

SPECIFICATIONS

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**SECTION 01 1100
SUMMARY OF WORK**

PART 1 – GENERAL

1.1. SUMMARY

A. Section includes:

1. Work Covered by Contract Documents
2. Work Sequence
3. Work by University
4. University Furnished Products

B. In case any Sections contain conflicting requirements, refer to General Conditions, Paragraph 4.1.8.

1.2. WORK COVERED BY CONTRACT DOCUMENTS

- A. Demo and renovate all bathrooms, demo and replace all flooring and cove base, and repaint at Pentland O building and the elevator tower. Detailed scope is identified in the construction drawings.
- B. The Contract Time to complete the Work of this Contract is specified in the Supplemental Instructions to Bidders.
- C. Floor & Decor is the required vendor for restroom tile, VCT, and the Kerdi waterproofing system.
 1. The contractor shall be responsible for picking and coordinating material acquisition from Floor & Décor Moreno Valley at 24318 Hemlock Avenue, Moreno Valley, CA 92557 and verifying appropriate quantities and condition.

Project Location: Pentland, Building O and O/P Elevator Tower – 1 Pentland Way, Riverside, CA 92507

1.3. WORK SEQUENCE

- A. N/A
- B. See also Section 01 1200, Multiple Contract Summary.

1.4. WORK BY UNIVERSITY

- A. N/A

1.5. UNIVERSITY FURNISHED PRODUCTS

- A. See Construction Documents for details on University Furnished Products.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION

**SECTION 01 1400
WORK RESTRICTIONS****PART 1 – GENERAL****1.1. SUMMARY****A. Section includes:**

1. Access to Site
2. Occupancy Coordination
3. Contractor's Use of the Project Site
4. Scheduling of Work and Work Hours
5. Neighbor Complaints
6. Site Decorum

1.2. ACCESS TO SITE**A. Special Requirements**

1. Existing Site Conditions and Restrictions:
 - a. Contractor shall maintain all required accessibility components and code required egress/ingress components to and from surrounding buildings during construction.
2. Contractor shall be responsible for safely securing the work areas, with at a minimum, covered pedestrian walkways, trench plates, fencing, signage, safety lighting and cones, traffic and pedestrian coordinators, and other devices as appropriate.
3. If required for safety purposes (e.g., open trenches), trench plates shall be provided and safely secured at all roadway, parking lots, walkways and all other pathways.
4. Trenches and/or open excavation shall be protected from vehicles and pedestrians by utilizing trench plates, galvanized fencing, safety lighting, signage and all other necessary safety barriers. Establishment of the work area in any space requiring the University's vacating shall not commence before notification to University's Representative. Refer to Section 01 1400 - CONTRACTOR'S USE OF THE PROJECT SITE, Notifications.
5. Individual work areas shall not be established until Contractor has labor, materials and equipment ready to commence and complete the Work in that area.
6. Work shall not commence in any area until all barriers and other protections are in place.

B. Use of Public Thoroughfares and University Roads

1. Contractor shall make its own investigation of the condition of available public thoroughfares and University roads, and of the clearances, restrictions, bridge load limits, and other limitations affecting transportation and ingress and egress at the Project site.
2. Where materials are transported in the prosecution of the Work, do not load vehicles beyond the capacity recommended by manufacturer of the vehicles or prescribed by any applicable state or local law or regulation.
3. Use only established roads on the campus; provided, however, that such temporary haul roads as may be required in the work shall be constructed and maintained by Contractor, subject to the approval of University's Representative. Refer to Section 01 3540 Environmental Mitigation for description of the approved haul route to and from the campus.
4. Provide protection against damage whenever it is necessary to cross existing

sidewalks, curbs, and gutters in entering upon the University roads and public thoroughfares. Repair and/or replace at the expense of Contractor all damages thereto, including damage to existing utilities, street lighting, paving, traffic signs, and signals arising from the operations under the Contract.

5. Contractor shall maintain all existing campus roads, streets, sidewalks, curbs, gutters, and any other infrastructure items that are affected by campus construction activities, clear, clean and maintained while construction is ongoing on campus.
6. Truck staging is not allowed on any residential street surrounding the campus and any truck staging on campus will need to be coordinated with the University's Representative.

C. See also Section 01 5500, Vehicular Access and Parking.

1.3. OCCUPANCY COORDINATION

- A. The University reserves the right to occupy and to place and install equipment in completed areas of the Work prior to Notice of Completion, provided such occupancy does not interfere with completion of the Work and subject to the General Conditions. Such placing of equipment and partial occupancy shall not constitute acceptance of the total Work.
 1. Partial occupancy of the Work may occur upon University's approval, in which case the University's Representative will prepare a Certificate of Beneficial Occupancy for each specific portion of the Work to be occupied prior to Final Completion of the entire Work.
 2. Refer to Article 9.6 of the General Conditions.
 3. Refer to Exhibits and Forms.

1.4. CONTRACTOR'S USE OF THE PROJECT SITE

- A. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.
 1. Driveways and Entrances: Keep driveways and entrances serving adjacent buildings clear and available to the University, and its employees, students, faculty, visitors, and emergency vehicles at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for use of these areas.
 2. Contractor's use of the Project site for the work, staging, deliveries, and storage is restricted to the project limits on the Approved Drawings, or as directed by the University's Representative.
 3. All material for construction operations shall be brought in and the work conducted so as to avoid any interference with existing University facilities or their normal operations.
 4. Noise from job equipment shall be kept to a minimum by use of adequate mufflers and other appropriate means. Stationary construction equipment material and vehicle staging shall be placed in such a way as to direct noise away from sensitive receptors to the greatest extent feasible. Refer to Section 01 3540 Environmental Mitigation for further details.
 5. Delivery of Materials: Arrange for delivery of materials and equipment to minimize length of on-site storage prior to installation. Delivery route shall be as directed by the University's Representative. Refer to Section 01 5500 Vehicular Access and Parking for further details.
 6. The Contractor shall take appropriate steps throughout the term of the project to prevent airborne dust due to work under this contract. Water shall be applied wherever practical to settle and hold dust to a minimum, particularly during excavation and moving of materials. Dust control measures shall be consistent with South Coast Air Quality Management District (SCAQMD) Rule 403 – Fugitive Dust during construction activities. Refer to Section 01 3540 Environmental Mitigation for further details. No chemical palliatives shall be used.

4. Contractor shall protect all existing interior building elements, finishes, systems, and equipment that are not indicated to be removed or modified under this contract. This includes, but is not limited to, walls, ceilings, flooring, doors, casework, mechanical/electrical/plumbing (MEP), and other building components within or adjacent to the work area.

1.5. SCHEDULING OF WORK AND WORK HOURS

- A. Restrict Construction Hours: All contractors, overseen by the General Contractor, shall ensure that all construction contracts will limit exterior construction activities to occurring between 7:00 a.m. and 4:00 p.m. Monday through Friday, and 7 a.m. and 4 p.m. on Saturday, except under rare circumstances where such time limits are infeasible (e.g., for time sensitive construction such as concrete pouring, excessive heat warnings/temperatures during the summer, operational emergencies). Construction will not be allowed on Sunday or federal holidays.
- B. Overtime work requests must be submitted to the University's Representative three working days before the work is to commence.
 1. Acceptable overtime hours are no earlier than 7:00 a.m. and no later than 9:00 p.m., Monday through Friday; and from 8:00 a.m. to 6:00 p.m. on Saturday. Work will not be allowed on Sunday and Holidays.
 2. Work at other times may be permitted if it takes place within the enclosed building and the University's Representative determines that it is unlikely to affect University personnel, students, operations and the surrounding neighborhood.
 3. Additional overtime operating hours may be approved at the University's Representative sole discretion and only without change to the contract sum.
 4. Contractor shall pay all the inspectors (in-house inspectors and University's testing laboratory inspectors) and University's Representative's costs if the overtime request is approved by University's Representative.

1.6. COMMUNITY INQUIRIES

- A. Contractor shall provide a phone number monitored 24 hours a day for the public to use to lodge complaints about construction activities that may harm or degrade their quality of life. Refer to Section 01 5000 "Construction Controls and Temporary Facilities" and Section 01 3540 Environmental Mitigation for more detailed specifications.
- B. Contractor shall provide signage described elsewhere in this section with the appropriate contact information for the community to use to notify the contractor and University about construction related issues affecting their persons and properties such as, but not limited to excessive noise, dust and construction vehicle traffic.

1.7. SITE DECORUM

- A. Contractor shall control the conduct of its employees (including subcontractor's employees) to prevent unwanted interaction initiated by Contractor's employees with University of California Riverside (UCR) students, staff, Faculty or other individuals adjacent to the Project site. Without limitation, unwanted interaction by Contractor employees would include whistling at or initiating conversations with passersby. In the event that any Contractor employee initiates such unwanted interaction, or utilized profanity, Contractor shall, either upon request of University's Representative or on its own initiative, replace said employee with another of equivalent technical skill, at no additional cost to the University. No radios, other than two-way communication type, will be allowed on the Project site. Please note that UCR is a smoke-tobacco-free campus, prohibiting smoking and the use of any tobacco product on all University Controlled Properties.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION

SECTION 01 2500 PRODUCT OPTIONS, REQUIREMENTS & SUBSTITUTION PROCEDURES

PART 1 – GENERAL

1.1. SUMMARY

- A. This Section includes:
1. General Provisions
 2. Special Requirements for Other Than First-Named Product, Material or Equipment
 3. Special Requirements for Substitutions
 4. Material/Product Substitution Request Form

1.2. GENERAL PROVISIONS

- A. This subsection includes the general provisions regarding specification of products, material and equipment by brand or trade name.
- B. Products, material or equipment specified by both brand or trade name and model number are approved for use, provided that Contractor complies with all Contract requirements. Specification of a product, material or equipment by brand or trade name and model number is not a representation or warranty that the product, material or equipment can be used without modification, to meet the requirements of the plans and specifications; Contractor shall, at its sole cost, modify such products, material, or equipment so that they comply with all requirements of the plans and specifications.
- C. The **first-named** product, material or equipment specified by brand or trade name and model number is the **basis for the Project design** and the use of any item other than the first-named one may require modifications of that design. If Contractor uses any product, material or equipment other than the first-named one, Contractor shall, at its sole cost:
1. Make all revisions and modifications to the design and construction of the Work necessitated by the use of the product, material or equipment.
 2. Be responsible for all costs of any changes resulting from the use of the product, material or equipment including without limitation, costs or changes which affect other parts of the Work, the work of Separate Contractors, or any other property or operations of the University.
- D. When a product, material or equipment specified by brand or trade name is followed by the words “**or equal,**” a **substitution** may be permitted if the substitution is equal to or superior to the first-named product, material or equipment in quality, utility and appearance, as determined by the University’s Representative, and if the substitution complies with all other requirements of the plans and specifications.
- E. A product, material or equipment specified by brand or trade name followed by the words “**or equal, no known equal,**” signifies that University does not have sufficient knowledge to specify a product, material or equipment, other than the one specified by brand or trade name, that is suitable for use on the Project. The use of the words “no known equal” is not intended to discourage substitution requests in accordance with the requirements specified herein.

