formal contractual relationship exists between JJC and the agency/firm. The agency/firm shall maintain appropriate insurance, including general liability, auto liability, and workers compensation insurance. Verification of insurance shall be coordinated with JJC's Director of Risk Management, who may be reached at (815) 280-2325, prior to the start of work. Such agencies/firms shall not, without prior written approval of EHS:

- Use a product(s) or material(s) that has a permissible exposure limit (PEL) established by OSHA.
- Perform work on JJC property that may damage or disturb known or suspect asbestos materials,
- Perform work on JJC property that may damage or disturb known or suspect lead-containing materials,
- Perform work on JJC property that involves entry into a permit-required confined space,
- Perform work on any electrical system or utility,
- Construct nor enter excavations, nor
- Perform hot work.

## **Work Site Inspections**

### **Non-capital Projects**

Work site inspections may be conducted by EHS or other designated college personnel. These inspections are conducted solely for the benefit of the college, and shall not relieve the contractor of responsibility for enforcement of, and compliance with, OSHA, NFPA or EPA regulations.

In the event that work site conditions exist that potentially impact the safety of college employees, students, or the public, the college inspector shall issue a verbal or written warning to the Contractor and shall notify the Project Coordinator. If the unsafe conditions cannot be immediately corrected and represent a danger or have a potential to hard college employees, students or the public, then the college inspector will:

- Detail the NFPA, EPA or OSHA violations that were noted, and explain the potential impact upon college employees, students or the public,
- Require that the Project Coordinator have the Contractor either stop work or implement measures to isolate the hazardous condition until the unsafe condition can be mitigated,
- Issue a formal written report of the violation(s) to the Contractor. This report shall be copied to the Project Coordinator.

## SAFETY REQUIREMENTS FOR CONTRACTORS AND SUBCONTRACTORS

Reports of deficiencies may be factored into the evaluation of the contract by the college, and may be included in a vendor complaint file that is available for review by other state agencies. Repeat safety violations of a similar nature and/or a single serious willful safety violation by a Contractor may warrant review and termination of the contract.

### **Capital Projects**

Work site inspections may be conducted by EHS or other designated college representatives. Such inspections shall be coordinated with the Field Engineer and/or Project Manager. These inspections are conducted solely for the benefit of college personnel who may be working on the site and shall not relieve the contractor of responsibility for enforcement of, and compliance with NFPA, EPA, and OSHA regulations.

In the event that work site conditions exist that potentially impact the safety of college employees or the public, EHS shall notify the college Field Engineer and the Contractor of the hazard, and will assure that other college personnel present on-site are warned to avoid the area of the hazardous condition. The Contractor shall take prompt action to correct the hazardous condition. If the hazardous condition cannot be immediately corrected, the Contractor shall take effective steps to isolate the hazardous condition and/or shall stop work that is causing the hazardous condition until the hazard can be mitigated.

In the event that work site conditions exist that present an immediate safety hazard for the Contractors personnel, EHS may, as a courtesy, notify the Field Engineer and the Contractor of the hazardous condition. The Contractor shall take prompt action to correct the hazardous condition as required by the *General Conditions of the Construction Contract*.

### **Agencies/Firms Where No Formal Contractual Relationship Exists**

When hazardous condition are identified by EHS related to work performed by agencies/firms conducting work on JJC property where no formal contractual relationship exists between JJC and the agency/firm, the hazardous condition shall be immediately corrected. If the hazardous condition cannot be immediately corrected, the agency/firm shall stop work and shall take effective steps to isolate the hazardous condition from personnel and the public. Repeat safety violations of a similar nature or willful disregard for the NFPA, EPA or OSHA requirements or the requirements outlined in this program will result in immediate removal from JJC property.

## Definitions

**Capital Project:** A capital project is one whose total project cost exceeds \$500,000.

**Competent Person:** As related to excavation, trenching or shoring work, the Contractor's "competent person" means one who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

**Confined Space:** A confined space is a space that is large enough for a person to enter, that has limited means for entry or exit, and that is not designed for continuous occupancy. Example include tanks, silos, storage bins or hopper, utility vaults and pits.

**Contracting Department:** The Department at the college that has contracted for work to be performed by a Contractor. In regards to agencies/firms conducting work on JJC property, where no formal contractual relationship exists between JJC and the agency/firm, the department that is coordinating or approving the work of the agency/firm is the Contracting Department.

**Contractor:** An entity or agency employed by the college to perform the installation or maintenance of equipment or the renovation or construction of a building, room or space on college property, or that provides services to the college on college property including, but not limited to, vending, supplies, erection of tents and other services.

**Field Engineer:** The representative from JJC's Facility Services department that oversees capital construction and/or renovation activities.

**Friable Asbestos:** An asbestos material that is capable of being reduced to powder by hand pressure when dry, or a nonfriable asbestos material that is subject to grinding, sanding, cutting or abrading or that is otherwise rendered by mechanical means.

**Lockout/Tagout:** A program used to ensure that employees are protected from sources of potentially hazardous energy. The program requires that hazardous energy sources be identified and locked and/or tagged-out before work is done on the system(s).

**Permit-required confined space:** A permit-required confined space is a confined space that contains potential or known safety hazards that must be dealt with prior to or during entry to assure the safety of those employees performing the work.

**Project Coordinator:** The individual(s) within a Department that has been assigned duties related to oversight or coordination of work performed by a Contractor as defined in this program.

**Project Manager:** The representative from JJC's Facility Services department that coordinates the work of the Field Engineer and the Architect/Engineer related to capital construction and/or renovation projects.

## SAFETY REQUIREMENTS FOR CONTRACTORS AND SUBCONTRACTORS

***Serious, willful safety violation:*** “Serious, willful safety violation” is defined, for the purposes of this program, as a work activity with a substantial probability that death or serious physical harm could result and where the hazard was known or should have been known, but where the work activity was continued regardless of the existence of the safety hazard.

## LABOR MANAGEMENT PROJECT AGREEMENT

This Agreement is entered into this \_\_\_\_day of \_\_\_\_, 20\_\_ by and between Joliet Junior College, Illinois Community College District 525 of Will, Grundy, Kendall, LaSalle, Kankakee, Livingston, and Cook, Illinois, (hereinafter called the "Owner"); and \_\_\_\_\_ (hereinafter called the "Project Contractor"); and the \_\_\_\_\_ Building Trades Council (hereinafter called the "Union"), acting in their own behalf and on behalf of their respective affiliates and members; and the THREE RIVERS CONSTRUCTION ALLIANCE, acting on their own behalf and on the behalf of their respective affiliates and members, with respect to all construction projects at Joliet Junior College, which includes the Master Plan and Capital Improvement Plans thru August 2013, located in Will County, Illinois.

### WITNESSETH:

WHEREAS, to accomplish the goals of quality, cost effectiveness and timelessness requires that all participants exhibit a positive attitude intent on success; and

WHEREAS, there must exist amongst all parties a willingness to cooperate fully in devoting themselves to the goals of the Project; and

WHEREAS, this program has no room for adverse relationships, but only a true spirit of cooperation and commitment; and

WHEREAS, it is essential that the work required to construct this Project be accomplished in an efficient and economical manner so as to provide productivity, the highest levels of quality and the total elimination of delays thereby fostering new plateaus in labor/management cooperation; and

WHEREAS, Joliet Junior College, Illinois Community College District 525 of Will, Grundy, Kendall, LaSalle, Kankakee, Livingston, and Cook, Illinois, (hereinafter referred to as

the "Owner"), its general Contractor(s), its subcontractor(s) of whatever tier, the local Building Trades Council, the THREE RIVERS CONSTRUCTION ALLIANCE dedicate themselves to the goal that together, in full cooperation, local labor, and management will produce a project of excellent quality, as economically as possible, in a safe environment, under favorable working conditions; and

WHEREAS, nothing contained herein shall prevent the Owner from considering bids for the Project so long as the General Contractor and its Subcontractors agree to abide by the terms and provisions of this Agreement.

NOW, THEREFORE, for and in consideration of the mutual covenants above-contained and other good and valuable consideration, as hereinafter set forth, the parties do hereby agree as follows:

**SECTION 1. Introduction**

It is understood by the parties to this Agreement that other contractors awarded construction work directly or indirectly by the Owner will execute this Agreement and become signatory contractors for the purpose of this work.

The intent of the parties to this Agreement is to establish labor and management cooperation between the Owner, Project Contractor, all Contractors and Subcontractors performing construction work in this Project site, and the appropriate Unions signatory to this Agreement for the express purpose of producing a quality project on schedule, and, as economically as possible, in a safe environment under favorable working conditions.

**SECTION 2. Scope of the Agreement.**

A. This Project Agreement shall apply and is limited to the recognized and accepted historical definition of new construction work under the direction of and performed by the

Contractor(s), of whatever tier, which may include the Project Contractor, who have contracts awarded for such work on the Project. Such work shall include site preparation work and dedicated off-site work.

