

SECTION 01 0100**GENERAL REQUIREMENTS****PART 1 - GENERAL****1.01 SUMMARY****A. Section includes.**

1. Work required by contract documents
2. Cost breakdown
3. Payments
4. Change procedures
5. Project coordination
6. Project meetings
7. Contract schedule
8. Submittals
9. Transportation, handling, storage, and protection
10. Product Options and Substitutions
11. Hazardous Materials
12. Temporary utilities, Facilities and Controls
13. Utility outages
14. Protection of installed work
15. Security
16. Parking
17. Access roads
18. Progress cleaning
19. Final cleaning
20. Closeout submittals
21. Substantial Completion
22. Guarantees

1.02 DEFINITIONS**A. University Testing Laboratory**

1. University will appoint, employ, and pay for services of an independent firm to perform inspection and testing except as required by Contract Documents.
2. University's Testing Laboratory will perform inspections, tests, and other services as required by University.
3. Cooperate with University's Testing Laboratory and furnish samples as requested.
4. Cost of re-testing required due to non-conformance with specified requirements will be subtracted from Contract Sum.

B. Products

1. Term "Product" means new material, machinery, components, equipment, fixtures, and systems forming Work.

1.03 WORK REQUIRED BY CONTRACT DOCUMENTS

- A. The Work of Project is defined by the Contract Documents and as detailed within this Article.
- B. Provide all labor, materials, equipment, tools, transportation, insurance, and services to construct a **[insert the Scope of Work here]**
- C. Work shall be performed in the following campus building(s):
- D. Hours of Construction shall be Monday through Friday 7:00 AM to 4:00 PM unless otherwise approved by the University's Representative.
- E. Confine operation at Project site to areas permitted by Contract Documents.
- F. Provide safe access by the University's Representatives for the duration of the Work.

1.04 COST BREAKDOWN

- A. Within 10 calendar days after receipt of Notice of Selection, submit a cost breakdown in form acceptable to University.
- B. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Provide multiple line items for principal subcontract amounts.
- C. Format and Content: Use the Specifications' tables of contents as guides to establish line items for the Cost Breakdown. Provide at least one line item for each Specification Section.
 - 1. Submit two copies with signed agreement.
 - 2. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
 - 3. Provide a separate line item in the Cost Breakdown for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not installed.
 - 4. Provide separate line items in the Cost Breakdown for initial cost of materials and for total installed value of that part of the Work.
 - 5. Provide a separate line item in the Cost Breakdown for each unit price, allowance, or alternates, if applicable.
- D. Each item in the Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
- E. When University's Representative requires substantiating information, submit one copy of justifying data for each line item amount in question. Justifying data shall be transmitted indicating application number and date and by line item number and description.

1.05 PAYMENTS

- A. Application for Payment Forms: Use forms provided by University as form for Applications for Payment, Exhibit 4.

1. Contractors new to conducting business with the University will need to register into the Kuali Vendor Onboarding (KVO) system; you may review the website for information <http://accounting.uci.edu/ap/kvo/index.html>. Please email Project Accounting (FM-PAC@uci.edu) to initiate the onboarding process.
 2. For any updates to payment terms or changes to direct deposit, please send email to FM-PAC@uci.edu or contact Nathalie Anaya (949) 824-2906.
- B. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors
 2. List of principle suppliers and fabricators
 3. Cost breakdown
 4. Contractor's construction schedule (preliminary if not final)
 5. Schedule of principle products (preliminary if not final)
 6. Submittal schedule (preliminary if not final)
 7. Surrounding site-condition survey report and video
- C. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments paid by University.
- D. Submit two copies of each Application for Payment in accordance with the schedule established in General Conditions.
1. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor.
 2. With each Application for Payment, submit waivers of mechanic's liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.
 3. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
- E. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not installed. Differentiate between items stored on-site and items stored off-site.
- F. Final Payment Application: Submit final Application for Payment with the unconditional waiver and release upon final payment from every entity involved with performance of the Work covered by the application that is lawfully entitled to a lien.
1. Include insurance certificates, proof that taxes, fees, and similar obligations were paid, and evidence that claims have been settled.
 2. Include affidavit of payment of debts and claims.
 3. Include affidavit of release of liens.
 4. Include transmittal of required "approved" Project record documents.