- F. When catalog numbers and specific brands or trade names not followed by the designation "or equal" are used in conjunction with a product, material or equipment required by the specifications, **substitutions will NOT be allowed** and the named product, material or equipment must be used.
- G. Specification of a product, material or equipment by brand or trade name and model number is not a representation or warranty that the product, material or equipment is available; Contractor should confirm, prior to submitting its Bid, the availability of any product, material or equipment specified by brand or trade name and model number.
- 1.3. SPECIAL REQUIREMENTS FOR OTHER THAN FIRST-NAMED PRODUCT, MATERIAL OR EQUIPMENT
- A. This subsection includes special requirements for named products, material and equipment, other than the first-named product, material or equipment, specified by both brand or trade name and model number.
- B. In addition to complying with all other submittal requirements of the Contract, **submit within 10 days after the date of commencement specified in the Notice to Proceed**, for review and approval by the University's Representative, Contractor prepared specifications and drawings, including design and engineering calculations, prepared by an appropriate licensed professional, depicting all revisions and modifications to the design and construction of the Work necessitated by the use of the product, material or equipment. **If no revisions or modifications are necessary, submit within 10 days after the date of commencement specified in the Notice to Proceed**, a written representation that no revisions or modifications to the design or construction of the Work are necessitated by the use of the product, material or equipment. Contractor shall utilize the first-named product, material or equipment if Contractor fails to make the appropriate required submittal pursuant to this paragraph within the 10-day period.
- C. A product, material or equipment, other than the first-named product, material or equipment, specified by both brand or trade name and model number may be used if no revisions or modifications to the design or construction of the Work are necessitated by the use of the product, material or equipment. If such revisions or modifications are necessary, the product, material or equipment may be used only if the revisions or modifications are approved in writing by the University's Representative. Contractor has the burden of demonstrating, through the procedures specified herein, that any such revisions or modifications will not be detrimental to the quality, utility or appearance of the Project or any portion of the Project. The University's Representative may refuse to approve any such proposed revisions or modifications where, in the reasonable opinion of the University's Representative, Contractor has failed to demonstrate, through the procedures specified herein, that the revisions or modifications are not detrimental to the quality, utility or appearance of the Project or any portion of the Project.
- 1.4. SPECIAL REQUIREMENTS FOR SUBSTITUTIONS
- A. In addition to complying with all other submittal requirements of the Contract, submit written data demonstrating that the proposed substitution is equal to or superior to the first-named product, material or equipment in quality, utility, appearance, environmental performance criteria, and otherwise complies with all requirements of the plans and specifications, including:
1. Complete technical data including drawings, performance specifications, samples, and test reports of the article proposed for substitution.
 2. Statement by Contractor that the proposed substitution is in full compliance with the requirements of the Contract Documents, Applicable Code Requirements and/or Campus Construction and Design Standards.
 3. List of Subcontractors, if any, that may be affected by the substitution.

4. Contractor prepared specifications and drawings, including design and engineering calculations, prepared by an appropriately licensed professional, depicting all revisions and modifications to the design and construction of the Work necessitated by the use of the substitution. If no revisions or modifications are necessary, submit a written representation that no revisions or modifications to the design or construction of the Work are necessitated by the use of the product, material or equipment.
- B. Requests for substitutions will only be considered if Contractor completes and submits Material/Product Substitution Request Form and the above supporting data.
- C. At the request of and within the timeframes specified by the University's Representative:
1. Submit samples as deemed necessary by the University's Representative to evaluate the proposed substitution.
 2. Submit proposed substitution to tests deemed necessary by the University's Representative to evaluate the proposed substitution. Such tests shall be made by an independent Testing Laboratory and at the sole expense of Contractor, after review and approval of the test procedures by University's Representative. If re-testing is deemed necessary by the University's Representative to evaluate the proposed substitution, such re-testing shall be made by an independent Testing Laboratory at the sole expense of the Contractor.
 3. Provide any additional information deemed necessary by the University's Representative to evaluate the proposed substitution.
- D. If University's Representative, in reviewing a proposed substitution, requires revisions or corrections to be made to previously accepted shop drawings and supplemental supporting data to be resubmitted, Contractor shall do so within the time period specified by the University's Representative. A proposed substitution may be rejected if Contractor fails to submit such revisions, corrections, or supplemental supporting data within the specified time period.
- E. Except for products, material or equipment designated in the Bidding Documents for evaluation of substitutions prior to award, **requests for substitution, including the data required by Paragraph 1.4.A., must be submitted to the University's Representative not later than ~~05~~1 days after the date of commencement specified in the Notice to Proceed.** No requests for substitutions of products, material or equipment subject to the 10-day deadline shall be considered unless the request and supporting data is submitted on or before the deadline, except those deemed, in University's Representative's sole opinion, to be necessary because (i) previously specified or approved manufactured products, material or equipment are no longer manufactured, (ii) of University initiated change orders, or (iii) it is in the best interest of the University to accept such substitution.
- F. If a product, material or equipment is designated in the Bidding Documents for evaluation of substitutions prior to award, then a request for substitution of the product, material or equipment, including the data required by Paragraph 1.4.A., must be submitted by the deadline specified in the Bidding Documents. Because of time constraints, only one submittal will be allowed for each such substitution request. Requests for substitutions of products, material or equipment designated for evaluation prior to award may not be made after the deadline specified in the Bidding Documents, and such requests shall not be considered unless the request and supporting data is submitted on or before the deadline specified in the Bidding Documents. Notwithstanding the forgoing, the University may consider, after award of the Contract, requests for substitution of a product, material or equipment designated for evaluation prior to award where, in University's Representative's sole opinion, a substitution is necessary because (i) previously specified or approved manufactured products, material or equipment are no longer manufactured, (ii) of University initiated change orders, or (iii) it is in the best interest of the University to accept such substitution.

- G. In reviewing the supporting data submitted for substitutions, University's Representative will use, for purposes of comparison, all the characteristics of the specified material or equipment as they appear in the manufacturer's published data even though all the characteristics may not have been particularly mentioned in the Specifications. If more than 2 submissions of supporting data are required, the cost of reviewing the additional supporting data shall be at Contractor's expense.
- H. Contractor has the burden of demonstrating, through the procedures specified herein, that its proposed substitution is equal to or superior to the first-named product, material or equipment in quality, utility and appearance and complies with all other requirements of the plans and specifications. If revisions or modifications to the design or construction of the work are necessitated by the use of the substitution, Contractor also has the burden of demonstrating, through the procedures specified herein, that the use of the substitution will not be detrimental to the quality, utility or appearance of the Project or any portion of the Project.
- I. The University's Representative may refuse to approve any requested substitution where, in the reasonable opinion of the University's Representative, Contractor has failed to demonstrate, through the procedures specified herein, that the proposed substitution is equal to, or superior to, the first-named product, material or equipment, in quality, utility and appearance and that the proposed substitution complies with all other requirements of the plans and specifications.
- J. University's Representative may reject any substitution not proposed in the manner and within the time limits prescribed herein.
- K. Substitutions are not allowed unless approved in writing by the University's Representative. Any such approval shall not relieve Contractor from the requirements of the Contract Documents and Campus Construction and Design Standards.
- L. The 10-day submittal periods do not excuse Contractor from completing the Work within the Contract Time or excuse Contractor from paying liquidated damages if Final Completion is delayed.
- M. If revisions or modifications to the design or construction of the Work are necessitated by the use of a substitution, the substitution may be used only if the revisions and modifications are approved in writing by the University's Representative. The University's Representative may refuse to approve any such proposed revisions or modifications where, in the reasonable opinion of the University's Representative, Contractor has failed to demonstrate, through the procedures specified herein, that the revisions or modifications are not detrimental to the quality, utility and appearance of the Project or any portion of the Project.
- N. If a substitution request is finally rejected by the University's Representative, Contractor shall furnish and install:
1. The first-named product, material or equipment; or
 2. A product, material, or equipment, other than the first-named product, material or equipment, specified by both brand or trade name and model number, provided Contractor complies with the submittal requirements (including deadlines) of this specification section 01 2500.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION

(MATERIAL/PRODUCT SUBSTITUTION REQUEST FORM ON FOLLOWING PAGE)

MATERIAL/PRODUCT SUBSTITUTION REQUEST FORM

 (Date)

Material/Product Substitution Request No. _____

University's Representative

FROM: _____

Section: _____ Sub-Article: _____

Specified Item: _____

Proposed Substitution: (Mfg., Type, Model, etc. Attach a separate sheet if necessary.)

Does this Substitution offer The Regents a cost credit (including costs for changes by other trades)?
 Yes No

If "Yes," state how much and attach an itemized breakdown of all costs: \$ _____

Does this Substitution offer earlier delivery or less construction time? Yes No

If "Yes," state the effect on the Contract Time: (Attach a separate sheet if necessary.)

Does this substitution affect any dimensions, layout, or details of other trades as shown on the drawings? Yes No

If "Yes," explain in the space below: (Attach a separate sheet if necessary.)

Describe the specific differences between this Substitution and the specified item in the space below: (Attach a separate sheet if necessary.)

- Manufacturer's technical data.
- Laboratory test or performance results.
- Drawings and wiring diagrams of the proposed product.
- Drawings and description of changes required by other trades.
- Samples.
- Manufacturer's guarantee and maintenance instructions.
- Documentation of code compliance for all specific uses.

 (Signed)

 (Printed Name & Title)

Accepted Revise and Resubmit Rejected See attachment dated _____

REQUEST FOR INFORMATION

DATE: mm/dd/yy

RFI #: _____

TO:

Cc:

FROM:

Subject/Title:

- Architectural
 Civil
 Mechanical
 Electrical
 Plumbing
 Structural
 Fire Protection
 Landscape
 Other: _____

Reason(s) for RFI:

<input type="checkbox"/> Clarification / Interpretation	<input type="checkbox"/> Conflict in CD's
<input type="checkbox"/> Coordination Issue	<input type="checkbox"/> Information Not Shown on CD's
<input type="checkbox"/> Cost Impact: _____	<input type="checkbox"/> Safety
	<input type="checkbox"/> Work/Time Impact: _____

Issue/Question:
 (Reference Attachments)

Specification #: _____ Paragraph #: _____ Sheet #: _____ Detail #: _____
 Other Reference: _____ Schedule Activity: _____

Proposed Solution:
 (Reference Attachments)

Signed by Contractor: _____ **Response Required by Date:** mm/dd/yy

RESPONSE TO CONTRACTOR:

From Design Professional:
 (Reference Attachments)

Date Received RFI: mm/dd/yy **Response Date:** mm/dd/yy **Signed:** _____

From University's Rep.:
 (Reference Attachments)

Date Received RFI: mm/dd/yy **Response Date:** mm/dd/yy **Signed:** _____

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SECTION 01 2613 REQUESTS FOR INFORMATION & INSTRUCTIONS (RFI) PROCEDURES

PART 1 – GENERAL

1.1. SUMMARY

- A. This Section contains the procedures to be followed by Contractor upon discovery of any apparent conflicts, omissions, or errors in the Contract Documents or upon having any question concerning interpretation.