It is agreed that the Project Contractor shall require all Contractors of whatever tier who have been awarded contracts for work covered by this Agreement, to accept and be bound by the terms and conditions of this Agreement by executing the Letter of Assent (Attachment A) prior to commencing work. The Project Contractor shall assure compliance with this Agreement by the Contractors. It is further agreed that, where there is a conflict, the terms and conditions of this Agreement shall supersede and override terms and conditions of any and all other national, area, or local collective bargaining agreements, except for all work performed under the NTL Articles of Agreement, and the National Stack/Chimney Agreement, the National Cooling Tower Agreement. All instrument calibration work and loop checking shall be performed under the terms of the UA/IBEW Joint National Agreement for Instrument and Control Systems Technicians, and the National Agreement of the International Union of Elevator Constructors, with the exception of Section 4, 5 and 6 of this Agreement, which shall apply to such work.

B. Nothing contained herein shall be construed to prohibit, restrict or interfere with the performance of any other operation, work, or function which may occur at the Project site or be associated with the development of the Project.

C. This Agreement shall only be binding on the signatory parties hereto and shall not apply to their parents, affiliates or subsidiaries.

D. The Owner and/or the Project Contractor have the absolute right to select any qualified bidder for the award of contracts on this Project without reference to the existence or non-existence of any agreements between such bidder and any party to this Agreement;

provided, however, only that such bidder is willing, ready and able to become a party to and comply with this Agreement, should it be designated the successful bidder.

E. The provisions of this Agreement shall not apply to Owner, and nothing contained herein shall be construed to prohibit or restrict Owner or its employees from performing work not covered by this Agreement on the Project site. As areas and systems of the Project are inspected and construction tested by the Project Contractor or Contractors and accepted by the Owner, the Agreement will not have further force or effect on such items or areas, except when the Project Contractor or Contractors are directed by the Owner to engage in repairs, modifications, check-out, and warranty functions required by its contract with the Owner during the term of this Agreement.

F. It is understood that the Owner, at its sole option, may terminate, delay and/or suspend any or all portions of the Project at any time.

G. It is understood that the liability of any employer and the liability of the separate unions under this Agreement shall be several and not joint. The unions agree that this Agreement does not have the effect of creating any joint employer status between or among the Owner, Contractor(s) or any employer.

### SECTION 3. Labor-Management Cooperation Committee

The parties to this Agreement hereby reaffirm the necessity for joint cooperation and participation by Labor and Management in interpreting and analyzing the effectiveness of management's application of this Agreement as well as Labor's response and any other matter affecting quality, safety, working conditions and productivity. Therefore, to secure this end, it is hereby agreed that a "Labor-Management Cooperation Committee" will be established composed of three representatives from Labor and three representatives from Management; one



representative from labor and one from Management shall be Co-Chairpersons of this Committee.

The Labor-Management Cooperation Committee shall meet a minimum of once each month, at the job site, and shall discuss the following; reports concerning any violation, dispute, questions or interpretation of the application of practices arising out of this Agreement; safety; working conditions; absenteeism; labor turnover; availability of qualified journeymen; need for training; and any other matter affecting productivity and efficiency on this project.

In the event a dispute is not resolved by the Labor-Management Cooperation Committee, such matter shall then be settled as outlined by the grievance procedure and/or arbitration provisions contained in Section 6 or 7 of this Agreement. The Labor-Management Cooperation Committee shall have no authority to render a decision involving a jurisdictional dispute.

#### SECTION 4. Contractor's Commitment

A Work assignments will be made in accordance with area practice, consistent with the efficient and economical performance of the work.

B. Before performing the work at the job site, the Contractor or Subcontractors of whatever tier actually performing the work will become signatory to the appropriate collective bargaining agreement.

C. The Contractors and Subcontractors shall exercise their management rights. These rights shall include planning, directing, hiring, dismissal, lay-off, transferring, appointing foremen and general foremen and otherwise directing the work force.

D. The Project Contractor agrees that neither it nor any of its contractors or subcontractors will subcontract any work to be done on the Project except to a person, firm or corporation who is or agrees to become party to this Agreement. Any contractor or subcontractor

working on the Project shall, as a condition to working on said Project, become signatory to and perform all work under the terms of this Agreement.

SECTION 5. Union (Craftsman) Commitment

A. Qualified and skilled craftsmen will be furnished as required by the Contractor in the fulfillment of its obligations of the Owner.

B. Craftsmen shall be at their place of work at the regular starting time and shall remain at their place of work until quitting time. There shall be no limit on production by Craftsmen nor restrictions on the use of tools or equipment other than that which may be required by safety practice.

C. Where stewards are appointed by respective unions, the steward shall be qualified craftsmen performing the work of his craft who shall exercise no supervisory functions. There shall be no non-working stewards.

SECTION 6. Disputes and Grievances

A. This Agreement is intended to provide close cooperation between management and labor. Each of the Unions will assign a representative to this Project for the purpose of completing the construction of the Project economically, efficiently, continuously, and without interruptions, delays, or work stoppages.

B. The Contractors, Unions, and the employees, collectively and individually, realize the importance to all parties to maintain continuous and uninterrupted performance of the work of the Project, and agree to resolve disputes in accordance with the grievance-arbitration provisions set forth in this Article.

C. Any question or dispute arising out of and during the term of this Project Agreement (other than grievances not covered by a local Collective Bargaining Agreement or trade

jurisdictional disputes) shall be considered a grievance and subject to resolution under the following procedures:

Step 1. (a) When any employee subject to the provisions of this Agreement feels he or she is aggrieved by a violation of this Agreement, he or she, through his or her local union business representative or job steward, shall, within five (5) working days after the occurrence of the violation, give notice to the work-site representative of the involved Contractor stating the provision(s) alleged to have been violated. The business representative of the local union or the job steward and the work-site representative of the involved Contractor and the Project Contractor shall meet and endeavor to adjust the matter within three (3) working days after timely notice has been given. The representative of the Contractor shall keep the meeting minutes and shall respond to the Union representative in writing (copying the Project Contractor) at the conclusion of the meeting but not later than twenty-four (24) hours thereafter. If they fail to resolve the matter within the prescribed period, the grieving party may, within forty-eight (48) hours thereafter, pursue Step 2 of the Grievance Procedure, provided the grievance is reduced to writing, setting forth the relevant information concerning the alleged grievance, including a short description thereof, the date on which the grievance occurred, and the provision(s) of the Agreement alleged to have been violated.

(b) Should the Local Union(s) or the Project Contractor or any Contractor have a dispute with the other party and, if after conferring, a settlement is not reached within three (3) working days, the dispute may be reduced to writing and proceed to Step 2 in the same manner as outlined herein for the adjustment of an employee complaint.

Step 2. The International Union Representative and the involved Contractor shall meet within seven (7) working days of the referral of a dispute to this second step to arrive at a

satisfactory settlement thereof. Meeting minutes shall be kept by the Contractor. If the parties fail to reach an agreement, the dispute may be appealed in writing in accordance with the provisions of Step 3 within seven (7) calendar days thereafter.

Step 3. (a) If the grievance has been submitted but not adjusted under Step 2, either party may request in writing, within seven (7) calendar days thereafter, that the grievance be submitted to an Arbitrator mutually agreed by them. The Contractor and the involved Union shall attempt mutually to select an arbitrator, but if they are unable to do so, they shall request the American Arbitration Association to provide them with a list of arbitrators from which the Arbitrator shall be selected. The rules of the American Arbitration Association shall govern the conduct of the arbitration hearing. The decision of the Arbitrator shall be final and binding on all parties. The fee and expenses of such Arbitration shall be borne equally by the Contractor and the involved Local Union(s).

(b) Failure of the grieving party to adhere to the time limits established herein shall render the grievance null and void. The time limits established herein may be extended only by written consent of the parties involved at the particular step where the extension is agreed upon. The Arbitrator shall have the authority to make decisions only on issues presented to him or her, and he or she shall not have authority to change, amend, add to or detract from any of the provisions of this Agreement.

D. The Project Contractor and Owner shall be notified of all actions at Steps 2 and 3 and shall, upon their request, be permitted to participate in all proceedings at these steps.

#### SECTION 7. Jurisdictional Disputes

A. The assignment of work will be solely the responsibility of the Contractor performing the work involved; and such work assignments will be in accordance with the Plan for the

Settlement of Jurisdictional Disputes in the Construction Industry (the "Plan") or any successor Plan.

B. All jurisdictional disputes on this Project, between or among Building and Construction Trades Unions and employers, parties to this Agreement, shall be settled and adjusted according to the present Plan established by the Building and Construction Trades Department or any other plan or method of procedure that may be adopted in the future by the Building and Construction Trades Department. Decisions rendered shall be final, binding and conclusive on the Contractors and Unions parties to this Agreement.

C. All jurisdictional disputes shall be resolved without the occurrence of any strike, work stoppage, or slow-down of any nature, and the Contractor's assignment shall be adhered to until the dispute is resolved. Individuals violating this section shall be subject to immediate discharge.

D. Each Contractor will conduct a pre-job conference with the appropriate Building and Construction Trades Council prior to commencing work. The Project Contractor and the Owner will be advised in advance of all such conferences and may participate if they wish.

#### SECTION 8. Joint Commitment (Contractor/Union)

A. Utilization of Union apprentices will be maximized consistent with the best interest of the job in compliance with Local Union Agreements. The high level of union apprenticeship training will be maintained to provide the Industry with productive and knowledgeable craftsmen for the long term.