1.06 CHANGE PROCEDURES

- A. If a Change Order condition occurs as provided for in Article 7 of General Conditions submit a request for a Change Order stating and justifying reason for the request, description of material, and labor required to make the change. Specify the amount of requested adjustment to Contract Sum and Contract Time.
- B. Field Orders and Change Orders will be issued by University using University's standard forms.
- C. Forms to be used will be discussed by University's Representative during the Preconstruction Meeting.

1.07 PROJECT COORDINATION

- A. Carefully study and compare Contract documents with information furnished by University. Promptly report in writing to University's Representative any errors, inconsistencies, or omissions in Contract documents or inconsistencies with applicable code requirements, or concealed, or unknown conditions observed.
- B. Take field measurements, verify field conditions, and carefully compare with Contract documents with such field measurements, conditions, and other information known before commencing Work.
- C. If Contractor performs any construction activity which it knows or should know involves error, inconsistency, omission, or concealed or unknown condition, without notifying and obtaining written consent of University's Representative, Contractor shall be responsible for resultant losses, including, without limitation, costs of correcting defective Work.
- D. If Contractor fails to correct defective work or perform work in accordance with the Contract Documents, University's Representative may direct the Contractor to stop the work until the cause or such defective work has been eliminated. Contractor shall not be entitled to any adjustment of Contract Time or Contract sum because of any such order.
- E. Supervise, coordinate, and direct Work using the best skill and attention. Be solely responsible and control over construction means, methods, techniques, sequences, procedures, and coordination of Work.
- F. Be responsible to University for acts and omissions of agents, employees, and subcontractors, and their respective agents and employees. Be obligated to perform Work in accordance with Contract Documents. Acts or omissions of University or University's Representative in administration of Contract, or by tests, inspections, or approvals required or performed by persons or firms other than Contractor shall not relieve Contractor's obligations.
- G. Maintain good discipline and order among its employees and subcontractors. Provide competent, fully qualified personnel to perform Work.
- H. Employ a competent Superintendent satisfactory to University who shall attend at project site at times during performance of Work. Superintendent shall represent Contractor and communications given to and received from Superintendent shall be binding. Failure to

maintain a Superintendent on Project site at times Work is in progress shall be considered a material breach of Contract, entitling University to terminate Contract or alternatively, issue a Stop Work Order until Superintendent is on Project site. If by virtue of issuance of said Stop Work Order, Contractor fails to complete Contract on time, University may assess Liquidated Damages in accordance with the Agreement.

- I. Superintendent approved for Project shall be able to read, write, and orally communicate in English.
- J. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Proposal Documents, prepare and submit a detailed report. Include a detailed description of the differing conditions, together with recommendations for changing or proposed changes to the Construction Documents.
- K. Special Reports: Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List a chain of events, persons participating, and response, evaluation of results or effects, and similar pertinent information. Advise University in advance when these events are known or predictable.
 - 1. Submit special reports directly to University within one day of an occurrence. Distribute copies of report to parties affected by the occurrence.
- L. University may at any time and without prior notice to or approval of Contractor, replace the University Representative.
- M. Employee Identification: workers shall wear identifying clothing or highly visible safety vests anytime inside a University building or on the project site. This includes when traveling inside a University building to get to and from the project site.
- N. Smoking, Tobacco and Marijuana-Free Environment: As a public institution of higher education with units that research and treat the effects of smoking, tobacco, and marijuana use, the University of California (UC) recognizes its responsibility to exercise leadership in the promotion of a healthy, smoke/tobacco-free environment for all students, academic appointees, staff, contractors, and visitors. Presidential Policy and associated procedures are intended to provide a healthier, safer, and more productive work and learning environment for the entire UC community.
 - 1. Smoke/Tobacco-Free: The attainment of no smoking, no use of smokeless tobacco products, no use of nicotine products not regulated by the U.S. Food and Drug Administration (FDA) to help individuals who use tobacco to quit, no use of electronic smoking devices (e.g., electronic cigarettes), no smoking or vaping of marijuana, and no smoking of other plant-based products at all University of California-controlled properties, owned or leased and regardless of location in indoor and outdoor spaces, including parking lots.
 - 2. For more information on the President's Policy and other related resources, please visit <https://policy.ucop.edu/doc/4000371/SmokingPolicy>.