1.2. PROCEDURES

A. Notification by Contractor:

1. Submit all requests for clarification or additional information in writing to Design Professional and University's Representative concurrently using the **Request for Information (RFI) form attached to this Section.**
 - a. All RFI's, and any attachments thereto, must be submitted in PDF format with Optical Character Recognition (OCR) Text.
2. Limit each RFI to one subject and number RFI's sequentially. For each resubmission, follow the RFI number with suffix "R" sequentially numbered as necessary. For example, the first RFI would be "1." The second RFI would be "2." The first resubmittal of RFI "2" would be "2R1."
3. Submit a RFI if one of the following conditions occurs:
 - a. Contractor discovers an unforeseen condition or circumstance that is not described in the Contract Documents.
 - b. Contractor discovers an apparent conflict or discrepancy between portions of the Contract Documents that appears to be inconsistent or is not reasonably inferred from the intent of the Contract Documents.
 - c. Contractor discovers what appears to be an omission from the Contract Documents that cannot be reasonably inferred from the intent of the Contract Documents.
4. Contractor shall not submit a RFI:
 - a. As a request for substitution.
 - b. As a submittal.
 - c. Under the pretense of a Contract Documents discrepancy or omission without thorough review of the Contract Documents.
 - d. In a manner that suggests that specific portions of the Contract Documents are assumed to be excluded or by taking an isolated portion of the Contract Documents in part rather than whole.
 - e. In an untimely manner without proper coordination and scheduling of Work of related trades.
 - f. As a request for approval of Contractor's means and methods.

5. If Contractor submits a RFI contrary to 1.2. A.4. above, Contractor shall pay the cost of any review, which cost shall be deducted from the Contract Sum.
 6. Contractor shall submit a RFI immediately upon discovery. Contractor shall submit RFI's within a reasonable time frame so as not to delay the Contract Schedule while allowing the full response time described below.
- B. Response Time:
1. Design Professional shall send its RFI response to University's Representative within a reasonable time so that University's Representative can send a final RFI response to Contractor within the time frames in 1.2. B.2. below.
 2. University's Representative, or his/her designee, whose decision will be final and conclusive, shall resolve such questions and issue instructions or issue approval of instructions or information from Design Professional, to Contractor within a reasonable time frame. In most cases, RFI's will receive a response within **7 days for architectural issues and within 14 days for issues that require review and response from Design Professional's consultants**. In some cases, the response time may be lengthened for complex issues or shortened for emergencies as approved by University's Representative in writing. If in the opinion of University's Representative more than **14 days** is required to prepare a response to a RFI, Contractor will be notified in writing.
 3. Should Contractor proceed with the Work affected before receipt of a response from University's Representative within the response time described above, any portion of the Work which is not done in accordance with University's Representative's interpretations, clarifications, instructions, or decisions is subject to removal or replacement and Contractor shall be responsible for all resultant losses.
 4. Failure to Agree: In the event of failure to agree as to the scope of the Contract requirements, Contractor shall follow procedures set forth in Article 4 of the General Conditions.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION

**SECTION 01 3113
COORDINATION****PART 1 – GENERAL****1.1. SUMMARY**

- A. This Section includes administrative and supervisory requirements necessary for coordinating construction operations including, but not necessarily limited to, the following:
1. Administrative Requirements
 2. Facilities Services Coordination and Service Continuity

1.2. ADMINISTRATIVE REQUIREMENTS

- A. Coordinate construction operations including, but not limited to, the following:
1. Coordinate the Work and do not delegate responsibility for coordination to any Subcontractor.
 2. Anticipate the interrelationship of all Subcontractors, including those under direct contract with the University, and their relationship with the Work.
 3. Resolve differences or disputes between Subcontractors and their relationship with the Work.
 4. Coordinate and phase the Work of Subcontractors so that portions of the Work are performed in a manner that minimizes interference with the progress of the Work.
 5. Coordinate and phase the work so as to not obstruct spaces and installations that are required to be clear by Applicable Code Requirements.
 6. Do not cover any piping, wiring, ducts, or other installations until they have been inspected and approved and required certificates of inspection issued. Any work that is covered prior to inspection is subject to having to be exposed so as to allow for inspection at the sole cost of the contractor.
 7. Remove and replace all Work, which does not comply with the Contract Documents. Repair or replace any other Work or property damaged by these operations with no adjustment of Contract Sum.
- B. Coordinate construction operations included in various Sections of these Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations included under different Sections that are dependent on each other for proper installation, connection, and operation. Coordinate all portions of the Work requiring careful coordination in order to fit in space available. Before commencing such portions of the Work, prepare supplementary Drawings for review by University's Representative and Design Professional. Non-conformance of this task will result in the delay of applications for payment and the contractor responsibility for any remedial works requested by University Representative.
1. Schedule construction operations in the sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 2. Coordinate installation of different components to assure maximum accessibility for required maintenance, service, and repair.
 3. Make provisions to accommodate items scheduled for later installation, including, but not limited to, coordination of furnishing and placing embedded items, sleeves, and block-outs with formwork and reinforcing steel for cast-in-place concrete.
 4. Resolve conflicts and coordinate access to, and utilization of, spaces available for construction activities on the site and within structures, and delivery, storage, and installation of materials and equipment.
 5. Implement a quality assurance program designed to ensure completion of the Work in accordance with requirements of the Contract Documents.

- C. Where necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.
 - 1. Prepare similar memoranda for the University and separate contractors where coordination of their work is required.

- D. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and assure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of schedules.
 - 2. Installation and removal of temporary facilities.
 - 3. Delivery and processing of submittals.
 - 4. Progress meetings.
 - 5. Project closeout activities.
 - 6. Obtaining required permits and approvals from authorities having jurisdiction.
 - 7. Utility company approvals and installations.

- E. Conservation: Coordinate construction operations to assure that operations are carried out with consideration given to conservation of energy, water, and materials.
 - 1. Salvage materials and equipment involved in performance of, but not actually incorporated in, the Work.

- F. Clean and protect construction in progress and adjoining materials in place, during handling and installation. Apply protective covering where required to assure protection from damage or deterioration to Substantial Completion.

- G. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to assure operability without damaging effects.

1.3. FACILITIES SERVICES COORDINATION AND SERVICE CONTINUITY

- A. Maintain continuous services to all existing facilities during the period of construction except for the following conditions:
 - 1. Perform Work that involves "shut-down" of existing facilities at such times as will cause the least inconvenience to the University activities, including performing at night, on Saturdays, Sundays, holidays and at the discretion of University's Representative. Furnish University's Representative written notice of exact date and time of "shut-down" at least **thirty (30) working days** in advance, unless a longer period is specified or shown on the Drawings. On jobs with short performance time, Contractor shall verify with University's Representative the number of days required in advance for shut-down.
 - 2. The University's preference would be for the contractor to coordinate any high voltage utility shut down simultaneously with other on-going or planned Campus shut downs to avoid unnecessary impacts to the campus.
 - 3. The Contractor's bid shall include the cost of overtime necessary for the Work. No extra payment will be allowed for overtime to meet this requirement or the Contract Schedule.

- B. Service Continuity:

1. Within the areas of the Work, investigate and confirm all drainage lines, sewers, electrical conduits and circuits, ducts, valves, and other piping, etc. in use or forming continuations or utility systems for other buildings or improvements upon the campus. All costs associated for maintaining such services in operation during performance of the Work of the Contract is to be included in the stated contract fee.
- C. Notify University's Representative at least 30 days in advance of all utility shutdowns including date, time and expected duration.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION

SECTION 01 3119 PROJECT MEETINGS

PART 1 – GENERAL

1.1. SUMMARY

- A. This Section includes administrative and procedural requirements for the following project meetings:
1. Preconstruction Meeting
 2. Pre-Installation Meetings
 3. Progress Meetings
 4. Payment Application Review Meetings
 5. 11-Month Warranty Meeting

1.2. PRECONSTRUCTION MEETING

- A. The University's Representative will schedule a preconstruction conference before starting construction, at a time convenient to the University and the University's Representative, but no later than 10 days after execution of the Agreement. The conference will be held at the Project Site or another convenient location. The meeting will review responsibilities and personnel assignments.
1. Distribute written notice of agenda, meeting time, and location a minimum of five calendar days in advance.
- B. Attendees: The University's Representative and authorized representatives of the Architect, and its consultants; the Contractor and its superintendent; major subcontractors; manufacturers; suppliers; Contractor's designated safety manager; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.
- C. Agenda: Items of significance that could affect progress, including the following:
1. Tentative construction schedule.
 2. Critical work sequencing.
 3. Designation of responsible personnel.
 4. Procedures for processing field decisions and Change Orders.
 5. Procedures for processing Applications for Payment.
 6. Distribution of Contract Documents.
 7. Submittal of Shop Drawings, Product Data, and Samples.
 8. Preparation of record documents.
 9. Use of the premises.
 10. Parking.
 11. Office, work, and storage areas.
 12. Equipment deliveries and priorities.
 13. Safety procedures, including emergency notification procedures.
 14. First Aid.
 15. Security.
 16. Housekeeping.
 17. Working hours.
 18. Sustainability requirements, including Contractor staffing.
 19. Tobacco Free.
 20. Principles of the Community.
 21. Cultural/Paleontological Monitoring.
 22. Environmental mitigation measures.

1.3. PRE-INSTALLATION MEETINGS

- A. The Contractor shall conduct a pre-installation conference at the Project Site before each construction activity that requires coordination with other construction, and as required by other sections of the specifications.
 - 1. The Contractor shall distribute written notice of agenda, meeting time, RFI log, Submittal log and COR log five calendar days in advance.
- B. Attendees: The Installer and representatives of manufacturers and fabricators involved in or affected by the installation, and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise the University's Representative of scheduled meeting dates.
 - 1. Review the progress of other construction activities and preparations for the particular activity under consideration at each pre-installation conference, including requirements for the following:
 - a. Contract Documents
 - b. Options
 - c. Related Change Orders
 - d. Purchases
 - e. Deliveries
 - f. Shop Drawings, Product Data, and quality-control samples
 - g. Possible conflicts
 - h. Compatibility problems
 - i. Time schedules
 - j. Weather limitations
 - k. Manufacturer's recommendations
 - l. Warranty requirements
 - m. Compatibility of materials
 - n. Acceptability of substrates
 - o. Temporary facilities
 - p. Space and access limitations
 - q. Governing regulations
 - r. Safety
 - s. Inspecting and testing requirements
 - t. Required performance results
 - u. Recording requirements
 - v. Protection.
 - 2. Record significant discussions and agreements and disagreements of each conference, and the approved schedule. Promptly distribute the record of the meeting to everyone concerned, including the University and the University's Representative.
 - 3. Do not proceed with the installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of Work and reconvene the conference at the earliest feasible date.

1.4. PROGRESS MEETINGS

- A. The Contractor shall conduct progress meetings at the Project Site at regular intervals. Notify the University's Representative and the Design Professional of scheduled meeting dates. Coordinate dates of meetings with preparation of the payment request. Document meetings with meeting minutes to be distributed to the University's Representative, the Design Professional and all other attendees.