B. Every reasonable and practicable measure, consistent with the protection of human-dignity, will be taken to assure a work place free of alcohol and drugs. The use of liquor, drugs or any other illegal activities at the Project site, including parking lots, is strictly prohibited.

C. Employees will take their breaks only in their immediate work areas.

D. Acknowledging the safety concerns of Owner and its risk management professionals, we assure the Owner that the parties are committed to safe working practices on the project. The parties, drawing upon the comprehensive safety programs and resources developed by the union construction community, will comply with federal, state and local safety regulations. Both contractors and union craftsmen are well trained in safety practices and commit themselves to applying such practices on this job.

E. The Contractors and Unions agree that there will be no lockouts or work stoppages.

(1) The Contractors and Subcontractors shall not cause, incite, encourage or participate in any lockout of employees on the project during the term of this Agreement.

(2) The Union and its members, agents, representatives, and employees shall not allow, incite, encourage, condone or participate in any strike, walkout, slowdown, picketing, sympathy strike or other work stoppage of any nature whatsoever, whether jurisdictional or otherwise, or observe any picket of any nature during the term of this Agreement. Any such action by the Union or its members, agents, representatives or employees shall be considered a violation of this Agreement.

(3) All employees shall continue to work and to perform all their obligations on the project despite the expiration of any local or other collective bargaining agreement. Any future wage or fringe benefit increase, decrease or modification legally negotiated and established by appropriate local collective bargaining agreement of the Local Unions which are signatories to this Agreement shall be paid retroactively to the expiration date of the preceding local Agreement.

(4) Should any unauthorized strike, slowdown, stoppage of work or interference with construction occur, the Union shall take all necessary steps to bring such activity to a prompt resolution.

SECTION 9. Helmets To Hardhats

A. The Contractors and the Unions recognize a desire to facilitate the entry into the building and construction trades of veterans who are interested in careers in the building and construction industry. The Contractors and Unions agree to utilize the Center for Military Recruitment, Assessment and Veterans Employment (hereinafter "Center") and the Center's "Helmets to Hardhats" program to serve as a resource for preliminary orientation, assessment of construction aptitude, referral to apprenticeship programs or hiring halls, counseling and mentoring, support network, employment opportunities and other needs as identified by the parties.

B. The Unions and Contractors agree to coordinate with the Center to create and maintain an integrated database of veterans interested in working on this Project and of apprenticeship and employment opportunities for this Project. To the extent permitted by law, the Unions will give credit to such veterans for bona fide, provable past experience.

SECTION 10. Term of Agreement.

A. This Agreement shall become effective on \_\_\_\_\_, 20\_\_\_\_, and shall remain in full force and effect as long as signatory contractors are working on this project.

B. Any of the undersigned parties shall have the right to terminate this Agreement by notifying all other parties in writing, within at least thirty (30) calendar days from the proposed termination date.

SECTION 11. Notices

The address and telephone number of all of the undersigned shall be on file with Owner's Director of Facility Services at the Highland Building, 1215 Houbolt Road, Joliet, Illinois, 60431, Attention: Patrick VanDuyne. All notices, request and other communications under this Agreement shall be in writing and shall be personally served or sent by certified mail, postage prepaid, return receipt requested, facsimile, or by licensed overnight courier to the appropriate party at the address set forth below or as may otherwise be on file with the Director of Physical Plant as provided herein. Notice shall be deemed given at the time delivered, if personally delivered, at the time indicated on the duly completed postal service return receipt, if delivered, at the time indicated on the duly completed postal service return receipt, if delivered by certified mail, at the time the facsimile is transmitted, if delivered by facsimile, or on the next business day after such notice is sent, if delivered by overnight courier. If a person elects to change their address, they shall do so by notifying the Owner's Director of Facility Services in the manner as provided for herein for the delivery of a notice.

SECTION 12. Miscellaneous Provisions.

A. Assignment. No party may assign its rights hereunder without the prior written consent of the other parties.

B. Entire Agreement. This Agreement contains the entire agreement between the parties with respect to the subject matter hereof and may not be modified, except in writing signed by the parties hereto. Furthermore, the parties hereto specifically agree that all prior agreements, whether written or oral, relating to the subject matter hereof shall be of no further force or effect from and after the date hereof.



C. Non-Partnership. This Agreement shall not create a partnership, joint venture or other joint enterprises between the parties hereto.

D. Severability. If any phrase, clause or provision of this Agreement is declared invalid or unenforceable by a court of competent jurisdiction, such phrase, clause or provisions shall be deemed severed from this Agreement, but will not affect any other provision of this Agreement, which shall otherwise remain in full force and effect. If any restriction or limitation in this Agreement is deemed to be unreasonable, onerous and unduly restrictive by a court of competent jurisdiction, it shall not be stricken in its entirety and held totally void and unenforceable, but shall not be deemed rewritten and shall remain effective to the maximum extent permissible within reasonable bounds.

E. Prevailing Party. The prevailing party or parties in any litigation arising out of or from this Agreement shall be entitled to recover from the non-prevailing party or parties all costs and expenses reasonably incurred litigating such action, including without limitation, reasonable attorneys' and paralegals' fees and court cost.

F. Neutral Reading. It is the intent of the parties that this Agreement be deemed to have been prepared by all of the parties hereto.

G. Waiver. No waiver of any breach or default hereunder shall be considered valid unless in writing and signed by the party given such waiver and no such waiver shall be deemed a waiver of any subsequent breach or default of the same or similar nature.


H. Headings. The section and subsection headings contained herein are for convenience of the parties only and are not intended to define or limit the context of said Sections and subsections.

I. Governing Law; Venue. The validity, construction and interpretation of this Agreement shall be governed by the State of Illinois. The parties hereto irrevocably agree that all actions or proceedings in any way, manner or respect arising out of or from or related to this Agreement shall be litigated only in the Circuit Court Twelfth Judicial Circuit, Will County, Illinois.

J. Counterparts. This Agreement may be executed in two or more counterparts, each of which may be deemed to be an original.

IN WITNESS WHEREOF, the parties have executed this Agreement on the day and year first above written.

SIGNED FOR THE OWNER:




Firm: Joliet Junior College

Title: Director of Facility Services

Date: 4-15-09

Address: 1215 Houbolt Road  
Joliet, Illinois 60431

SIGNED FOR THE UNION:




 Building Trades Council

Title: President

Date: 4-15-09

Address: 2082 Oakleaf St.  
Joliet IL 60436

SIGNED FOR THE ALLIANCE:



Firm: Three River's Construction Alliance

Title: Co-Chair TRCA

Date: 4/15/09

Address: 2134 Maxim Dr.  
Rockdale IL 60436

SIGNED FOR BY THE CONTRACTOR:

Firm: \_\_\_\_\_

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

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

Address: \_\_\_\_\_



*Skilled Union Craftsmen  
Professional Union Contractors*

## **BLUEPRINT FOR SUCCESS**

### **A Labor-Management Project Agreement**

#### **I. Preamble**

To accomplish the goals of quality, cost effectiveness and timeliness requires that all participants exhibit a positive attitude intent on success. There must exist amongst all parties a willingness to cooperate fully in devoting themselves to the goals of the project.

This program has no room for adverse relationships, but only a true spirit of cooperation and commitment. It is essential that the work required to construct this project be accomplished in an efficient and economical manner so as to provide productivity, the highest levels of quality, and the total elimination of delays. This commitment will establish new plateaus in labor/management cooperation.

Therefore, Joliet Junior College, Illinois Community College District 525, of Will, Grundy, Kendall, LaSalle, Kankakee, Livingston and Cook, Illinois, (hereinafter referred to as the "Owner"), its subcontractor(s) of whatever tier, the Will & Grundy Counties Building Trades Council, and the THREE RIVERS' CONSTRUCTION ALLIANCE dedicate themselves to the goal that together, in full cooperation, local labor and management will produce a project of excellent quality, as economically as possible, in a safe environment, under favorable working conditions.

#### **II. Introduction**

This Agreement is entered into this 15<sup>th</sup> day of April, 2009, by and between Joliet Junior College (hereinafter called the "Owner"); and Gilbane (hereinafter called and the "Project Contractor"; and the Will & Grundy Counties Building Trades Council (hereinafter called the "Union"), acting in their own behalf and on behalf of their respective affiliates and members; and the THREE RIVERS CONSTRUCTION ALLIANCE, acting on their own behalf and on behalf of their respective affiliates and members, with respect to all construction projects at Joliet Junior College, which includes the Master Plan and Capital Improvement Plan projects thru August 2013 located in Will County, Illinois.

It is understood by the parties to this Agreement that other contractors awarded construction work directly or indirectly by the "Owner" will execute this Agreement and become signatory contractors for the purpose of this work.

The intent of the parties to this Agreement is to establish labor and management cooperation between the Project Contractor, all Contractors and Subcontractors performing construction work on this project site, and the appropriate Unions signatory to this Agreement for the express purpose of producing a quality project on schedule and as economically as possible, in a safe environment under favorable working conditions.

### **III. Scope Of The Agreement**

**A.** This Project Agreement shall apply and is limited to the recognized and accepted historical definition of new construction work under the direction of and performed by the Contractor(s), of whatever tier, which may include the Project Contractor, who have contracts awarded for such work on the Project. Such work shall include site preparation work and dedicated off-site work.