- O. Dogs or pets of any kind, alcohol, illegal drugs, radios, and music, and wearing of earbuds or headphones are prohibited on the project premises.
- P. Harassment of students or University's personnel during the Work will not be tolerated and will be dealt with to the full extent of federal and state law.
- Q. Any worker creating a nuisance on project site, in the sole opinion of the University's Representative, shall be removed from the project, and not allowed to return.
- R. Maintain existing walkways, pathways, elevators, corridors, and other adjacent occupied or used facilities, including accessibility compliance. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from University and approval of authorities having jurisdiction.

1.08 PROJECT MEETINGS

- A. University will schedule a Preconstruction Conference at the Facilities Management Building after issuing Notice to Proceed unless otherwise directed and prior to commencement of Work. Contractor and prime subcontractors shall attend.
- B. University's Representative will schedule and administer meetings throughout progress of Work.
- C. University Representative will preside at meetings; record minutes, and distribute copies to Contractor, Subcontractors, Design Professionals, and University staff as agreed during Preconstruction meeting.

1.09 CONTRACT SCHEDULE

- A. Before commencing Work, submit within ten calendar days of receipt of Notice of Selection a Contract Schedule of proposed operations for University's approval. The following information shall be provided as a minimum:
 - 1. Equipment and material submittals
 - 2. University review of each submittal
 - 3. Delivery lead times for equipment
 - 4. Duration required for each major activity
- B. Contract Schedule may be in form of a bar chart or other system approved by University showing starting and completion dates for various Work activities involved together with such information relative to progress of Work as may be requested by University.
- C. An updated Contract Schedule shall be submitted as requested by University's Representative.

1.10 SUBMITTALS

- A. A sample Information Submittal Transmittal Form is included in exhibits (Exhibit 21) for Contractor use.

- B. Proposed Product List: Within seven (7) calendar days after notification of award, and prior to start of Work, submit a complete list of major products proposed for use with name of manufacturer, trade name, and model number of each product.
- C. Product Data: For each type of product
 - 1. A minimum of two (2) copies and one (1) electronic copy shall be submitted, prior to start of Work, for review and approval by University's Representative. One (1) copy and one (1) electronic copy will be returned by University with approval/disapproval indicated.
 - 2. Include models, options, construction details, and material descriptions, dimensions of individual components and profiles, and finishes.
 - 3. Include rated capacities, operating characteristics, electrical characteristics when applicable and furnished specialties and accessories.
 - 4. Keep a copy of approved submittals at Project site.
- D. Shop Drawings:
 - 1. A minimum of two copies and one electronic copy shall be submitted, prior to start of Work for review by University's Representative. One copy and one electronic copy will be returned by University with approval/disapproval indicated.
- E. Samples:
 - 1. Samples shall be submitted to illustrate functional and aesthetic characteristics of products when requested.
 - 2. A minimum of two of samples shall be submitted. One sample will be returned by University with approval/disapproval indicated unless otherwise specified.
- F. Qualification Data: For specialty Installer, applicator, manufacturer, fabricator, or factory-authorized service representative required by a specific specification section
- G. Seismic Qualification Certificates:
 - 1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
 - 2. Dimensioned Outline Drawings of Equipment Unit: identify center of gravity, locate, and describe mounting and anchorage provisions.
 - 3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements
- H. Welding certificates:
 - 1. Welding certificates and Welding Procedures Specifications shall be provided ten calendar days before Work is started.