- B. Attendees: In addition to representatives of the University and the Architect, each subcontractor, supplier, or other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.
- C. Agenda: Review and correct or approve minutes of the previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the status of the Project.
 - 1. Contractor's Construction Schedule: Review progress since the last meeting. Determine where each activity is in relation to the Contractor's Construction Schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to insure that current and subsequent activities will be completed within the Contract Time.
 - 2. Review the present and future needs of each entity present, including the following:
 - a. Interface requirements
 - b. Time
 - c. Sequences
 - d. Status of submittals
 - e. Status of RFI's
 - f. Deliveries
 - g. Off-site fabrication problems
 - h. Access
 - i. Site utilization
 - j. Temporary facilities and services
 - k. Hours of work
 - l. Contractor's Safety Program (including any special hazards and risks)
 - m. Housekeeping
 - n. Quality and work standards
 - o. Contractor's two week "look ahead" schedule and issues
 - p. Change Orders
 - q. Documentation of information for payment requests
 - r. Sustainability review, including tracking and status.
- D. Schedule Updating: Revise the Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue the revised schedule concurrently with the report of each meeting.

1.5. PAYMENT APPLICATION REVIEW MEETINGS

- A. Attend a meeting monthly 5 days prior to submittal of the Application for Payment, at a location acceptable to University's Representative.
- B. Attendees:
 - 1. University's Representative.
 - 2. Design Professional and Consultants, as appropriate.
 - 3. Contractor's Project Manager.
 - 4. Superintendent.
 - 5. Others as directed by University's Representative.
- C. Agenda:
 - 1. Determination of current schedule progress.

2. Review of work completed based on the cost loaded schedule to be billed in the Application for Payment.
- D. Schedule Updating: Revise the Contract Schedule prior to the meeting based on information determined at prior progress meetings. Review schedule revisions and prepare a final revised schedule for submission 10 days prior to the application for payment.
- 1.6. 11-MONTH WARRANTY MEETING
- A. Attend a meeting eleven months following the date of Notice of Completion.
 - B. Attendees:
 1. University's Representative
 2. Design Professional and Consultants, as appropriate
 3. Contractor's Project Manager
 4. Subcontractors, as appropriate
 5. Others as directed by Responsible Administrator.
 - C. Agenda: Review of guarantees, bonds, service and maintenance contracts for materials and equipment.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION

**SECTION 01 3200
DOCUMENT CONTROL****PART 1 – GENERAL****1.1. SUMMARY**

- A. This Section includes the requirements for Contractor provided electronic document control system(s):
 - 1. General Requirements
 - 2. Submittals

1.2. GENERAL REQUIREMENTS

- A. Contractor shall provide a web accessible system for electronic document control designed for use during pre-construction and construction to manage documents including RFIs and submittals.
- B. Contractor shall provide an electronic document control system(s) that is accessible via a web browser (including IE version 7.7) from any geographical location.
- C. Contractor shall provide access to University's Representative, University's Inspector of Record, Design Professional, and at least 7 other individuals identified by University's Representative.
- D. The electronic document control system must use the University numbering system specified in the applicable Specification Section.
- E. Hours of Operation: The electronic document control system shall be available 24 hours a day, 7 days a week except for short periods of planned system maintenance.

1.3. SUBMITTALS

- A. Contractor shall submit a narrative description and outline of the proposed electronic document control system for review and approval by University's Representative.
- B. Contractor shall submit an example of the electronic log for both RFIs and Submittals for review and approval by University's Representative.
- C. Contractor shall establish a commercially available web based RFI and submittal processing system capable of posting RFI's and submittals with the following capabilities:
 - 1. Password secured access with varying levels of "write" or action capability, with multiple user defined stamps for action taken.
 - 2. Accessible from any computer with Internet access, whether in the office or the field.
 - 3. Notification of submittal status based on user profile.
 - 4. Automatic Transmittal generation when submittal is released.
 - 5. Extensive and user friendly mark-up tools and capability.
 - 6. Ability to hide mark-up comments based on user profile.
 - 7. Status of submittal and responsible party.
 - 8. Download in PDF format based on user profile.
 - 9. Tracking of resubmittal process, including University designated numbering system.

PART 2 – PRODUCTS

3.1. UPDATES

- A. Every two (2) weeks, Contractor shall export or otherwise generate electronic logs of all RFIs and submittals that can be imported into the University's enterprise system. The format of the electronic logs shall be a spreadsheet in MS-Excel format of all the structured data from each RFI or submittals. The exported or otherwise generated log for RFIs shall be separate from the log for submittals. Samples shall be included in the log of submittals.
- B. Contractor shall also allow, at any time, the University's Representative or designee, to download electronic copies of such RFI and submittal documents in a format that is searchable such as printed PDFs. Scanned PDFs are not acceptable except in the case of drawings.
- C. At least 7 days before the date scheduled for Final Inspection, Contractor shall provide University's Representative a complete electronic copy of all electronic files from the electronic document control system for the project.
 - 1. The electronic files shall be executable on flash drive.
 - 2. Each flash drive shall be fully labeled with the project name, contract number, date, and the sequence number of the flash drive in the set. Files may be submitted compressed, but the decompression utility used (executable preferred) should be fully described with directions included on the transmittal as well as in digital form.

END OF SECTION

**SECTION 01 3216
SCHEDULES****PART 1 – GENERAL****1.1. SUMMARY**

- A. This Section includes administrative and procedural requirements for the Critical Path Method (CPM) of scheduling and reporting progress of the Work:
1. Preliminary Contract Schedule
 2. Contract Schedule
 3. Summary Schedule
 4. Look-Ahead Schedule
 5. Final As-Built Schedule
 6. Responsibility for Completion
 7. Adjustment of Time for Completion
- B. Refer to the Agreement, General Conditions, and Notice to Proceed for definitions and specific dates of Contract Time.
1. Contractor shall develop a network diagram (showing all interdependencies) and schedule for the Project demonstrating complete fulfillment of all contract requirements, shall keep the network diagrams and schedule up-to-date and in accordance with the requirements of this Section and shall utilize the CPM in planning, coordination, performing and reporting the Work under this Contract, including all activities of subcontractors, equipment vendors, and suppliers and in assisting University's Representative in monitoring the progress of the Work.
 2. The Precedence Diagramming Method (PDM) shall be utilized in preparing the CPM Schedule network diagrams utilizing Scheduling Software (P6 or the latest version for Windows, MS Project (latest version for Windows), or equal, as determined acceptable to the University.
 3. Contractor shall use Scheduling Software as a computerized critical path scheduling system for producing computer generated reports with the following minimum information:
 - a. Activity identification code keyed to summary and Contract Schedule activities.
 - b. Activity description.
 - c. Status date and remaining duration.
 - d. Activity percentage complete.
 - e. Activity duration.
 - f. Early start/finish and late start/finish.
 - g. Total float.
 - h. Free float.
 - i. The predecessor and successor activities for each individual activity.
 - j. A comparison between the current updated Contract Schedule and the Baseline Schedule.
 - k. Designation of the planned work day/work week for each activity.
 - l. A critical item list of activities with ten (10) working days or less total float.
 - m. Scheduled and actual manpower loading for each activity.
 - n. Scheduled and actual progress payment for each activity.
- C. Definitions:
1. Critical Path activities are defined as Work activities that, if delayed or extended, will cause a critical delay as defined in Article 8 of the General Conditions. All

other Work activities are defined as non-critical Work activities and are considered to have float.

2. Float is defined as the time that a non-critical Work activity can be delayed or extended without causing a critical delay as defined in Article 8 of the General Conditions. Neither Contractor nor University shall have an exclusive right to the use of float. Float is a shared resource available to Contractor and University.
 - a. Float for any Work Activity shall be calculated as the difference in days between the Latest Finish and its Earliest Finish. Any such calculated float that results in a negative number is considered Negative Float.

D. Submittals:

1. Preliminary Contract Schedule
2. Contract Schedule
3. Summary Schedule
4. Narrative Report
5. Variance Report
6. Cash Flow Curve
7. Manpower Curve
8. Look-Ahead Schedule
9. Final As-Built Schedule with original baseline schedule

1.2. PRELIMINARY CONTRACT SCHEDULE

A. Submittal

1. Submit the Preliminary Contract Schedule to University's Representative within the time specified in the Instructions to Bidders and Supplementary Instructions to Bidders.
2. Submit to University's Representative **1 electronic copy** in PDF, and **1 electronic copy** in the computerized critical path scheduling system software per 1.1.A.2. above approved by University's Representative.
3. Use the form of a bar chart, Gantt chart, or other system approved by University's Representative showing the Work from the construction start date through the final completion date, with the work activities involved and other information relative to the progress of the Work, in a continuous flow from left to right.
4. Show sufficient detail to demonstrate adequate planning for the Work and to show a practical plan to complete the Work within the Contract Time, and suitable for monitoring progress of the Work.

B. Approval

1. Within **5 days** after receipt of the Contract Schedule, University's Representative will notify Contractor of its acceptance or return with comments for resubmittal.

C. Activities and Milestones

1. Identify all Work activities which constitute the Critical Path.
2. Include submittals and lead times.
3. Identify the milestone for completion of the Project. At a minimum, identify the following milestones:

Mobilization
Commencement Date

Substantial Completion
Final Completion

4. Identify all holidays and non-working days. Contractor shall perform no work that requires the University's observation or inspection on the following University holidays and campus closure days without prior written approval by the University's Representative:

- a. Regular University Holidays and Campus Closure Days:

New Year's Day
Martin Luther King, Jr. Day (3rd Monday in January)
Presidents' Day (3rd Monday in February)
Cesar Chavez Day (Last Friday in March)
Memorial Day (Last Monday in May)
Juneteenth (June 19)
Independence Day (July 4)
Labor Day (1st Monday in September)
Veterans' Day (November 11)
Thanksgiving Day (4th Thursday in November)
Friday following Thanksgiving Day
Christmas Eve
Christmas Day
Campus Closure: business days between Christmas Day and New Year's Eve
New Year's Eve

Exception: A University Holiday that falls on a Saturday is observed on the preceding Friday, and a University Holiday that falls on a Sunday is observed on the following Monday, unless an alternate day to observe the University Holiday is designated by the University.

- b. Other Campus Closure Days or days when no work can occur may be designated by the University due to the academic calendar as may occur during mid-term, finals, and commencement activities:

1.3. CONTRACT SCHEDULE

A. Submittal

1. Submit the Contract Schedule, or updated Contract Schedule as applicable, within **7 days** prior to submitting an Application For Payment.
 - a. The initial Contract Schedule submitted to and approved by University's Representative shall be known as the Baseline Schedule, and shall be used by Contractor to execute the Work of the Contract, including planning, organizing and directing the Work, and reporting its progress until subsequently updated.
 - b. In no event shall Contractor submit an updated Contract Schedule less than monthly.
 - c. If the commencement or completion of any Work activity on the critical path is more than 30 days behind the date set forth in the Contract Schedule for such Work activity, at University's Representative's sole discretion, University's Representative may require Contractor to submit an updated Contract Schedule at a more frequent interval without additional cost to the University.

If the Contract Time is less than 300 days, and if the commencement or completion of any Work activity on the critical path is more than 10% of the Contract Time behind the date set forth in the Contract Schedule for such Work activity, at University's Representative's sole discretion, University's Representative may require Contractor to submit an updated Contract Schedule at a more frequent interval without additional cost to the University.