It is agreed that the Project Contractor shall require all Contractors of whatever tier who have been awarded contracts for work covered by this Agreement, to accept and be bound by the terms and conditions of this Project Agreement by executing the Letter of Assent (Attachment A) prior to commencing work. The Project Contractor shall assure compliance with this Agreement by the Contractors. It is further agreed that, where there is a conflict, the terms and conditions of this Project Agreement shall supersede and override terms and conditions of any and all other national, area, or local collective bargaining agreements, except for all work performed under the NTL Articles of Agreement, the National Stack/Chimney Agreement, the National Cooling Tower Agreement, all instrument calibration work and loop checking shall be performed under the terms of the UA/IBEW Joint National Agreement for Instrument and Control Systems Technicians, and the National Agreement of the International Union of Elevator Constructors, with the exception of Article V, VI, and VII of this Project Agreement, which shall apply to such work.

**B.** Nothing contained herein shall be construed to prohibit, restrict or interfere with the performance of any other operation, work, or function which may occur at the Project site or be associated with the development of the Project.

**C.** This Agreement shall only be binding on the signatory parties hereto and shall not apply to their parents, affiliates or subsidiaries.

**D.** The Owner and/or the Project Contractor have the absolute right to select any qualified bidder for the award of contracts on this Project without reference to the existence or non-existence of any agreements between such bidder and any party to this Agreement; provided, however, only that such bidder is willing, ready and able to become a party to and comply with this Project Agreement, should it be designated the successful bidder.

**E.** It is understood that the Owner, at its sole option, may terminate, delay and/or suspend any or all portions of the Project at any time.

**F.** It is understood that the liability of any employer and the liability of the separate unions under this Agreement shall be several and not joint. The unions agree that this Agreement does not have the effect of creating any joint employer status between or among the Owner, Contractor(s) or any employer.

### **IV. Labor-Management Cooperation Committee**

The parties to this Agreement hereby reaffirm the necessity for joint cooperation and participation by Labor and Management in interpreting and analyzing the effectiveness of management's application of this Agreement as well as Labor's response and any other matter affecting quality, safety, working conditions and productivity. Therefore, to secure this end, it is hereby agreed that a "Labor-Management Cooperation Committee" will be established composed of three representatives from Labor and three representatives from Management; one representative from Labor and one from Management shall be Co-Chairmen of this Committee.

The Labor-Management Cooperation Committee shall meet a minimum of once each month, at the jobsite, and shall discuss the following: reports concerning any violation, dispute, questions or interpretation of the application of practices arising out of this Agreement; safety; working conditions; absenteeism; labor turnover; availability of qualified journeymen; need for training; and any other matter affecting productivity and efficiency on this project.

In the event a dispute is not resolved by the Labor-Management Cooperation Committee, such matter shall then be settled as outlined by the grievance procedure and/or arbitration provisions contained in Articles VII or VIII of this Agreement. The Labor-Management Cooperation Committee shall not have authority to render a decision involving a jurisdictional dispute.

#### **V. Contractors' Commitment**

A. Work assignments will be made in accordance with area practice, consistent with the efficient and economical performance of the work.

B. Before performing work at the job site, the Contractor or Subcontractors of whatever tier actually performing the work will become signatory to the appropriate collective bargaining agreement.

C. The Contractors and Subcontractors shall exercise their management rights. These rights shall include planning, directing, hiring, dismissal, lay-off, transferring, appointing foremen and general foremen and otherwise directing the work force.

D. The Project Contractor agrees that neither it nor any of its contractors or subcontractors will subcontract any work to be done on the Project except to a person, firm or corporation who is or agrees to become party to this Agreement. Any contractor or subcontractor working on the Project shall, as a condition to working on said Project, become signatory to and perform all work under the terms of this Agreement.

#### **VI. Union (Craftsmen) Commitment**

A. Qualified and skilled craftsmen will be furnished as required by the Contractor in the fulfillment of its obligations to the Owner.

B. Craftsmen shall be at their place of work at the regular starting time and shall remain at their place of work until quitting time. There shall be no limit on production by Craftsmen nor restrictions on the use of tools or equipment other than that which may be required by safety practice.

C. Where stewards are appointed by respective unions, the steward shall be a qualified craftsman performing the work of his craft who shall exercise no supervisory functions. There shall be no non-working stewards.

#### **VII. Owner Commitment**

A. The Owner agrees that during the life of this agreement he shall assign construction work on this project only to contractors who are signatory to this agreement and applicable local collective bargaining agreements.

#### **VIII. Disputes & Grievances**

A. This Agreement is intended to provide close cooperation between management and labor. Each of the Unions will assign a representative to this Project for the purpose of completing the construction of the Project economically, efficiently, continuously, and without interruptions, delays, or work stoppages.

B. The Contractors, Unions, and the employees, collectively and individually, realize the importance to all parties to maintain continuous and uninterrupted performance of the work of the Project, and agree to resolve disputes in accordance with the grievance-arbitration provisions set forth in this Article.

C. Any question or dispute arising out of and during the term of this Project Agreement (other than grievances not covered by a local Collective Bargaining Agreement or trade jurisdictional disputes) shall be considered a grievance and subject to resolution under the following procedures:

Step 1. (a) When any employee subject to the provisions of this Agreement feels he or she is aggrieved by a violation of this Agreement, he or she, through his or her local union business representative or job steward, shall, within five (5) working days after the occurrence of the violation, give notice to the work-site representative of the involved Contractor stating the provision(s) alleged to have been violated. The business representative of the local union or the job steward and the work-site representative of the involved Contractor and the Project Contractor shall meet and endeavor to adjust the matter within three (3) working days after timely notice has been given. The representative of the Contractor shall keep the meeting minutes and shall respond to the Union representative in writing (copying the Project Contractor) at the conclusion of the meeting but not later than twenty-four (24) hours thereafter. If they fail to resolve the matter within the prescribed period, the grieving party may, within forty-eight (48) hours thereafter, pursue Step 2 of the Grievance Procedure, provided the grievance is reduced to writing, setting forth the relevant information concerning the alleged grievance, including a short description thereof, the date on which the grievance occurred, and the provision(s) of the Agreement alleged to have been violated.

(b) Should the Local Union(s) or the Project Contractor or any Contractor have a dispute with the other party and, if after conferring, a settlement is not reached within three (3) working days, the dispute may be reduced to writing and proceed to Step 2 in the same manner as outlined herein for the adjustment of an employee complaint.

Step 2. The International Union Representative and the involved Contractor shall meet within seven (7) working days of the referral of a dispute to this second step to arrive at a satisfactory settlement thereof. Meeting minutes shall be kept by the Contractor. If the parties fail to reach an agreement, the dispute may be appealed in writing in accordance with the provisions of Step 3 within seven (7) calendar days thereafter.

Step 3. (a) If the grievance has been submitted but not adjusted under Step 2, either party may request in writing, within seven (7) calendar days thereafter, that the grievance be submitted to an Arbitrator mutually agreed upon by them. The Contractor and the involved Union shall attempt mutually to select an arbitrator, but if they are unable to do so, they shall request the American Arbitration Association to provide them with a list of arbitrators from which the Arbitrator shall be selected. The rules of the American Arbitration Association shall govern the conduct of the arbitration hearing. The decision of the Arbitrator shall be final and binding on all parties. The fee and expenses of such Arbitration shall be borne equally by the Contractor and the involved Local Union(s).

(b) Failure of the grieving party to adhere to the time limits established herein shall render the grievance null and void. The time limits established herein may be extended only by written consent of the parties involved at the particular step where the extension is agreed upon. The Arbitrator shall have the authority to make decisions only on issues presented to him or her, and he or she shall not have authority to change, amend, add to or detract from any of the provisions of this Agreement.

D. The Project Contractor and Owner shall be notified of all actions at Steps 2 and 3 and shall, upon their request, be permitted to participate in all proceedings at these steps.

## **IX. Jurisdictional Disputes**

A. The assignment of work will be solely the responsibility of the Contractor performing the work involved; and such work assignments will be in accordance with the Plan for the Settlement of Jurisdictional Disputes in the Construction Industry (the "Plan") or any successor Plan.

B. All jurisdictional disputes on this Project, between or among Building and Construction Trades Unions and employers, parties to this Agreement, shall be settled and adjusted according to the present Plan established by the Building and Construction Trades Department or any other plan or method of procedure that may be

adopted in the future by the Building and Construction Trades Department. Decisions rendered shall be final, binding and conclusive on the Contractors and Unions parties to this Agreement.

**C.** All jurisdictional disputes shall be resolved without the occurrence of any strike, work stoppage, or slowdown of any nature, and the Contractor's assignment shall be adhered to until the dispute is resolved. Individuals violating this section shall be subject to immediate discharge.

**D.** Each Contractor will conduct a pre-job conference with the appropriate Building and Construction Trades Council prior to commencing work. The Project Contractor and the Owner will be advised in advance of all such conferences and may participate if they wish.

#### **X. Joint Commitment (Contractor/Union)**

**A.** Utilization of Union apprentices will be maximized consistent with the best interest of the job in compliance with Local Union Agreements. The high level of union apprenticeship training will be maintained to provide the Industry with productive and knowledgeable craftsmen for the long term.