1.11 TRANSPORTATION, HANDLING, STORAGE AND PROTECTION

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

1.12 PRODUCT OPTIONS AND SUBSTITUTIONS

- A. Catalog numbers and specific brands or trade names followed by designation “or equal” are used in conjunction with material and equipment required by Specifications to establish standards of quality, utility, and appearance required. Substitutions which are equal in quality, utility, and appearance to those specified may be accepted, subject to the following provisions:
1. Any substitution must be accepted in writing by University.
 2. Submit, within 21 calendar days after date of commencement, as specified in Notice to Proceed, a typewritten list containing a description of each proposed substitute material or equipment.
 3. Requests for substitution will be considered only if containing the following supporting data:
 - a. Complete technical data including drawings, performance specifications, samples, test reports of article proposed for substitution, and any additional information.
 - b. Data described herein for the specified item.
 - c. Statement that proposed substitution is in full compliance with requirements of Contract Documents and applicable code requirements.
 - d. List of subcontractors, if any, that may be affected by substitution.
 - e. If portions of Work need to be redesigned or removed in order to accommodate substituted item, submit design and engineering calculations prepared by a properly licensed design professional.
 4. University will accept, in writing, proposed substitutions that are in University's opinion equal in quality, utility, and appearance to material or equipment specified.
 5. Approved substitution shall comply with requirements of Contract Documents.
 6. Be responsible for costs of changes resulting from proposed substitutions that affect other parts of Work or Work of separate Contractors.
 7. The decision of University shall be final.
- B. If a request for substitution occurs after the 21 calendar day period, substitution may be reviewed at discretion of University. Costs of such review, as approved by University, shall be borne by Contractor and will be deducted from Contract Sum.
- C. University may reject any substitutions not proposed in manner and within time prescribed above.
- D. Wherever catalog numbers and specific brands or trade names not followed by designation “or equal” are used in conjunction with material or equipment required by Specifications, no substitutions will be considered.
- E. The 21 calendar-day submittal period is no excuse from completing Work within Contract Time or from paying liquidated damages if final completion is delayed.
- F. Wherever more than one manufacturer's product is specified either the first-named product or equipment schedule in drawings is basis for design and use of alternative-named manufacturers' products or substitutes may require modifications in that design. If such

alternatives are proposed and are approved by University, pay costs required to make necessary revisions and modifications to design, including additional costs to University for evaluation of revisions and modifications of design resulting from substitution.

- G. When materials and equipment are specified by first manufacturer's name and product number, second manufacturer's name, and "or equal," supporting data for second manufacturer's product if proposed shall be submitted in accordance with requirements for substitutions.
- H. If University in reviewing list of substitution materials and equipment requires revisions or corrections to previously accepted Shop Drawings and supplemental supporting data to be submitted, promptly do so. If proposed substitution is judged by University to be unacceptable, the specified material or equipment shall be provided.
- I. Samples may be required. Tests required by University for determination of quality and utility will be made by University's Testing Laboratory and at Contractor's expense with acceptance of test procedure first given by University.
- J. In reviewing supporting data submitted for substitutions, University will use for purposes of comparison, characteristics of specified material or equipment as they appear in manufacturer's published data even though characteristics may not have been particularly mentioned in Specifications. If more than two submissions of supporting data are required, cost of reviewing additional supporting data will deducted from Contract Sum.

1.13 HAZARDOUS MATERIAL

- A. The University shall not be responsible for any Hazardous Material brought to the site by the Contractor.
- B. If the Contractor: (i) introduces and/or discharges a Hazardous Material onto the site in a manner not specified by the Contract documents; and/or (ii) disturbs a Hazardous Material identified in the Contract documents, the Contractor shall hire a qualified remediation contractor at Contractor's sole cost to eliminate the condition as soon as possible. Under no circumstances shall the Contractor perform Work for which it is not qualified. The University, in sole discretion, may require the Contractor to retain at Contractor's cost an independent testing laboratory.
- C. If the Contractor encounters a Hazardous Material which may cause foreseeable injury or damage, Contractor shall immediately:
 - 1. Secure or otherwise isolate such condition;
 - 2. Stop all Work in connection with such material or substance (except in an emergency situation)
 - 3. Notify University (and promptly thereafter confirm such notice in writing)
- D. At the conclusion of remediation measures the University shall verify that the levels of the hazardous material are below OSHA Permissible Exposure Levels and before work resumes. The Contract Time and Sum shall be extended appropriately.
- E. The University shall indemnify and hold harmless the Contractor from and against claims, damages, losses and expenses, arising from a Hazardous Material on the Project site, if such