2. Submit to University's Representative **1 electronic copy** in PDF, and **1 electronic copy** in the computerized critical path scheduling system software per 1.1.A.2. above approved by University's Representative.
3. Submit the Contract Schedule or updated Contract Schedule in the same form as required in 1.2.A. above.
4. The presentation of each Work activity on the Contract Schedule or updated Contract Schedule shall include a brief description of the Work activity, the duration of the Work activity in days, and a responsibility code identifying the organization or trades performing the Work activity.
5. The Contract Schedule or updated Contract Schedule shall be a computerized, detailed, task level CPM diagram in PDM format. A clear delineation of construction activities shall be shown. This schedule shall be manpower and cost loaded and not extending beyond the Contract Time.
6. The work activities comprising the Contract Schedule shall be of sufficient detail to ensure adequate planning and execution of the Work to provide an appropriate basis for monitoring and evaluating the progress of the Work. A work activity is defined as an activity which requires time and resource (manpower, equipment, and/or material) to complete in a continuous operation. No activity shall be less than 1 day, no more than 14 days duration for any onsite operation.
7. Failure by Contractor to include any element of the Work required for the performance of this Contract and completion of the Project shall not excuse Contractor from completing all work required within the Contract Time, regardless of University's Representative's acceptance of the Contract Schedule or any updated Contract Schedule.
8. No more than 30% of the total number of activities shown shall be critical or near critical. Near critical is defined as float less than 10 days.
9. These schedules shall indicate the sequence and interdependency of work activities and shall be coordinated with all submittal, review and approval requirements.
10. Each approved Change Order and Field Order shall be listed and plotted as a separate and independent activity. Schedule components shall be organized into logical groupings by location, responsibility, Specification Section, etc.

B. Approval

1. Within **5 days** after receipt of the Contract Schedule or updated Contract Schedule, University's Representative will notify Contractor of its acceptance or return with comments for resubmittal.
 - a. Contractor shall participate in a review of the proposed Contract Schedule or updated Contract Schedule by University's Representative when requested.
 - b. Contractor shall resubmit any revisions within **3 days**.
2. The accepted Contract Schedule or updated Contract Schedule shall be the Contract Schedule of record for the period it is current and shall be the basis for payment during that period. Contractor shall perform the Work in accordance with the Contract Schedule or updated Contract Schedule as accepted.

3. No Application For Payment will be processed nor shall any progress payment become due for work performed until the Contract Schedule or updated Contract Schedule is accepted by University's Representative. University's Representative's acceptance of the Contract Schedule or updated Contract Schedule is a condition precedent to University making any progress payment for work performed.
 4. Updating
 - a. Contractor shall meet with University's Representative at least **once per month**, or as directed by University's Representative, to review the latest approved Contract Schedule for actual progress made to date, activities started and completed to date, and the percentage of work completed to date on each activity started but not completed, and to incorporate in the Contract Schedule all changes in the progress, sequences, and scope of Work activities.
 - (1) The updated Contract Schedule shall accurately represent the as-built condition of all completed and in-progress Work activities as of the date of the updated Contract Schedule.
 - (2) The updated Contract Schedule shall incorporate all changes mutually agreed upon by Contractor and University during preceding periodic reviews and all changes resulting from Change Orders and Field Orders.
 - (3) Contractor shall document the effect on the updated Contract Schedule whenever float has been used.
- C. Activities and Milestones
1. Identify all Work activities which constitute the critical path.
 2. Identify all Work activities in correct sequence for the completion of the Work. Work activities shall include the following:
 - a. Major Contractor-furnished equipment, materials, and building elements, and scheduled activities requiring submittals or University's prior approval.
 - b. Show dates for the submission, review, and approval of each submittal. Dates shall be shown for the procurement, fabrication, delivery, and installation of major equipment, materials, and building elements, and for scheduled activities designated by University.
 - c. System test dates.
 - d. Scheduled overtime Work if required by Contract Documents.
 - e. Dates of Contractor requests for designated working spaces, storage areas, access, and other facilities to be provided by University.
 - f. Dates of Contractor requests for approvals and decisions from University on designated items.
 - g. Dates of Contractor requests for University-furnished equipment.
 - h. Dates of Contractor requests for University-furnished utilities.
 - i. Connection and relocation of existing utilities.
 - j. Connecting to or penetrating existing structures.
 - k. Inspections and testing.

I. Commissioning Sequence and activities for all building systems.

3. Include the milestones per 1.2.C.

4. Include all holidays and non-working days per 1.2.C.

1.4. SUMMARY SCHEDULE

A. All activities in the Contract Schedule shall be grouped to enable “rollup” of the activities in the form of a Summary Schedule which shall be submitted along with the updated Contract Schedule within **7 days** prior to submitting Contractor’s next Application For Payment. A clear delineation of construction activities shall be shown on the summary schedule. The summary schedule shall be manpower and cost loaded.

B. Review and approval by University’s Representative of the Summary Schedule is a condition precedent to University making any progress payments for work performed.

1.5. LOOK-AHEAD SCHEDULE

A. The Look-Ahead Schedule is a schedule derived from the Contract Schedule or updated Contract Schedule that indicates in detail all activities scheduled for work for the next 2 weeks and all activities scheduled to occur during the next 4 weeks.

B. Submit in 11” x 17” Gantt chart format. Provide as many copies as requested by University’s Representative.

C. The Look-Ahead Schedule shall be generated from the then current Contract Schedule or updated Contract Schedule.

1.6. FINAL AS-BUILT SCHEDULE

A. A combined 2-week Look-Ahead Schedule with a 2-week As-Built Schedule for previous two weeks shall be submitted by Contractor for review and approval as often as requested by the University’s Representative, at no additional cost.

B. As a condition precedent to final acceptance of the Project, Contractor shall submit a final As-Built Schedule and all final reports which accurately reflect the manner in which the Project was constructed and includes actual start and completion dates for all work activities on the last updated Contract Schedule.

C. As a condition precedent to the release of retention, the last update of the Contract Schedule submitted shall be identified by the Contractor as the “As Built Schedule”. The As-Built Schedule shall be submitted when all activities are 100 percent complete. The As-Built Schedule shall reflect the exact manner in which the Project was actually constructed (including start and completion dates, activities, sequences, and logic) and shall include a statement signed by the Contractor that the As Built Schedule accurately reflects the actual sequence and timing of the construction of the Project.

1.7. RESPONSIBILITY FOR COMPLETION

A. Delays of any non-critical Work activity shall not be the basis for an extension of Contract Time until the delays consume the float associated with that non-critical Work activity and cause the Work activity to become critical.

B. Contractor shall not sequester float through strategies including extending activity duration estimates to consume available float, using preferential logic, using extensive or insufficient crew/resource loading, use of float suppression techniques, special lead/lag logic restraints or

imposed dates. Use of float time disclosed or implied by the use of alternate float suppression techniques shall be shared for the benefit of both the University and contractor.

- C. It is acknowledged that University generated time savings (critical path submittal reviews returned in less time than allowed by the Contract Documents, approval of substitution requests which result in a savings of time for contractor) create shared float. Accordingly, University caused delays may be offset by University generated time savings.
- D. Contractor agrees that whenever it becomes apparent from the current updated Contract Schedule that the Contract completion date will not be met, it will take some or all of the following actions, with prior approval of University's Representative, at no additional cost.
 - 1. Increase construction manpower in such quantities and crafts as will eliminate, in the judgment of University's Representative, any delay.
 - 2. Increase the number of working hours per shift, shifts per working day, working days per week, or the amount of construction equipment, or any combination of the foregoing, sufficiently to eliminate, in the judgment of University's Representative, any delay. This paragraph shall not be construed to permit Contractor to violate the work hour restrictions specified in the Contract Documents.
 - 3. Reschedule activities to achieve maximum practical concurrent completion activities within the requirements of the specifications.

1.8. ADJUSTMENT OF TIME FOR COMPLETION

- A. Contractor shall submit a detailed time impact analysis of the Contract Schedule to support an adjustment of the Contract Time for delay under Article 8 of the General Conditions or an adjustment of the Contract Sum for delay under Article 7 of the General Conditions.
- B. Each time impact analysis shall provide information justifying the request and stating the extent of the adjustment requested for each specific change or alleged delay. Each time impact analysis shall be in form and content acceptable to University's Representative, and shall include, but not be limited to the following:
 - 1. A fragmentary CPM type network (Fragnet) illustrating how Contractor proposes to incorporate the change or alleged delay into the current updated Contract Schedule.
 - 2. Identification of activities in the current updated Contract Schedule which are proposed to be amended due to the change or alleged delay, together with engineering estimates and other appropriate data justifying the proposal.
- C. The time impact analysis shall be determined on the basis of the date when the change was issued, or the date when the alleged delay began. The status of completion of the Work and time impact analysis shall include event time computations for all affected activities.
- D. Contractor shall provide time impact analysis at no additional cost to demonstrate the time impact upon the Contract Time.
- E. If University's Representative finds, after review of the time impact analysis, that Contractor is entitled to any extension of time, the Contract Time will be adjusted per the General Conditions, and Contractor shall revise the updated Contract Schedule accordingly.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION

**SECTION 01 3280
ELECTRONIC DATA TRANSFER****PART 1 – GENERAL****1.1. SUMMARY**

A. Section includes Terms and Conditions for the transfer of Electronic Data to Contractor for use in preparation of Submittals, Record Documents, coordination drawings, and related documents to be produced by Contractor and submitted to University:

1. CONTRACTOR'S ACCEPTANCE OF ELECTRONIC DATA IN ANY FORM SHALL CONSTITUTE ACCEPTANCE OF THE TERMS AND CONDITIONS OF THIS SECTION, INCLUDING PAYMENT OF INDICATED FEES.

B. The University and the Contractor acknowledge that established administrative procedures for management of construction Projects anticipate paper documentation and methods for the exchange of such documents. To the extent the administrative and procedural requirements of the Contract Documents are predicated on established practices the University and the Contractor agree to accept reasonable modifications to certain procedural requirements to facilitate electronic exchange of information and the use of digital media.

C. Submittals: Only a material original stamped and signed by the University's Representative shall be acceptable as an official record of the processed submittal. When directed, quantities of document submittals specified in the Contract Documents may be adjusted as permitted to facilitate utilization of electronic transfer of information.

1.2. TERMS AND CONDITIONS

A. In consideration of Contractor's request to the University to deliver certain Electronic Data for use on the Project, Contractor agrees to the following:

1. Electronic Data includes but is not limited to, computer-aided design (CAD) files including native file formats (DWG) and drawing exchange formats (DXF), and files produced by word processing, spread sheet, scheduling, data base and other software programs. The Electronic Data may be provided in an original format produced by Design Professional or other University consultant, or an alternate, "translated" format as requested by other parties to this Agreement.

2. The means by which the Electronic Data is transferred may include but are not limited to, electronic mail, File Transfer Protocol (FTP) sites, project websites, and disk copies transmitted between the parties to this Agreement. Contractor acknowledges that Electronic Data transferred in any manner or translated from the system and format used by Design Professional or other University consultant, to an alternate system or format is subject to errors that may affect the accuracy and reliability of the data and that the data may be altered, whether inadvertently or otherwise. Accordingly, the University and Design Professional make no warranty, express or implied, as to the accuracy of the information transferred. The Electronic Data are not the Bidding Documents and differences may exist between these electronic files and corresponding hard-copy Bidding Documents. University reserves the right to retain hard copy originals in addition to electronic copies of the Electronic Data transferred, which originals shall be referred to and shall govern.