**B.** Every reasonable and practicable measure, consistent with the protection of human dignity, will be taken to assure a work place free of alcohol and drugs. The use of liquor, drugs or any other illegal activities at the Project site, including parking lots, is strictly prohibited.

**C.** Employees will take their breaks only in their immediate work areas.

**D.** Acknowledging the safety concerns of today's construction Owner and its risk management professionals, we assure the Owner that the parties are committed to safe working practices on the project. The parties, drawing upon the comprehensive safety programs and resources developed by the Union construction community, will comply with federal, state, and local safety regulations. Both contractors and union craftsmen are well trained in safety practices and commit themselves to applying such practices on this job.

**E.** The Contractors and Unions agree that there will be no lockouts or work stoppages.

(1) The Contractors and Subcontractors shall not cause, incite, encourage or participate in any lockout of employees on the project during the term of this Agreement.

(2) The Union and its members, agents, representatives, and employees shall not allow, incite, encourage, condone or participate in any strike, walkout, slowdown, picketing, sympathy strike or other work stoppage of any nature whatsoever, whether jurisdictional or otherwise, or observe any picket of any nature during the term of this Agreement. Any such action by the Union or its members, agents, representatives or employees shall constitute a violation of this Agreement.

(3) All employees shall continue to work and to perform all their obligations on the project despite the expiration of any local or other collective bargaining agreement. Any future wage or fringe benefit increase, decrease or modification legally negotiated and established by appropriate local collective bargaining agreements of the Local Unions which are signatories to this Agreement shall be paid retroactively to the expiration of the preceding local Agreement.

(4) Should any unauthorized strike, slowdown, stoppage of work or interference with construction occur, the Union shall take all necessary steps to bring such activity to a prompt resolution.

**XI. Helmets To Hardhats**

A. The Employers and the Unions recognize a desire to facilitate the entry into the building and construction trades of veterans who are interested in careers in the building and construction industry. The Employers and Unions agree to utilize the Center for Military Recruitment, Assessment and Veterans Employment (hereinafter "Center") and the Center's "Helmets to Hardhats" program to serve as a resource for preliminary orientation, assessment of construction aptitude, referral to apprenticeship programs or hiring halls, counseling and mentoring, support network, employment opportunities and other needs as identified by the parties.

B. The Unions and Employers agree to coordinate with the Center to create and maintain an integrated database of veterans interested in working on this Project and of apprenticeship and employment opportunities for this Project. To the extent permitted by law, the Unions will give credit to such veterans for bona fide, provable past experience.

**XII. Term of Agreement**

A. This Agreement shall become effective on April 15, 2009, and shall remain in full force and effect as long as signatory contractors are working on this project.

B. Either party shall have the right to terminate this Agreement by notifying all other parties, in writing, within at least thirty (30) calendar days from the proposed termination date.

**FOR THE OWNER:**

*Gene Prault*  
JOLIET JUNIOR COLLEGE  
TITLE: *President*  
DATE: *4-15-09*

**FOR THE PROJECT CONTRACTOR:**

*Michael C. Brown*  
GILBANE  
TITLE: *Vice President*  
DATE: *4/15/09*

**FOR THE ALLIANCE:**

*Bob Bush*  
THREE RIVERS CONSTRUCTION  
TITLE: *Co-Chair TRCA*  
DATE: *4/15/09*

**FOR THE BUILDING TRADES:**

*Ronald C. Fier*  
WILL & GRUNDY BUILDING TRADES  
TITLE: *Presid.*  
DATE: *4-15-09*



# Will County Prevailing Wage for March 2014

(See explanation of column headings at bottom of wages)

Trade Name Trng	RG	TYP	C	Base	FRMAN	M-F>8	OSA	OSH	H/W	Pensn	Vac
=====	==	===	=	=====	=====	=====	===	===	=====	=====	=====
=====											
ASBESTOS ABT-GEN 0.500		ALL		37.100	37.600	1.5	1.5	2.0	13.38	9.520	0.000
ASBESTOS ABT-MEC 0.720		BLD		35.100	37.600	1.5	1.5	2.0	11.17	10.76	0.000
BOILERMAKER 0.350		BLD		44.240	48.220	2.0	2.0	2.0	6.970	17.54	0.000
BRICK MASON 1.040		BLD		41.580	45.740	1.5	1.5	2.0	9.700	12.80	0.000
CARPENTER 0.630		ALL		42.520	46.770	2.0	2.0	2.0	11.50	16.82	0.000
CEMENT MASON 0.500		ALL		41.000	43.000	2.0	2.0	2.0	9.500	16.54	0.000
CERAMIC TILE FNSHER 0.640		BLD		34.810	0.000	2.0	1.5	2.0	10.20	7.830	0.000
COMMUNICATION TECH 0.720		BLD		32.200	33.700	1.5	1.5	2.0	12.82	11.30	0.000
ELECTRIC PWR EQMT OP 0.450		ALL		44.850	49.850	1.5	1.5	2.0	10.63	14.23	0.000
ELECTRIC PWR GRNDMAN 0.350		ALL		34.980	49.850	1.5	1.5	2.0	8.290	11.10	0.000
ELECTRIC PWR LINEMAN 0.450		ALL		44.850	49.850	1.5	1.5	2.0	10.63	14.23	0.000
ELECTRICIAN 1.200		BLD		39.500	43.060	1.5	1.5	2.0	13.67	16.13	0.000
ELEVATOR CONSTRUCTOR 0.600		BLD		49.900	56.140	2.0	2.0	2.0	12.73	13.46	3.990
GLAZIER 0.940		BLD		40.000	41.500	1.5	2.0	2.0	12.49	15.99	0.000
HT/FROST INSULATOR 0.720		BLD		46.950	49.450	1.5	1.5	2.0	11.17	11.96	0.000
IRON WORKER 0.780		ALL		41.000	42.000	2.0	2.0	2.0	10.04	21.41	0.000
LABORER 0.500		ALL		37.000	37.750	1.5	1.5	2.0	13.38	9.520	0.000
LATHER 0.630		ALL		42.520	46.770	2.0	2.0	2.0	11.50	16.82	0.000
MACHINIST 0.000		BLD		43.920	46.420	1.5	1.5	2.0	6.760	8.950	1.850
MARBLE FINISHERS 0.590		ALL		30.520	0.000	1.5	1.5	2.0	9.700	12.55	0.000
MARBLE MASON 0.740		BLD		40.780	44.860	1.5	1.5	2.0	9.700	12.71	0.000
MATERIAL TESTER I 0.500		ALL		27.000	0.000	1.5	1.5	2.0	13.38	9.520	0.000
MATERIALS TESTER II 0.500		ALL		32.000	0.000	1.5	1.5	2.0	13.38	9.520	0.000

MILLWRIGHT 0.630	ALL	42.520	46.770	2.0	2.0	2.0	11.50	16.82	0.000
OPERATING ENGINEER 1.250	BLD 1	46.100	50.100	2.0	2.0	2.0	16.60	11.05	1.900
OPERATING ENGINEER 1.250	BLD 2	44.800	50.100	2.0	2.0	2.0	16.60	11.05	1.900
OPERATING ENGINEER 1.250	BLD 3	42.250	50.100	2.0	2.0	2.0	16.60	11.05	1.900
OPERATING ENGINEER 1.250	BLD 4	40.500	50.100	2.0	2.0	2.0	16.60	11.05	1.900
OPERATING ENGINEER 1.250	BLD 5	49.850	50.100	2.0	2.0	2.0	16.60	11.05	1.900
OPERATING ENGINEER 1.250	BLD 6	47.100	50.100	2.0	2.0	2.0	16.60	11.05	1.900
OPERATING ENGINEER 1.250	BLD 7	49.100	50.100	2.0	2.0	2.0	16.60	11.05	1.900
OPERATING ENGINEER 1.250	FLT 1	51.300	51.300	1.5	1.5	2.0	15.70	10.55	1.900
OPERATING ENGINEER 1.250	FLT 2	49.800	51.300	1.5	1.5	2.0	15.70	10.55	1.900
OPERATING ENGINEER 1.250	FLT 3	44.350	51.300	1.5	1.5	2.0	15.70	10.55	1.900
OPERATING ENGINEER 1.250	FLT 4	36.850	51.300	1.5	1.5	2.0	15.70	10.55	1.900
OPERATING ENGINEER 1.250	FLT 5	52.800	51.300	1.5	1.5	2.0	15.70	10.55	1.900
OPERATING ENGINEER 1.250	HWY 1	44.300	48.300	1.5	1.5	2.0	16.60	11.05	1.900
OPERATING ENGINEER 1.250	HWY 2	43.750	48.300	1.5	1.5	2.0	16.60	11.05	1.900
OPERATING ENGINEER 1.250	HWY 3	41.700	48.300	1.5	1.5	2.0	16.60	11.05	1.900
OPERATING ENGINEER 1.250	HWY 4	40.300	48.300	1.5	1.5	2.0	16.60	11.05	1.900
OPERATING ENGINEER 1.250	HWY 5	39.100	48.300	1.5	1.5	2.0	16.60	11.05	1.900
OPERATING ENGINEER 1.250	HWY 6	47.300	48.300	1.5	1.5	2.0	16.60	11.05	1.900
OPERATING ENGINEER 1.250	HWY 7	45.300	48.300	1.5	1.5	2.0	16.60	11.05	1.900
PAINTER 0.770	ALL	40.750	45.500	1.5	1.5	1.5	10.75	11.10	0.000
PAINTER SIGNS 0.000	BLD	33.920	38.090	1.5	1.5	1.5	2.600	2.710	0.000
PILEDRIVER 0.630	ALL	42.520	46.770	2.0	2.0	2.0	11.50	16.82	0.000
PIPEFITTER 1.680	BLD	46.000	49.000	1.5	1.5	2.0	9.000	15.85	0.000
PLASTERER 0.550	BLD	41.250	43.730	1.5	1.5	2.0	11.10	11.69	0.000
PLUMBER 0.880	BLD	46.050	48.050	1.5	1.5	2.0	12.53	10.06	0.000
ROOFER 0.430	BLD	39.200	42.200	1.5	1.5	2.0	8.280	9.690	0.000
SHEETMETAL WORKER	BLD	43.250	45.250	1.5	1.5	2.0	10.65	12.90	0.000