Hazardous Material: (i) was not shown on the Contract Documents (ii) was not brought to the site by Contractor; and (iii) exceeded OSHA Permissible Exposure Levels. The indemnity obligation in this Article shall not apply to: Claims, damages, losses or expenses arising from the breach of contract, negligence or willful misconduct of Contractor, its suppliers, its Subcontractors of all tiers and/or any persons or entities working under Contractor; and Claims, damages, losses or expenses arising from a Hazardous Material subject to Article B.

- F. Contractor shall indemnify and hold harmless the University from and against claims, damages, losses, and expenses, arising from a Hazardous Material on the Project site, if such Hazardous Material exceeded OSHA Permissible Exposure Levels, and was either (i) shown on the Contract Documents or (ii) brought to the site by Contractor. Nothing in this paragraph shall obligate the Contractor to indemnify University in the event of the sole negligence of the University, its officers, agents, or employees.

1.14 TEMPORARY UTILITIES, FACILITIES, AND CONTROLS

A. Electricity

1. Connect to existing University's power service is acceptable. Power consumption shall not disrupt University's need for continuous service. University will pay cost of power used.
2. Provide power outlets for construction operations, branch wiring, distribution boxes, and flexible power cords as required.

B. Lighting

1. Provide and maintain temporary lighting for construction operations.
2. Provide branch wiring from approved power source to distribution boxes with lighting conductors, pigtails, and lamps if required.
3. Permanent building lighting may be utilized during construction provided 48 hours advance notice is given to University.

C. Heat

1. Use University's existing heat plant; extended and supplemented with temporary units as required to maintain specified conditions for construction operations.
2. University will pay cost of energy used.
3. Provide and pay for operation, maintenance, and regular replacement of filters and other worn or consumed parts.

D. Ventilation

1. Enclosed areas shall be ventilated to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, and gasses.
2. Existing ventilation equipment shall be used, where possible, and extended and supplemented with temporary fan units or other equipment as required to maintain clean air for construction operations.
3. When hazardous materials are encountered, furnish specialized ventilation equipment and protect the existing system from contamination.

E. Telephone Service

1. Provide cell phones for Superintendent and major sub-contractors and pay for service and phones. Provide University's Representative with contact number.
2. University's telephone service may be used in cases of emergency.

F. Water Service

1. Connect to existing water source for construction operations in a manner and method approved by University.
2. A backflow preventer will be provided by University when required at no cost.

G. Sanitary Facilities

1. Existing University sanitary facilities may be used for their intended purpose.
2. Maintain sanitary facilities being used in a clean and sanitary condition.
3. Other than toilet paper, do not flush anything that has not passed completely through a human digestive system down toilets.
4. Use the University's lavatories for hand washing, only.

H. Removal of Temporary Utilities, Facilities, and Controls

1. Remove temporary above grade or buried utilities, equipment, facilities, materials, and controls which were installed as part of Contract prior to final inspection
2. Clean and repair damage caused by installation or use of temporary Work.

I. Barriers or fencing to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from damage shall be provided and maintained.

J. Maintain Project site free of water. Necessary pumping equipment shall be provided, operated, and maintained. Do not allow excess water to run in streets or gutters.

K. Temporary partitions as required to separate Work areas from University occupied areas, to prevent penetration of dust and moisture into University occupied areas, and to prevent damage to existing materials and equipment shall be provided and maintained.