3. As consideration to University for the transfer of the Electronic Data, Contractor agrees that the University, University's Design Professional, and University's agents and consultants shall not be liable for and hereby waives all claims and agrees to indemnify and hold University harmless from all liabilities, losses, damages or expenses (including attorneys' fees) arising out of, or connected with: (1) the transfer of Electronic Data by any means; (2) the use, modification or misuse by parties other than University

and Design Professional of the Electronic Data; (3) the limited life expectancy and decline of accuracy or readability of the Electronic Data due to storage; (4) any use of the Electronic Data by any third parties receiving the data from other parties to this Agreement; or (5) the incompatibility of software or hardware used by University and Design Professional and the other parties participating in the Work.

4. The Electronic Data provided under the terms of this Agreement are the proprietary information of University. All Electronic Data shall be treated as confidential and shall not be disclosed to or shared with others without express, written consent from the University's.
5. The University shall issue the most current information available, but does not undertake the responsibility for providing updated information as the Project proceeds. Contractor may make a specific written request for such updated information as Contractor deems necessary, which University will then provide subject to the Terms and Conditions hereof.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION

SUBMITTAL SCHEDULE									
Section	Shop Dwgs	Prod. Data/List	Samples Mock-ups	Extend. Guarantee	Op/Maint. Manuals	Tests	Extra Mat'l	Certs.	Other
01 1100									
01 1400									
01 2500									
01 2613									
01 3113									
01 3119									
01 3200									
01 3216									
01 3300									
01 3543									
01 4100									
01 4200									
01 4300									
01 4339									
01 4500									
01 4516									
01 4520									
01 5100									
01 5200									
01 5500									
01 5600									
01 5800									
01 6000									
01 7329									
01 7400									
01 7700									
01 7839									
02 4100									
03 5416									
07 9200									
07 8413									
09 2900									
09 3000									
09 3050									
09 6513									
09 6516									
09 6800									

SUBMITTAL SCHEDULE									
Section	Shop Dwgs	Prod. Data/List	Samples Mock-ups	Extend. Guarantee	Op/Maint. Manuals	Tests	Extra Mat'l	Certs.	Other
09 6813									
09 9100									
10 2819									
12 2113									
12 3661.16									
22 1319.13									

NOTE: Should a discrepancy arise between this schedule's requirements and individual requirements, the most stringent requirement shall prevail.

END OF SECTION

CONTRACTOR CERTIFICATION

COMPLETE THIS CERTIFICATE, INCLUDING SIGNATURE BY PERSON DIRECTLY RESPONSIBLE FOR WORK ON THIS PROJECT. REVIEW EACH SUBCONTRACTOR CERTIFICATION FOR COMPLETENESS AND COORDINATION WITH COMMENTS MADE ON THIS CERTIFICATE AND OTHER SUBCONTRACTOR CERTIFICATES. SUBMIT THIS CERTIFICATE AND ALL SUBCONTRACTOR CERTIFICATES TO THE UNIVERSITY'S REPRESENTATIVE WITHIN 10 DAYS OF RECEIVING NOTICE TO PROCEED.

1. As required by the General Conditions of the Contract for Construction, the undersigned certifies that a thorough review has been made of all of the Contract Documents, including, but not limited to the Agreement, General and Supplementary conditions, Drawings, specifications, and Addenda (if any) for the Work. The undersigned also acknowledges each subcontractor has been required to perform a similar thorough review and that Contractor and subcontractors have related and coordinated requirements of individual units of Work to requirements for the entire Work.
2. The undersigned acknowledges his/her obligation to identify below discrepancies, errors, omissions, conflicts, code violations, and improper use of materials discovered in the Contract Documents. Except as noted below and on subcontractor certificates, the undersigned certifies, to the best of his/her knowledge, information, and belief that the Work can be completed in a workmanlike manner without extensive modifications or additional expense.

EXCEPTIONS: _____

NAME, ADDRESS, TELEPHONE OF CONTRACTOR: _____

AUTHORIZED SIGNATURE: _____ DATE: _____

NAME (PRINTED CLEARLY OR TYPED): _____

TITLE: _____

END OF CONTRACTOR CERTIFICATION

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**SECTION 01 3300
SUBMITTALS****PART 1 – GENERAL****1.1. SUMMARY****A. Section includes:**

1. Certificates
2. Shop Drawings, Product Data, and Samples
3. LEED Documentation
4. Contractor Certification Form
5. Subcontractor Certification Form
6. Submittal Schedule

B. Definitions:

1. Mockups are full-size assemblies for review of construction, coordination, testing, or operation, appearance, and finish by which the Work will be judged; they are not Samples.
2. The terms "Shop Drawings" and Product Data" are defined in Article 3.12 of the General Conditions.
3. As used herein, the term "manufactured" applies to standard units usually mass-produced. The term "fabricated" means items specifically assembled or made out of selected materials to meet individual design requirements. Shop drawings shall establish the actual detail of all manufactured or fabricated items, indicate proper relation to adjoining Work, and amplify design details of mechanical and electrical equipment in proper relation to physical spaces in the structure.
4. The terms "Shop Drawings" and "Product Data" are defined in Article 3.12 of the General Conditions.

C. Manufacturers' Instructions: Where any item of Work is required by the Contract Documents to be furnished, installed, or performed in accordance with a specified product manufacturer's instruction, Contractor shall procure and distribute the necessary copies of such instructions to University's Representative and all other concerned parties, and Contractor shall furnish, install, or perform the Work in strict accordance therewith.

D. The University's Representative or its Design Professional reserves the right to review and request the removal or redesign of manufacturers' trade marks and names on items of materials and equipment which will be exposed to view in the completed Work. Such removal or redesign shall be at no increase in Contract Sum.

E. Materials and equipment, for which Underwriters' Laboratories, Inc. standards have been established and their label service is available, shall bear the appropriate UL label.

1.2. CERTIFICATES

A. Certifications of Review and Coordination: Within 10 days of Notice to Proceed, submit completed Contractor Certification of Review and Coordination and all Subcontractor Certifications of Review and Coordination.

B. Certifications of Review and Coordination: As required by the General Conditions, perform a thorough review of the Contract Documents prior to commencing the Work. If there are no exceptions, write "NO EXCEPTIONS" in the space provided.

1. Complete a copy of the Contractor Certification of Review and Coordination Form following this Section.
2. Require all subcontractors to perform a thorough review of the Contract Documents and complete a copy of the Subcontractor Certification of Review and Coordination Form following this Section.
3. Review all completed Forms and resolve conflicting comments, if any, among the various parties so as to present a clear, concise view of items noted.
4. Submitting the required certifications does not relieve the Contractor from responsibility to continue to immediately report new discrepancies, errors, omissions, conflicts, code violations, and improper use of materials discovered in the Contract Documents during the course of construction.
5. Applications for Payment will not be processed by the University's Representative until all certificates have been received.

1.3. SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

A. Shop drawings, product data, and samples, other than in connection with proposed substitutions, shall be submitted to University's Representative only when specifically required; and University's Representative will not review any other such submittals. Product data and samples for proposed substitutions shall be submitted to University's Representative in accordance with Section 01 2500. Contractor shall be responsible for obtaining such copies of shop drawings, product data, and samples as it may require for its own use. Submittals Not Required: No shop drawings of supplemental data are required unless specifically requested by the University or specified herein. No shop drawings shall be submitted unless specifically requested.

1. Submittal Schedule:

- a. Refer to Specific Specification Sections for the list of submittals required under each section and indicate the required submittals on the attached Submittal Schedule for review by University's Design Professional. A schedule of submission of shop drawings, product data, and samples by Contractor ("Submittal Schedule"), and their processing and return by the University's Design Professional shall be agreed upon by both parties in order that the items covered by these submittals will be available when needed by the construction process and so that each party can plan its workload in an orderly manner. Submit Submittal Schedule no later than 30 days after Award of Contract.
 - b. Contractor shall prepare the Submittal Schedule in the form as attached or similar form acceptable to the University's Representative, and coordinate it with the Contract Schedule. No submittals will be processed before the Submittal Schedule has been submitted to and accepted by University's Representative, except in such cases where the processing of submittals is required to maintain job progress before the acceptance of the Submittal Schedule.
 - c. In preparing the Submittal Schedule, Contractor must first determine from the Contract Schedule the date a particular item is needed for the Work. Working backwards, Contractor will establish the number of days required for fabrication, shipment, placement, and similar activities to determine the date required for the first submittal.
 - d. Allow 14-28 day duration for the University's Design Professional's initial review of submittals depending on the submittal/shop drawing and specification section. Allow 7 days for Design Professional to re-review revised or unapproved submittal/shop drawings.
 - e. Contractor to indicate whether the submittal is a "Full" or "Partial" submittal on the schedule and on the submittal.
2. Material List: Provide complete material list of products proposed for use. Submit Material Safety Data Sheets (MSDS) for Owner's use. Neither the University Representative nor its Design Professional will review MSDS.

3. Contractor's Review:

- a. Contractor Review: The shop drawings and supplemental data, when called for, shall be submitted as the instruments of the Contractor, even though they may have been prepared by a subcontractor, supplier, dealer, manufacturer, or by any other person, firm or organization. Prior to submission, the Contractor shall undertake his/her own review and stamp with his/her acceptance those shop drawings and supplemental data he/she is requested to submit to the University's Architect/Design Professional for his/her review. By accepting and submitting shop drawings and supplemental data, the Contractor represents that the Contractor has determined and verified all field measurements, the physical construction, the quality of materials, the applicability of catalog numbers, and similar data, or will do so, and that the Contractor has checked and coordinated each shop drawing with the requirements of the work and of the Contract Documents. Conflicts with other trades shall be resolved by the Contractor in the shop drawings, if possible, but in any event prior to the actual construction. Drawings submitted in response to a request of the University's Architect shall show rearrangements, if any, made necessary by the use of materials or equipment other than those specified. Review, mark-up as appropriate, and stamp show drawings, product data, and samples prior to submission. Submittals shall clearly show that they have been reviewed and approved by Contractor for conformance with the requirements of the Contract Documents and for coordination with other Sections.
- b. Submittals not stamped and signed by Contractor will be returned without review.
- c. Determine and verify:
 - (1) Field measurements.
 - (2) Field construction criteria.
 - (3) Catalog numbers and similar data.
 - (4) Conformance with Contract Documents.
- d. Coordinate each submittal with requirements of the Work and of the Contract Documents.
- e. Notify University's Representative and its Design Professional in writing, at time of submission, of any changes in the submittals from requirements of the Contract Documents. Contractor is responsible to correct the deficiencies from the requirements of the contract documents when any changes are not made in writing to the University Representative and its Design Professional at the time of submission. The approval of submittals will be deemed null and void.
- f. Begin no fabrication or Work which requires submittals until the return of the University's Design Professional's and University Representative final reviewed submittals.