0.820											
SPRINKLER FITTER	BLD	49.200	51.200	1.5	1.5	2.0	10.75	8.850	0.000		
0.450											
STONE MASON	BLD	41.580	45.740	1.5	1.5	2.0	9.700	12.80	0.000		
1.040											
SURVEY WORKER	ALL	37.000	37.750	1.5	1.5	2.0	12.97	9.930	0.000		
0.500											
TERRAZZO FINISHER	BLD	36.040	0.000	1.5	1.5	2.0	10.20	9.900	0.000		
0.540											
TERRAZZO MASON	BLD	39.880	42.880	1.5	1.5	2.0	10.20	11.25	0.000		
0.700											
TILE MASON	BLD	41.840	45.840	2.0	1.5	2.0	10.20	9.560	0.000		
0.880											
TRAFFIC SAFETY WRKR	HWY	28.250	29.850	1.5	1.5	2.0	4.896	4.175	0.000		
0.000											
TRUCK DRIVER	ALL 1	35.650	36.200	1.5	1.5	2.0	7.250	6.319	0.000		
0.250											
TRUCK DRIVER	ALL 2	35.800	36.200	1.5	1.5	2.0	7.250	6.319	0.000		
0.250											
TRUCK DRIVER	ALL 3	36.000	36.200	1.5	1.5	2.0	7.250	6.319	0.000		
0.250											
TRUCK DRIVER	ALL 4	36.200	36.200	1.5	1.5	2.0	7.250	6.319	0.000		
0.250											
TUCKPOINTER	BLD	41.950	42.950	1.5	1.5	2.0	8.180	11.78	0.000		
0.630											

Legend :

RG (Region)

TYP (Trade Type - All,Highway,Building,Floating,Oil & Chip,Rivers)

C (Class)

Base (Base Wage Rate)

FRMAN (Foreman Rate)

M-F>8 (OT required for any hour greater than 8 worked each day, Mon through Fri.

OSA (Overtime (OT) is required for every hour worked on Saturday)

OSH (Overtime is required for every hour worked on Sunday and Holidays)

H/W (Health & Welfare Insurance)

Pensn (Pension)

Vac (Vacation)

Trng (Training)

## Explanations

### WILL COUNTY

The following list is considered as those days for which holiday rates of wages for work performed apply: New Years Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Christmas Day and Veterans Day in some classifications/counties. Generally, any of these holidays which fall on a Sunday is celebrated on the following Monday. This then makes work performed on that Monday payable at the appropriate overtime rate for holiday pay. Common practice in a given local may alter certain days of celebration. If in doubt, please check with IDOL.

#### EXPLANATION OF CLASSES

ASBESTOS - GENERAL - removal of asbestos material/mold and hazardous materials from any place in a building, including mechanical systems where those mechanical systems are to be removed. This includes the removal of asbestos materials/mold and hazardous materials from ductwork or pipes in a building when the building is to be demolished at the time or at some close future date.

ASBESTOS - MECHANICAL - removal of asbestos material from mechanical systems, such as pipes, ducts, and boilers, where the mechanical systems are to remain.

#### CERAMIC TILE FINISHER

The grouting, cleaning, and polishing of all classes of tile, whether for interior or exterior purposes, all burned, glazed or unglazed products; all composition materials, granite tiles, warning detectable tiles, cement tiles, epoxy composite materials, pavers, glass, mosaics, fiberglass, and all substitute materials, for tile made in tile-like units; all mixtures in tile like form of cement, metals, and other materials that are for and intended for use as a finished floor surface, stair treads, promenade roofs, walks, walls, ceilings, swimming pools, and all other places where tile is to form a finished interior or exterior. The mixing of all setting mortars including but not limited to thin-set mortars, epoxies, wall mud, and any other sand and cement mixtures or adhesives when used in the preparation, installation, repair, or maintenance of tile and/or similar materials. The handling and unloading of all sand, cement, lime, tile, fixtures, equipment, adhesives, or any other materials to be used in the preparation, installation, repair, or maintenance of tile and/or similar materials. Ceramic Tile Finishers shall fill all joints and

voids regardless of method on all tile work, particularly and especially after installation of said tile work. Application of any and all protective coverings to all types of tile installations including, but not be limited to, all soap compounds, paper products, tapes, and all polyethylene coverings, plywood, masonite, cardboard, and any new type of products that may be used to protect tile installations, Blastrac equipment, and all floor scarifying equipment used in preparing floors to receive tile. The clean up and removal of all waste and materials. All demolition of existing tile floors and walls to be re-tiled.

#### COMMUNICATIONS TECHNICIAN

Installation, operation, inspection, maintenance, repair and service of radio, television, recording, voice, sound and vision production and reproduction, telephone and telephone interconnect, facsimile, equipment and appliances used for domestic, commercial, educational and entertainment purposes, pulling of wire through conduit but not the installation of conduit.

#### MARBLE FINISHER

Loading and unloading trucks, distribution of all materials (all stone, sand, etc.), stocking of floors with material, performing all rigging for heavy work, the handling of all material that may be needed for the installation of such materials, building of scaffolding, polishing if needed, patching, waxing of material if damaged, pointing up, caulking, grouting and cleaning of marble, holding water on diamond or Carborundum blade or saw for setters cutting, use of tub saw or any other saw needed for preparation of material, drilling of holes for wires that anchor material set by setters, mixing up of molding plaster for installation of material, mixing up thin set for the installation of material, mixing up of sand to cement for the installation of material and such other work as may be required in helping a Marble Setter in the handling of all material in the erection or installation of interior marble, slate, travertine, art marble, serpentine, alberene stone, blue stone, granite and other stones (meaning as to stone any foreign or domestic materials as are specified and used in building interiors and exteriors and customarily known as stone in the trade), carrara, sanionyx, vitrolite and similar opaque glass and the laying of all marble tile, terrazzo tile, slate tile and precast tile, steps, risers treads, base, or any other materials that may be used as substitutes for any of the aforementioned materials and which are used on interior and exterior which are installed in a similar manner.

MATERIAL TESTER I: Hand coring and drilling for testing of materials; field inspection of uncured concrete and asphalt.

MATERIAL TESTER II: Field inspection of welds, structural steel, fireproofing, masonry, soil, facade, reinforcing steel, formwork, cured concrete, and concrete and asphalt batch plants; adjusting proportions of bituminous mixtures.

#### OPERATING ENGINEER - BUILDING

Class 1. Asphalt Plant; Asphalt Spreader; Autograde; Backhoes with Caisson Attachment; Batch Plant; Benoto (requires Two Engineers); Boiler and Throttle Valve; Caisson Rigs; Central Redi-Mix Plant; Combination Back Hoe Front End-loader Machine; Compressor and Throttle Valve; Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Conveyor (Truck Mounted); Concrete Paver Over 27E cu. ft; Concrete Paver 27E cu. ft. and Under: Concrete Placer; Concrete Placing Boom; Concrete Pump (Truck Mounted); Concrete Tower; Cranes, All; Cranes, Hammerhead; Cranes, (GCI and similar Type); Creter Crane; Spider Crane; Crusher, Stone, etc.; Derricks, All; Derricks, Traveling; Formless Curb and Gutter Machine; Grader, Elevating; Grouting Machines; Heavy Duty Self-Propelled Transporter or Prime Mover; Highlift Shovels or Front Endloader 2-1/4 yd. and over; Hoists, Elevators, outside type rack and pinion and similar machines; Hoists, One, Two and Three Drum; Hoists, Two Tugger One Floor; Hydraulic Backhoes; Hydraulic Boom Trucks; Hydro Vac (and similar equipment); Locomotives, All; Motor Patrol; Lubrication Technician; Manipulators; Pile Drivers and Skid Rig; Post Hole Digger; Pre-Stress Machine; Pump Cretes Dual Ram; Pump Cretes: Squeeze Cretes-Screw Type Pumps; Gypsum Bulker and Pump; Raised and Blind Hole Drill; Roto Mill Grinder; Scoops - Tractor Drawn; Slip-Form Paver; Straddle Buggies; Operation of Tie Back Machine; Tournapull; Tractor with Boom and Side Boom; Trenching Machines.