1.15 UTILITY OUTAGES

- A. Requests for utility outages shall be submitted a minimum of seven working days before desired time of outage. Utilities outages will only be accomplished by University's staff.
- B. Bear costs for damages resulting from unscheduled interruptions of services to existing buildings whenever caused by performance of Work. Disruptions shall be immediately restored to original condition with continuous effort. Restoration Work shall be performed on an emergency round-the-clock basis, using sufficient numbers of personnel and equipment required to restore service in a timely manner.
- C. Bear costs for any subsequent damages caused by unscheduled interruption of services caused by performance of this Work.

1.16 PROTECTION OF INSTALLED WORK

- A. Act appropriately to secure and protect Work performed as part of this Contract and assume full responsibility for condition thereof until final acceptance by University.
- B. Be liable for loss or damage to any work in place or to equipment and materials on job site resulting from operations of Work.
- C. If Scope of Work requires installation of materials or equipment provided by the University or Work is to be performed by others, it shall be your responsibility to examine and accept at time of delivery or first access, items or areas provided. Take necessary measures to handle, store and install items or protect such areas to ensure satisfactory completion of Work. Use of such items or commencement of Work in such areas shall be deemed to constitute acceptance of such items or areas.

1.17 SECURITY

- A. Provide security and facilities to protect Work, existing facilities, and University's operations from unauthorized entry, vandalism, or theft.

1.18 PARKING

- A. Obtain and pay for parking permits for vehicles on campus during the duration of the project. Permits can be purchased Monday through Friday 7:30 AM – 4:00 PM at UCI Public Services building (campus map building #7); 200 Public Services Building, Irvine, CA 92697, or daily permits at parking permit kiosks located in commuter parking lots. For additional information contact Transportation and Distribution Services at (949) 824-7275 or visit their website at <http://www.parking.uci.edu/permits/>
- B. Prohibit parking equipment other than in the “designated construction area” except when approved by University's Representative. Vehicles on campus shall be subject to the University's parking regulations, which include a parking fee for service passes or commuter passes if space is available. If space is not available, workers shall find parking for their personal vehicles off site. The “designated construction area” shall be shown on drawings. If no “designated construction area” is marked on drawings, no such area has been established for the project. Only equipment with company identification attached may be parked in the “designated construction area.”
- C. Parking or stopping in Fire Lanes is expressly prohibited.

1.19 ACCESS ROADS

- A. Existing access roads on Project site designated for construction traffic by University's Representative shall be used.

1.20 PROGRESS CLEANING

- A. During performance of Work keep Project site and surrounding areas free from accumulation of excess dirt, waste materials, and rubbish caused by the Work.
- B. Project site shall be left neat and orderly manner at end of each day's Work.

1.21 FINAL CLEANING

- A. Clean interior and exterior surfaces exposed to view. Carpeted and soft surfaces shall be vacuumed. Filters in operation equipment shall be replaced.
- B. Execute final cleaning including removal of excess dirt, waste material, and rubbish caused by Work; tools; equipment; machinery; and surplus materials from Project site and surrounding area at completion of Work and prior to final inspection.

1.22 CLOSEOUT SUBMITTALS

- A. As-Built Documents
 - 1. Maintain on Project site one set of As-Built Drawings and Specifications, which shall be kept up to date during Work. Changes from the contract documents as drawn and written shall be noted on As-Built set.
 - 2. Notations shall reflect actual materials, equipment, and installation methods used for Work and each revision shall be initialed and dated by Superintendent and University's Representative.
 - 3. Each drawing and Specification cover shall be signed and dated attesting to completeness of information noted therein.
 - 4. Submit for review and approval As-Built drawings and specifications to the University. Final payment of contract sum will be made upon receipt of As-Built documents and approved by the University's Representative.
- B. Operation and Maintenance Data:
 - 1. Submit three sets and one electronic copy of operational and maintenance data prior to final inspection.
 - 2. Data shall be in 8½ x 11 or 8½ x 17 inch text pages and bound in D size three ring binders with durable plastic covers.
 - 3. Binders cover shall be printed with the title "OPERATION AND MAINTENANCE INSTRUCTIONS" and title of Project, Project number, Contract number and date.
 - 4. Contractor shall include:
 - a. Directory listing names, addresses, and telephone numbers of Contractor, subcontractors, and major equipment suppliers and if applicable, design professional.
 - b. Operation and maintenance instructions arranged by system.
 - c. Project documents and certificates
 - d. Copies of approved submittals
 - e. Guarantees and warranties
- C. Software and Firmware Operational Documentation:
 - 1. Software operating and upgrade manuals
 - 2. Program Software Backup: On magnetic media or compact disk, complete with data files.
 - 3. Device address list.
 - 4. Printout of software application and graphic screens