4. Coordination Drawings: Prepare coordination drawings where careful coordination is needed for installation of products and materials fabricated by separate entities as specified in Section 01 3300. Prepare coordination drawings where limited space availability necessitates maximum utilization of space for efficient installation of different components.
 - a. Show the relationship of components shown on separate Shop Drawings.
 - b. Indicate required installation sequences.
 - c. Comply with requirements contained in this Section.

5. BIM Procedures:
 - a. Contractor shall establish procedures for coordinating work using BIM methods and protocols.

 - b. Format and Development: Prepare coordination drawings according to the following requirements:
 - (1) Prepare BIM files for the project based on original construction documents as received from the University.
 - (2) Prepare all files using BIM software program, version, and operating system as approved by University.
 - (3) Prepare BIM Execution Plan establishing BIM protocols for project, including standards, responsibilities of Contractor and sub-contractors, schedules, clash detection, and quality control.
 - (4) Designate a specific staff person as Contractor's BIM Coordinator.
 - (5) Submit or post coordination drawing files using format same as file preparation format or Portable Data File (PDF) format.

 - c. Clash Detection:
 - (1) Using BIM procedures perform clash detection as part of preparation of coordination drawings.
 - (2) Include clash detection protocol in the BIM execution plan.
 - (3) BIM Coordinator will review and assemble the various design and trade models, create clash reports and conduct coordination meetings with University's Representative as defined by the BIM execution plan.
 - (4) Run Parameters: Clash detection, at minimum, shall be set to report any hard clashes within a 1/4 inch tolerance. Clearance tolerances shall be used to account for additional material applied to modeled elements, such as fire proofing or required clearances.
 - (5) At a minimum, review Clash Detection documents on a weekly basis. Identify conflicts requiring document modifications and review with University's Representative.
 - (6) Update model elements based on field verification of dimensions and orientation.

 - d. Following resolution of conflicts and clash detection, prepare coordination drawings for review as follows:
 - (1) Comply with shop drawing requirements for sheet size and submittal methods specified in Section 01 3300 "Submittals".
 - (2) Refer to Specifications in Divisions 2-33 technical specification sections for specific Coordination Drawing requirements.
 - (3) Provide composite coordination drawings for equipment and system installations in mechanical and electrical rooms and spaces where two or more entities will provide the work.
 - (4) Provide composite coordination drawings showing planned locations of core cuts, sleeves, and other penetrations intended for placement in

- concrete decks, slabs, and structural components. Indicate intended use such as openings for conduit, piping, ducts, and utility services.
- (5) Provide composite coordination drawings showing planned locations of fire and sound rated wall penetrations, including dampers. Indicate intended use such as openings for conduit, piping, ducts, and utility services.
 - (6) Prepare above-ceiling coordination drawings showing all above-ceiling work including structural members and required clearances and dimensions.
- e. At the end of the project as part of the close out submittals the Contractor shall provide an “as-built” BIM model to be given to the University in addition to the hard copy as built drawings and PDF copy.
6. Submission Requirements:
- a. Make submittals promptly in accordance with the Specifications and in such sequence as to cause no delay in the Work.
 - (1) Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
 - (a) Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals and related activities that require sequential activity.
 - (b) Coordinate transmittal of different types of submittals for related elements of the work so processing will not be delayed by the need to review submittals concurrently for coordination.
 - (c) The University's Representative reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
 - (2) Processing: Allow sufficient review time so that installation will not be delayed as a result of the time required to process submittals, including time for resubmittals.
 - (a) Allow sufficient time from receipt by University's Representative, for initial review and comment. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. The University's Representative will promptly advise the Contractor when a submittal being processed must be delayed for coordination.
 - (b) If an intermediate submittal is necessary, process the same as the initial submittal.
 - (c) Allow additional time for reprocessing each submittal.
 - (d) No extension of Contract Time will be authorized because of failure to transmit submittals to the University's Representative sufficiently in advance of the Work to permit processing.
 - b. Number of Submittals Required: Refer to Specification Section 01 3200 “Document Control” for distribution of Shop Drawings and Product Data submittals. After each submittal has been reviewed by the Design Professional and returned to the Contractor. The Contractor shall make (two) 2 hard copies of all approved submittals and shall submit the hard copies to the University's Representative for project record filing.
 - (1) Samples: Contractor to submit a minimum of (five) 5 physical samples each of products and or samples for Design Professional's review and approval. After review and approval one sample will be retained by the architect, two (2) for

the contractor and its subcontractor and two (2) for the University's Representative.

- (2) Shop drawings and supplemental data, where called for, shall be prepared and submitted as per General Conditions. Final corrected copies of schedules and shop drawings or supplemental data to University's Design Professional for review shall be such as to provide one (1) for University's Architect's files, two (2) for the University and two (2) to the Contractor's job files and for distribution by the Contractor to subcontractors or vendors. Exceptions shall be as noted in Specifications sections.

c. Submittals shall contain:

- (1) Identification data number assigned by the Contractor, consisting of the specification section number followed with the number 001 and continuing in sequence.
 - a) Resubmittals: Add a letter to the previous identification, for instance 01 3200/005/R1 would be a first resubmittal.
 - b) Use a separate number for each product, assembly, or system. Similar or related items may be grouped only if compatible with review process as approved.
- (2) Date of submission and dates of any previous submissions.
- (3) Project name and number, and contract identification.
- (4) Names of Contractor, Subcontractor, Supplier and Manufacturer.
- (5) Identification of item, with Specification Section number and article/paragraph references.
- (6) Field dimensions, clearly identified as such.
- (7) Relation to adjacent or critical features of the Work or materials.
- (8) Reference standards, such as ASTM or Federal Specification numbers.
- (9) Identification of changes from requirements of the Contract Documents.
- (10) Identification of revisions on resubmittals.
- (11) An 8-inch x 3 inch blank space for review stamps, as necessary.
- (12) Contractor's stamp, initialed or signed, certifying to the review of the submittal; verification of materials and field measurements and conditions; and compliance of the information within the submittal with requirements of the Work and of the Contract Documents.

d. Interpretation of Terms:

- (1) "As directed", "as required", "as permitted", "acceptable", "satisfactory", means by or to the University's Design Professional. The term "equal" means "equal in the opinion of the University's Design Professional after submittal data is reviewed". The term "favorable review" means that the submittals for material list, shop drawings, material substitutions, schedules, etc., will be reviewed by the University's Design Professional and copies returned to the Contractor marked as "Review Completed", "No Exceptions Taken" or "Make Corrections Noted" in which case no further submittals are needed.
- (2) Submittals returned marked "Resubmit", "Amend and Resubmit" or "Rejected - Resubmit" shall be corrected to comply with project requirements and shall be resubmitted for review

7. Resubmission Requirements:

a. Shop Drawings and Product Data:

- (1) Revise shop drawings or product data, and resubmit as specified for the initial submittal, only if required by University's Design Professional.
- (2) Identify any changes which have been made other than those requested.
- (3) Note any departures from the Contract Documents or changes in previously reviewed submittals which were not commented upon by University's Design Professional.

- b. Samples: Submit new samples as required for initial submittal.
 - c. University's Design Professional's Review: The University's Design Professional will review shop drawings and supplemental data submitted by the Contractor only for general design conformance with the concept of the Project and compliance with the information given in the Contract Documents. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of Contractor as required by the Contract Documents.
8. Distribution:
- a. Reproduce and distribute copies of Submittals including Shop Drawings and Product Data, which carry the University's Design Professional's review stamp, to the following locations:
 - (1) Contractor's Project site file.
 - (2) Record documents file maintained by Contractor.
 - (3) Separate Contractors.
 - (4) Subcontractors.
 - (5) Supplier or manufacturer.
 - (6) Other involved parties as directed by University's Representative.
9. Design Professional's or Design Professional's designee's or University Representative's Review will be under the following conditions.
- a. Review of submittals is only for general conformance with the design concept of the Project and general compliance with the information given in the Contract Documents. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instruction for installation for performance or equipment or systems, all of which remain the responsibility of contractor as required by the Contract Documents.
 - b. The review does not affect the Contractor's responsibility to perform all Contract requirements with no change in Contract Sum or Contract Time. Any actions shown are subject to the requirements of the Drawings, Specifications and other Contract Documents. The Contractor is responsible to confirm and correlate dimensions at the site, for information that pertains to the fabrication processes, for the means, methods, techniques, procedures, sequences and quantities necessary to complete the Contract and for coordination of the work of all trades and satisfactory performance of his work. The review is undertaken solely to satisfy Consultant's obligations, if any to the University and shall not give rise to any claim by the Contractor or other parties against the University's Representative, his/her Consultants or University.

B. Shop Drawings

1. Present information required on shop drawings in a clear and thorough manner. Identify details by reference to drawings and detail, schedule, or room numbers shown and specified.
2. Shop drawings shall be original drawings by the Contractor. Direct reproductions of the Contract Drawings will not be acceptable as shop drawings.
3. Shop Drawings Delineation: The Shop Drawings shall be drawn to scale and shall be completely dimensioned, giving the plan together with such sections as are necessary to clearly show construction detail.

4. Responsibility: These Shop Drawings and all supporting data, catalogs, etc., shall be prepared by the Contractor or his/her suppliers, but shall be submitted as the instruments of the Contractor. Therefore, the Contractor shall review and approve the drawings of his/her suppliers as well as his/her own drawings before submitting them to the University's Representative. In particular, the Contractor shall ascertain that the drawings meet all requirements of the Drawings and Specifications and also conform to the structural and space conditions. Each Shop Drawing submitted for review shall bear a stamp certifying that it has been reviewed and approved by the Contractor in accordance with the Contract Documents. If such Shop Drawings show variations from Contract Documents, whether because of standard shop practice or other reasons, the Contractor shall make special mention thereof in his/her letter of transmittal. The Contractor shall be fully responsible for observing the need for and making any changes in the arrangement of piping, connections, wiring, manner of installation, etc., which may be required by the equipment he/she proposes to supply both as pertains to his/her own work and any work affected under other parts, heading or divisions of Drawings and Specifications.
5. Identification: Shop Drawings shall be entitled with the name of the project on each sheet and shall otherwise be identified by listing the particular division, section, article or reference of the work pertaining. Submit different items on separate sheets. All submittals shall be numbered sequentially.
6. Manner: Furnish for University's Design Professional's approval separate sheets of submittal of each specialty item in the following manner:
 - a. Catalog cuts shall be photocopied or reproduced in some other acceptable manner (e.g., PDF), noting only the items in question, together with the descriptive (specification) data complete. Once the Design Professional has reviewed the submittal, provide one electronic copy (PDF) of each approved, stamped shop drawing and other supporting data to the on-site University's Representative.
 - b. Each sheet shall be identified with the division, section, article or reference in the Contract Documents which covers the item submitted for approval.
 - c. Each sheet shall be identified with the project name, the University's Representative and the project's Design Professional.
 - d. Each sheet shall bear the Contractor's stamp and signature of approval.
7. All shop drawings shall be drawn accurately and suitable for reprographic duplication.
8. Supplemental Data: Supplemental data shall include information as noted in the specification paragraphs requiring them, or as requested by the University.
9. Review Required: Shop drawings, if requested, must be submitted to and favorably reviewed by the University's Design Professional before being used by the Contractor on the job.