Class 2. Boilers; Broom, All Power Propelled; Bulldozers; Concrete Mixer (Two Bag and Over); Conveyor, Portable; Forklift Trucks; Highlift Shovels or Front Endloaders under 2-1/4 yd.; Hoists, Automatic; Hoists, Inside Elevators; Hoists, Sewer Dragging Machine; Hoists, Tugger Single Drum; Laser Screed; Rock Drill (Self-Propelled); Rock Drill (Truck Mounted); Rollers, All; Steam Generators; Tractors, All; Tractor Drawn Vibratory Roller; Winch Trucks with "A" Frame.

Class 3. Air Compressor; Combination Small Equipment Operator; Generators; Heaters, Mechanical; Hoists, Inside Elevators (remodeling or renovation work); Hydraulic Power Units (Pile Driving, Extracting, and Drilling); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Low Boys; Pumps, Well Points; Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 4. Bobcats and/or other Skid Steer Loaders; Oilers; and Brick Forklift.

Class 5. Assistant Craft Foreman.

Class 6. Gradall.

Class 7. Mechanics; Welders.

#### OPERATING ENGINEERS - HIGHWAY CONSTRUCTION

Class 1. Asphalt Plant; Asphalt Heater and Planer Combination; Asphalt Heater Scarfire; Asphalt Spreader; Autograder/GOMACO or other similar type machines: ABG Paver; Backhoes with Caisson Attachment; Ballast

Regulator; Belt Loader; Caisson Rigs; Car Dumper; Central Redi-Mix Plant; Combination Backhoe Front Endloader Machine, (1 cu. yd. Backhoe Bucket or over or with attachments); Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Paver over 27E cu. ft.; Concrete Placer; Concrete Tube Float; Cranes, all attachments; Cranes, Tower Cranes of all types: Creter Crane; Spider Crane; Crusher, Stone, etc.; Derricks, All; Derrick Boats; Derricks, Traveling; Dredges; Elevators, Outside type Rack & Pinion and Similar Machines; Formless Curb and Gutter Machine; Grader, Elevating; Grader, Motor Grader, Motor Patrol, Auto Patrol, Form Grader, Pull Grader, Subgrader; Guard Rail Post Driver Truck Mounted; Hoists, One, Two and Three Drum; Heavy Duty Self-Propelled Transporter or Prime Mover; Hydraulic Backhoes; Backhoes with shear attachments up to 40' of boom reach; Lubrication Technician; Manipulators; Mucking Machine; Pile Drivers and Skid Rig; Pre-Stress Machine; Pump Cretes Dual Ram; Rock Drill - Crawler or Skid Rig; Rock Drill - Truck Mounted; Rock/Track Tamper; Roto Mill Grinder; Slip-Form Paver; Snow Melters; Soil Test Drill Rig (Truck Mounted); Straddle Buggies; Hydraulic Telescoping Form (Tunnel); Operation of Tieback Machine; Tractor Drawn Belt Loader; Tractor Drawn Belt Loader (with attached pusher - two engineers); Tractor with Boom; Tractaire with Attachments; Traffic Barrier Transfer Machine; Trenching; Truck Mounted Concrete Pump with Boom; Raised or Blind Hole Drills (Tunnel Shaft); Underground Boring and/or Mining Machines 5 ft. in diameter and over tunnel, etc; Underground Boring and/or Mining Machines under 5 ft. in diameter; Wheel Excavator; Widener (APSCO).

Class 2. Batch Plant; Bituminous Mixer; Boiler and Throttle Valve; Bulldozers; Car Loader Trailing Conveyors; Combination Backhoe Front Endloader Machine (Less than 1 cu. yd. Backhoe Bucket or over or with attachments); Compressor and Throttle Valve; Compressor, Common Receiver (3); Concrete Breaker or Hydro Hammer; Concrete Grinding Machine; Concrete Mixer or Paver 7S Series to and including 27 cu. ft.; Concrete Spreader; Concrete Curing Machine, Burlap Machine, Belting Machine and Sealing Machine; Concrete Wheel Saw; Conveyor Muck Cars (Haglund or Similar Type); Drills, All; Finishing Machine - Concrete; Highlift Shovels or Front Endloader; Hoist - Sewer Dragging Machine; Hydraulic Boom Trucks (All Attachments); Hydro-Blaster; Hydro Excavating (excluding hose work); Laser Screed; All Locomotives, Dinky; Off-Road Hauling Units (including articulating) Non Self-Loading Ejection Dump; Pump Cretes: Squeeze Cretes - Screw Type Pumps, Gypsum Bulker and Pump; Roller, Asphalt; Rotary Snow Plows; Rototiller, Seaman, etc., self-propelled; Self-Propelled Compactor; Spreader - Chip - Stone, etc.; Scraper - Single/Twin Engine/Push and Pull; Scraper - Prime Mover in Tandem (Regardless of Size); Tractors pulling attachments, Sheeps Foot, Disc, Compactor, etc.; Tug Boats.

Class 3. Boilers; Brooms, All Power Propelled; Cement Supply Tender; Compressor, Common Receiver (2); Concrete Mixer (Two Bag and Over); Conveyor, Portable; Farm-Type Tractors Used for Mowing, Seeding, etc.; Forklift Trucks; Grouting Machine; Hoists, Automatic; Hoists, All Elevators; Hoists, Tugger Single Drum; Jeep Diggers; Low Boys; Pipe Jacking Machines; Post-Hole Digger; Power Saw, Concrete Power Driven; Pug Mills; Rollers, other than Asphalt; Seed and Straw Blower; Steam Generators; Stump Machine; Winch Trucks with "A" Frame; Work Boats; Tamper-Form-Motor Driven.

Class 4. Air Compressor; Combination - Small Equipment Operator; Directional Boring Machine; Generators; Heaters, Mechanical; Hydraulic Power Unit (Pile Driving, Extracting, or Drilling); Light Plants, All (1 through 5); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Pumps, Well Points; Vacuum Trucks (excluding hose work); Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 5. SkidSteer Loader (all); Brick Forklifts; Oilers.

Class 6. Field Mechanics and Field Welders

Class 7. Dowell Machine with Air Compressor; Gradall and machines of like nature.

#### OPERATING ENGINEER - FLOATING

Class 1. Craft Foreman; Master Mechanic; Diver/Wet Tender; Engineer; Engineer (Hydraulic Dredge).

Class 2. Crane/Backhoe Operator; Boat Operator with towing endorsement; Mechanic/Welder; Assistant Engineer (Hydraulic Dredge); Leverman (Hydraulic Dredge); Diver Tender.

Class 3. Deck Equipment Operator, Machineryman, Maintenance of Crane (over 50 ton capacity) or Backhoe (115,000 lbs. or more); Tug/Launch Operator; Loader/Dozer and like equipment on Barge, Breakwater Wall, Slip/Dock, or Scow, Deck Machinery, etc.

Class 4. Deck Equipment Operator, Machineryman/Fireman (4 Equipment Units or More); Off Road Trucks; Deck Hand, Tug Engineer, Crane Maintenance (50 Ton Capacity and Under) or Backhoe Weighing (115,000 pounds or less); Assistant Tug Operator.

Class 5. Friction or Lattice Boom Cranes.

SURVEY WORKER - Operated survey equipment including data collectors, G.P.S. and robotic instruments, as well as conventional levels and transits.

TRAFFIC SAFETY - work associated with barricades, horses and drums used to reduce lane usage on highway work, the installation and removal of temporary lane markings, and the installation and removal of temporary road signs.

#### TRUCK DRIVER - BUILDING, HEAVY AND HIGHWAY CONSTRUCTION

Class 1. Two or three Axle Trucks. A-frame Truck when used for transportation purposes; Air Compressors and Welding Machines, including those pulled by cars, pick-up trucks and tractors; Ambulances; Batch Gate Lockers; Batch Hopperman; Car and Truck Washers; Carry-alls; Fork Lifts and Hoisters; Helpers; Mechanics Helpers and Greasers; Oil Distributors 2-man operation; Pavement Breakers; Pole Trailer, up to 40 feet; Power Mower Tractors; Self-propelled Chip Spreader; Skipman; Slurry Trucks, 2-man



operation; Slurry Truck Conveyor Operation, 2 or 3 man; Teamsters; Unskilled Dumpman; and Truck Drivers hauling warning lights, barricades, and portable toilets on the job site.

Class 2. Four axle trucks; Dump Crets and Adgetors under 7 yards; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnapulls or Turnatrailers when pulling other than self-loading equipment or similar equipment under 16 cubic yards; Mixer Trucks under 7 yards; Ready-mix Plant Hopper Operator, and Winch Trucks, 2 Axles.

Class 3. Five axle trucks; Dump Crets and Adgetors 7 yards and over; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnatrailers or turnapulls when pulling other than self-loading equipment or similar equipment over 16 cubic yards; Explosives and/or Fission Material Trucks; Mixer Trucks 7 yards or over; Mobile Cranes while in transit; Oil Distributors, 1-man operation; Pole Trailer, over 40 feet; Pole and Expandable Trailers hauling material over 50 feet long; Slurry trucks, 1-man operation; Winch trucks, 3 axles or more; Mechanic--Truck Welder and Truck Painter.

Class 4. Six axle trucks; Dual-purpose vehicles, such as mounted crane trucks with hoist and accessories; Foreman; Master Mechanic; Self-loading equipment like P.B. and trucks with scoops on the front.