- D. Refuse Weigh Tickets for Recycled and Non-recycled Materials
1. Provide weigh tickets for recycled materials.
 2. Provide weigh tickets for non-recycled materials.
 3. Provide proof of material salvaged.
 4. UCI will accept metal material and lamps as agreed upon by University. Material will be delivered to a site designated on campus by University's Representative.

1.23 SUBSTANTIAL COMPLETION PROCEDURES

- A. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
- B. Submittals Prior to Substantial Completion: Before requesting Substantial Completion inspection, complete the following:
1. Obtain and submit releases from University's Representative permitting University unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 2. Submit closeout submittals specified in other sections, including project record documents, operation and maintenance manuals, similar final record information, warranties (guarantees), workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 3. Submit maintenance material submittals specified in other sections, including tools, spare parts, extra materials, manufacturer, model, and similar items, and deliver to location designated by University's Representative.
 4. Submit test/adjust/balance records.
 5. Submit changeover information related to University's occupancy, use, operation, and maintenance.
- C. Procedures Prior to Substantial Completion: Before requesting Substantial Completion inspection, complete the following:
1. Advise University of pending insurance changeover requirements.
 2. Make final changeover of permanent locks and deliver keys to University.
 3. Complete startup and testing of systems and equipment.
 4. Perform preventive maintenance on equipment used.
 5. Advise University of changeover in any utilities.
 6. Remove temporary facilities, construction tools, and controls.
 7. Complete final cleaning requirements, including touchup painting.
 8. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects. Replace defective materials or equipment.
- D. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, University's Representative will proceed with inspection or advise Contractor of unfulfilled requirements. University's Representative will prepare the Certificate of Substantial Completion after inspection or will advise Contractor of items that must be completed or corrected before certificate will be issued.

1.24 GUARANTEES

- A. A sample Guarantee is included in exhibits (Exhibit 17) for Contractor use.
- B. Contractor warrants to University that materials and equipment used in or incorporated into Work shall be of good quality, new, and free of liens, claims, and defects; and that Work will conform to requirements of Contract documents.
- C. Article 9 of General Conditions requires items to be guaranteed for a period of two years. See also "Beneficial Occupancy" and "Substantial Completion," in Supplementary Conditions. Guarantees for more than two years where indicated in various Specification Sections shall be written on letterhead of Contractor, subcontractor, or supplier doing Work and/or supplying item to be guaranteed and shall be in the form of guarantee contained in this Section.
- D. Special warranties specified in Specifications Sections shall be provided.

PART 2 - PRODUCTS**2.01 MATERIALS**

- A. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible or will provide a match with acceptable visual and functional performance of in-place materials.
- B. Cleaning Agents: Use the cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.
 - 1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

PART 3 - EXECUTION

- A. Prohibited Materials and Practices:
 - 1. Hand driven concrete nails for use inside a campus building are prohibited.
 - 2. Use of fasteners in hard or brittle materials is prohibited by Cal/OSHA.
- B. Powder-Actuated Fasteners:
 - 1. This paragraph does not apply to gas or "power" actuated tools.
 - 2. Door frames shall be fastened only with two-piece expansion anchors.
 - 3. For existing concrete, use two-piece cinch anchors, epoxied anchors or wedge anchors appropriate for conditions and function, except as allowed below.
 - 4. Use of low velocity explosive powder-activated tools is permitted only at construction sites that have very low occupancy during non-working hours and facilities without a vivarium.