#### TERRAZZO FINISHER

The handling of sand, cement, marble chips, and all other materials that may be used by the Mosaic Terrazzo Mechanic, and the mixing, grinding, grouting, cleaning and sealing of all Marble, Mosaic, and Terrazzo work, floors, base, stairs, and wainscoting by hand or machine, and in addition, assisting and aiding Marble, Masonic, and Terrazzo Mechanics.

#### Other Classifications of Work:

For definitions of classifications not otherwise set out, the Department generally has on file such definitions which are available. If a task to be performed is not subject to one of the classifications of pay set out, the Department will upon being contacted state which neighboring county has such a classification and provide such rate, such rate being deemed to exist by reference in this document. If no neighboring county rate applies to the task, the Department shall undertake a special determination, such special determination being then deemed to have existed under this determination. If a project requires these, or any classification not listed, please contact IDOL at 217-782-1710 for wage rates or clarifications.

#### LANDSCAPING

Landscaping work falls under the existing classifications for laborer, operating engineer and truck driver. The work performed by landscape plantsman and landscape laborer is covered by the existing classification of laborer. The work performed by landscape operators (regardless of equipment used or its size) is covered by the

classifications of operating engineer. The work performed by landscape truck drivers (regardless of size of truck driven) is covered by the classifications of truck driver.

MATERIAL TESTER & MATERIAL TESTER/INSPECTOR I AND II

Notwithstanding the difference in the classification title, the classification entitled "Material Tester I" involves the same job duties as the classification entitled "Material Tester/Inspector I". Likewise, the classification entitled "Material Tester II" involves the same job duties as the classification entitled "Material Tester/Inspector II".

**CERTIFICATION OF CONTRACT/BIDDER**

The below signed contractor/bidder hereby certifies that it is not barred from bidding on this or any other contract due to any violation of either Section 33E-3 or 33E-4 of Article 33E, Public Contracts, of the Illinois Criminal Code of 1961, as amended. This certification is required by Public Act 85-1295. This Act relates to interference with public contracting, bid rigging and rotating, kickbacks and bribery.

\_\_\_\_\_  
SIGNATURE OF CONTRACTOR/BIDDER

\_\_\_\_\_  
TITLE

\_\_\_\_\_  
DATE

THIS FORM **MUST** BE RETURNED WITH YOUR BID TO:

Joliet Junior College District #525  
Office of Facility Services  
Main Campus L Building, L1005  
1215 Houbolt Road  
Joliet, IL 60431-8938

B14004

**CERTIFICATE OF COMPLIANCE WITH**  
**ILLINOIS DRUG-FREE WORKPLACE ACT**

\_\_\_\_\_, does hereby certify pursuant to the *Illinois Drug-Free Workplace Act* (30 ILCS 580/) that [he, she, it] shall provide a drug-free workplace for all employees engaged in the performance of work under the contract by complying with the requirements of the *Illinois Drug-Free Workplace Act* and, further certifies, that [he, she, it] is not ineligible for award of this contract by reason of debarment for a violation of the *Illinois Drug-Free Workplace Act*.

\_\_\_\_\_  
By Authorized Agent

\_\_\_\_\_  
Date

SUBSCRIBED AND SWORN TO before me  
This \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
NOTARY PUBLIC

**EXECUTE AND ATTACH TO PROPOSAL FORM**

**JOLIET JUNIOR COLLEGE – REQUEST FOR BID**

**DRAWINGS ARE AVAILABLE ON THE FOLLOWING WEBSITE:**

**[WWW.JJC.EDU/INFO/PURCHASING](http://WWW.JJC.EDU/INFO/PURCHASING)**

**BID FORM**

To: Joliet Junior College  
1215 Houbolt Road  
Joliet, IL 60431-8938

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

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

Submitted by:

\_\_\_\_\_  
(Full Name)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(City, State, Zip)

\_\_\_\_\_  
(Phone) (Fax) (Email)

**PART 1 OFFER**

Having examined the site and having familiarized itself with the conditions affecting the cost of the work associated with the \_\_\_\_\_, and with the bidding documents, Bidder hereby proposes to perform everything required and to furnish all labor, materials, necessary tools, expendable equipment and transportation services necessary to complete in a workmanlike manner the subdivision of work stated above in accordance with the bidding documents for the following sums:

**Base Bid:**

\_\_\_\_\_

Dollars(\$ \_\_\_\_\_)

**Write amount in both alpha and numeric, in case of discrepancy the lesser amount shown will govern.**

We have included herewith, the Security Deposit as required by the Instructions to Bidders.

**PART 2 ACCEPTANCE**

This offer shall be open to acceptance and is irrevocable for thirty (30) days from the Bid closing date.

If the bid is accepted by the Owner within the time period stated above, we will:

- A. Execute the Agreement within ten (10) days of receipt of Notice of Award.
- B. Furnish the required bonds within ten (10) days of receipt of Notice of Award in the form described in the Instruction to Bidders.
- C. Furnish the required Certificate of Insurance within ten (10) days of receipt of Notice of Award in the form and amounts described in the Instruction to Bidders.
- D. Commence work as established by the written Notice to Proceed.

If this Bid is accepted within the time stated, and we fail to commence the Work or we fail to provide the required Bonds(s), the Security Deposit shall be forfeited as damages to the Owner by reason of our failures.

In the event our Bid is not accepted within the time stated above, the required security deposit shall be returned to the undersigned, in accordance with the provisions of the Instructions to Bidders; unless a mutually satisfactory arrangement is made for its retention and validity for an extended period of time.

**PART 3 CONTRACT TIME**

If the Bid is accepted, we will:

- A. Complete the work in manner consistent to meet the requirements of the schedule (\_\_\_\_\_) consecutive calendar days from the date established as the Date of Commencement in the Notice to Proceed.
- B. Contractor has examined the Schedule included in these documents and takes no exception, or records the following exceptions:

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**PART 4 CONTRACTOR'S FEES FOR CHANGES IN THE WORK**

B14004

Lump Sum of Time and Materials Changes: We the undersigned bidder agree that the following percentages for overhead and profit shall be added to job costs for the net amount of work added to or deleted from the contract by written lump sum or time and material change orders recommended by the Engineer and approved by the Owner:

Add to net extra for job costs for additional work performed by:

Our own forces 12%

Our subcontractor 5% (including assigned subcontractors)

Note: Insurance, bond, and taxes are considered as job cost items and are not included in the percentages listed above.

**PART 5      ADDENDA**

The following Addenda have been received. The modifications to the Bid Documents noted therein have been considered and all costs thereto are included in the Bid Sum.

Addendum # \_\_\_\_\_ Dated \_\_\_\_\_

Addendum # \_\_\_\_\_ Dated \_\_\_\_\_

Addendum # \_\_\_\_\_ Dated \_\_\_\_\_

**PART 6      SUBCONTRACTORS**

A. The following work will be performed (or provided) by the Subcontractors we have indicated below:

	<u>Name of Subcontractor</u>	<u>Work Performed</u>
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____

B. We understand, and hereby agree, that we are obligated to use the indicated subcontractors, unless prior written permission to change has been obtained from the Owner.

**PART 7      RELATED WORK EXPERIENCE**

List a minimum of three jobs of similar type and scope performed in the last five

B14004  
years:

1. Client: \_\_\_\_\_  
Building: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Contact Name: \_\_\_\_\_  
Dollar Amount: \_\_\_\_\_
  
2. Client: \_\_\_\_\_  
Building: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Contact Name: \_\_\_\_\_  
Dollar Amount: \_\_\_\_\_
  
3. Client: \_\_\_\_\_  
Building: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Contact Name: \_\_\_\_\_  
Dollar Amount: \_\_\_\_\_

**PART 8 BID FORM ADDITION**

**Apprenticeship and Training Certification**

In accordance with the Illinois Procurement Code, the Bidder certifies that the work to be performed by it and/or its subcontractors shall, at the time of such bid opening and at the time of the performance of work pursuant to the terms of this Contract, shall have participated in the approved apprenticeship and training programs as provided for above. The bidder shall list, in the space below, the official name of the program sponsor holding the certificate of registration or all types of work or crafts in which the bidder is a participant and that will be performed by the bidder and its sub-contractor's employees. Work that will be sub-contracted shall be indicated to be subcontracted work as provided for herein. **Failure to list required information may result in disqualification of bid.**



B14004

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**PART 9 CONTRACTOR EVALUATION**

Upon completion of the project, a Construction Contractor Performance Evaluation form will be completed by the A/E and the JJC Project Coordinator. The contractor will be evaluated in the following categories:

- Professionally Administered and Supervised Work
- Business Practices
- Overall Performance
- Workmanship
- Timeliness
- Project Management

**PART 10 BID FORM SIGNATURES(S)**

The Corporate Seal of:

\_\_\_\_\_  
(Bidder – please print the full name of your Proprietorship, Partnership, or Corporation)

Was hereunto affixed in the presence of:

\_\_\_\_\_  
(Authorized signing officer) (Title)

(Seal)

\_\_\_\_\_  
(Authorized signing officer) (Title)

If the bid is a joint venture or partnership, add additional forms of execution for each member of the joint venture in the appropriate form or forms as above.

END OF SECTION