5. Low velocity tools shall use a piston in the chamber to drive the fastener (indirect acting).
6. Low velocity tools may be used for the conditions described below:
 - a. Anchoring metal track for interior non-load bearing walls
 - b. Fastening of furring strips to concrete walls
 - c. Temporary fastening and concrete forming
 - d. Installation of straps and wires used to suspend the following:
 - 1) Metal duct work 10 inches diameter or 10 x 10 inches square or smaller
 - 2) Piping NPS 1 and smaller
 - 3) Electrical conduit 2-inch trade size or smaller
 - e. Fastening plaster accessories, flashing, and similar items with negligible loading
7. Requirements for Low Velocity Powder Actuated Fasteners.
 - a. Comply with Cal/OSHA Title 8, Division 1, Chapter 4, Subchapter 4, Article 27, "Powder-Actuated Tools" and meet or exceed the requirements of ANSI/ASSE A10.3, latest edition.
 - b. Tool operator shall be trained by a Powder Actuated Tool Manufacturers Institute (PATMI) qualified instructor and carry a valid operator's card. Submit copy of card to University's Representative for any person who will use the tool.
 - c. Where designated by University's Representative, anchors, fasteners, and ties installed utilizing low velocity powder-actuated tools will be tested by an independent testing laboratory to resist two times the design load. The Contractor shall replace and such anchor, fastener, or tie, which fails such a test at no additional cost to University.
 - d. Buildings that contain post-tensioned elements require specific additional restrictions imposed by the University's Structural Engineer. Do not proceed until receiving the restrictions.
8. Procedures for use of low velocity powder actuated tools (PAT):
 - a. Containers for PAT shall be lockable and bear the label *POWDER-ACTUATED TOOL* on the outside. The container shall be kept locked.
 - b. The following shall be provided with each tool:
 - 1) Operating and service manuals
 - 2) Power load chart
 - 3) Inspection-Service record
 - 4) Repair and servicing tools
 - c. Provide required personal safety protection gear for Operators and assistants.
 - d. PAT shall be inspected prior to use. Defective tools shall not be used.
 - e. PAT shall not be left unattended.
 - f. PAT shall not be loaded until ready for use.
 - g. PAT shall be unloaded if work is interrupted.
 - h. On misfire, the PAT shall be held in place for 30 seconds.

- i. Misfires shall be placed in a can of water.
- j. Different powder loads shall be kept in separate compartments.
- k. Warning signs, minimum 8 x 10-inches, with 1-in. letters, shall be posted bearing the words: "*POWDER-ACTUATED TOOLS IN USE*" within radius of 50 feet of the point of use.
- l. Use of PAT in an explosive or flammable atmosphere is prohibited.
- m. Fasteners shall be driven a minimum of 1-inch away from the edge of steel and 3-inches from the unsupported edge of masonry materials.
- n. Concrete thickness shall be at least three times the fastener shank penetration.
- o. Driving fasteners into spalled concrete areas or material that would allow the fastener to pass through is prohibited.
- p. Driving fasteners through existing holes, unless a specific guide means, as recommended and supplied by the tool manufacturer, is used to assure positive alignment, is prohibited
- q. PAT shall be held perpendicular to the work surface when fastening into any material, except for specific applications recommended by the tool manufacturer.

C. Hazardous Materials Procedures:

- 1. Except as otherwise specified, in the event Contractor encounters on the Project site material reasonably believed to be asbestos, polychlorinated biphenyl (PCB), or other hazardous materials that have not been rendered harmless, Contractor shall immediately stop Work in the area affected and report the condition to University and University's Representative in writing.
- 2. The Work in the affected area shall not thereafter be resumed except by written agreement of University and Contractor if, in fact, the material is asbestos, PCB, or other hazardous materials and has not been rendered harmless. The Work in the affected area shall be resumed in the absence of asbestos, PCB, or other hazardous materials, or when such materials have been rendered harmless.

END OF SECTION