C. Product Data

1. Clearly mark each copy to identify pertinent Products or models.
2. Show performance data consisting of capabilities, rpm, kw pressure drops, design and operating pressures, temperatures, performance curves, noise level curves, power characteristics and consumption; conforming as closely as possible to the test methods referenced in the plan and specifications.
3. Show dimensions, weights and clearances required.
4. Show wiring or piping diagrams and controls.
5. Modify the standard schematic drawings and other diagrams to delete information, which is not applicable to the Work.

6. Supplement standard information to provide information specifically applicable to the Work.

D. Samples

1. Office samples shall be of sufficient size and quality to clearly illustrate the following:
 - a. Functional characteristics of the products, with integrally related parts and attachment devices.
 - b. Full ranges of color, texture, and pattern.
 - c. Provide a minimum of 5 samples plus any additional number for Contractor needs.
2. Samples herein referred to shall include all materials, equipment, surface textures, colors, fabrics, etc., as required by Drawings and Specifications or as requested by the University's Design Representative. They shall be submitted as required by the Specifications or requested by the University's Representative or its Design Professional.
3. Submittal: Samples, properly identified and described, shall be submitted as noted herein, or as may be required by the University's Representative. They shall be submitted and resubmitted until approved. No approval of a sample shall be taken in itself to change or modify any contract requirement. Finishes, materials, or workmanship in the completed building shall match the approved samples.
4. Manner: Contractor shall forward all samples under cover letter in five (5) copies, including a complete listing of such samples designated for use on the project, with complete identification on each sample by project name, ultimate destination of material, manufacturer, brand, lot, style, model, etc., Contract Document reference as well as the names of the Contractor, Supplier, Project, Design Professional and University's Representative. All submittals shall be numbered sequentially.
5. Return: Samples of value will be returned to the Contractor for use in the project after review, analysis, comparison and/or testing as may be required by the University's Architect.
6. Test Sample: Test samples, as the University's Representative designates, will be selected from the materials or equipment delivered by the Contractor for use in the work. If any test sample fails to meet the specification requirements, all previous approvals will be withdrawn and such materials or equipment which fail the testing shall be subject to removal and replacement by the Contractor with materials or equipment meeting the specification requirements.

E. Mockups

1. Provide mock-ups as described in Specification Section 01 4339 and on the following drawings:
2. Material List: Provide complete material list of products proposed for use. Submit Material Safety Data Sheets (MSDS) for Owner's use.
3. Contractor's Review: Review, mark-up as appropriate, and stamp show drawings, product data, and samples prior to submission. Submittals shall clearly show that they have been reviewed and approved by Contractor for conformance with the requirements of the Contract Documents and for coordination with other Sections.

1.4. LEED DOCUMENTATION

- A. Sustainable Design and LEED submittals are in addition to other submittals. If submittal item is identical to that submitted to comply with other requirements, submit duplicate electronic copies as a separate submittal to verify compliance. Any discrepancies shall be referred to the Universities Representative for clarification.
- B. LEED documentation submittals shall be prepared and submitted using the LEED-Online credit website.
- C. Refer to Section 01 8113 "Sustainability Design Requirements" item 1.5 Submittals; for the complete listing of all LEED documentation and submittals required for the project.

1.5. REFRIGERANT MANAGEMENT DOCUMENTATION

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION

SUBCONTRACTOR CERTIFICATION

COMPLETE THIS CERTIFICATE, INCLUDING SIGNATURE BY PERSON DIRECTLY RESPONSIBLE FOR WORK ON THIS PROJECT, AND SUBMIT TO THE GENERAL CONTRACTOR WITHIN 5 DAYS OF RECEIVING NOTICE TO PROCEED FROM GENERAL CONTRACTOR.

1. As required by the General Conditions of the Contract FOR construction, the undersigned certifies that a thorough review has been made of all of the Contract Documents, including, but not limited to the Agreement, General and Supplementary Conditions, Drawings, Specifications, and Addenda (if any) for the Work. The undersigned also certifies that Contractor and subcontractor have related and coordinated requirements for the entire Work.
2. The undersigned acknowledges his/her obligation to identify below discrepancies, errors, omissions, conflicts, code violations, and improper use of materials discovered in the Contract Documents. Except as noted below, the undersigned certifies, to the best of his/her knowledge, information, and belief that no such discrepancies, errors, omissions, conflicts, code violations, or improper use of materials occur in the Contract Documents.
3. Except as noted below, the undersigned has no objection to, or reservation about, the materials to be furnished or the conditions under which they will be installed, and is satisfied that contractual responsibilities for units of Work for which undersigned is responsible can be completed in a workmanlike manner without extensive modifications or additional expense.

EXCEPTIONS: _____

UNITS OF WORK FOR WHICH UNDERSIGNED IS RESPONSIBLE:

NAME, ADDRESS, TELEPHONE OF
SUBCONTRACTOR: _____

AUTHORIZED
SIGNATURE: _____ DATE _____

NAME (PRINTED CLEARLY OR TYPED) _____

TITLE: _____

END OF SUBCONTRACTOR CERTIFICATION

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**ENVIRONMENTAL PROCEDURES
SECTION 01 3543**

PART 1 – GENERAL

1.1. SUMMARY

A. This Section includes:

1. Hazardous Materials Procedures
2. Toxic Materials Procedures
3. University of California – Approved Treatment, System, and Disposal Facilities (TSDFs) (Attached to end of Section.)

B. Submittals:

1. Submit Material Safety Data Sheets (MSDS) for all materials, whether existing or incorporated into the work, which are identified as potentially hazardous but not required to be abated.

1.2. HAZARDOUS MATERIALS PROCEDURES

- A. 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, which 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. The Work in the affected area shall not thereafter be resumed except by written agreement of University and Contractor if in fact the material contains 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.
- B. If potential hazardous materials have been encountered on site and the Contractor has reported the condition to the University's Representative, then the University Representative shall contact UCR Environmental Health and Safety office (EH&S) and, the University's approved hazardous material consultant to conduct an on-site assessment of the material. If the material is found to be hazardous then the University's approved hazardous material consultant, in coordination with UCR EH&S office and the University Representative shall prepare a plan to properly remove it off site and dispose of it at a University of California approved Treatment, Storage, and Disposal Facility (TSDF). See the list of University of California – Approved TSDFs attached to the end of this Section.

1.3. TOXIC MATERIALS PROCEDURES

A. N/A

1.4 UNIVERSITY OF CALIFORNIA APPROVED TSDF's

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION

University of California - Approved TSDFs

This document is a list of permitted treatment, storage, and disposal facilities (TSDFs) that have been deemed acceptable for use in managing hazardous waste generated by the University of California (UC) or at UC facilities. Neither UC nor any of its employees makes any warranty, express or implied, as to the merchantability or fitness for a particular purpose of the goods or services provided by the TSDFs listed above. Except as stated above, reference to the TSDFs in this document does not necessarily constitute or imply its endorsement or recommendation by UC and UC expresses no opinion as to any TSDF that does not appear in this document. This document shall not be used for advertising or product endorsement purposes or for any other use not expressly authorized in writing by UC.

TSDF name	Street	City	State	Zip phone	EPA ID
Altamont Landfill	10840 Altamont Pass Road	Livermore	CA	94550 (925) 455-7306	CAD981382732
AERC INC (MTI)	30677 Huntwood Avenue	Hayward	CA	94544 (510) 429-1129	CAD982411993
Azusa Land Reclamation Co.	1201 W. Gladstone	Azusa	CA	91702 (626) 334-0719	CAD009007626
Bethlehem Apparatus	890 Front Street	Hellertown	PA	18055 (610) 838-7034	PAD002390961
Chemical Waste Management (CWM) - Kettleman Hills	35251 Old Skyline Roac	Kettleman	CA	93239 (559) 386-9711	CAT000646117
Chemical Waste Management (CWM) - TWI	7 Mobile Drive	Sauget	IL	62201 (618)271-2804	ILD098642424
Chem-Nuclear Systems, Inc (Barnwell)	140 Stoneridge Drive	Columbia	SC	29210 (803) 758-1826	SCD048372429
Clean Harbors (Aragonite), LOC Inc.	P.O. Box 22890	Aragonite	UT	84122 (801) 323-8100	UTD981552177
Clean Harbors (Chicago)	11800 S. Stony Island Ave.	Chicago	IL	60617 (800)678-4844	ILD000608471
Clean Harbors (Deer park), Inc	2027 Battleground Road	Deer Park	TX	77536 (713) 930-2300	TXD055141378
Clean Harbors (Kimball, Incinerator Facility)	2247 S. Highway 71	Kimball	NE	69145 (308)235-4012	NED981723513
Clean Harbors (Lokern)	2500 West Lokern Rd.	Buttonwillow	CA	93206 (805) 762-6200	CAD980675276
Clean Harbors (Los Angeles), Inc.	5756 Alba Street	Los Angeles	CA	90058 (213) 585-5063	CAD050806850
Clean Harbors (Phoenix)	1340 West Lincoln Street	Phoenix	AZ	85007 (602)258-6155	AZD049318009
Clean Harbors (Sacramento)	6000 - 88th Street	Sacramento	CA	95828 (916) 386-4999	CAD000084517
Clean Harbors (San Jose)	1040 Commercial St. Suite 109	San Jose	CA	95112 (408) 453-6046	CAD059494310
Clean Harbors (Spring Grove Resources Recovery)	4829 Spring Grove Ave.	Cincinnati	OH	45232 (513)681-5738	OHD000816629
Crosby & Overton, Inc.	1630 W 17th Street	Long Beach	CA	98013 (562) 432-5445	CAD028409019
DeMenno/Kerdoon	22000 N. Alameda Street	Compton	CA	90222 (310)537-7100	CAT080013352
Diversified Scientific Services (DSSI)	P.O. Box 863	Kinston	TN	37831 (615) 376-0084	TND982109142
Duratek	1560 Bear Creek Road	Oak Ridge	TN	37831 (423) 481-0222	TND982157570
ENSCO	309 American Circle	El Dorado	AR	71730 (870) 862-0272	ARD069748192
ENSCO West	1737 East Denni Street	Wilmington	CA	90744 (310) 835-9997	CAD044429835
Envirocare of Utah, Inc	US I-80, Exit 49	Clive	UT	84029 (801) 532-1330	UTD982598898
Environmental Management & Controls (EMC)	3106 South Faith Home Road	Turlock	CA	95380 (209)-667-1102	Radioactive Material License # 3546-5C
Envirosafe	hwy 78 Missile Base Roac	Grand View	ID	82624 (208)834-2275	IDD073114654
Heritage Environmental Services, Inc	7901 West Morris Street	Indianapolis	IN	46231 (317) 243-0811	IND093219012
Heritage Environmental Services, LLC	5122 East Story Road	Coolidge	AZ	85228 (520)723-4167	AZD081705402
Heritage Landfill	4370 W.CR 1275N	Roachdale	IN	46172 (317)243-0811	IND980503890
Kinsbursky Brothers Incorporated	1314 Lemon Street	Anaheim	CA	92801 (714)738-8516	CAD088504881
Mercury Waste Solutions, Inc.	21211 Durand Avenue	Union Grove	WI	53182 414-878-2599	WIR 000 000 356
Merry X-Ray	131 South Maple #1	S. San Fran	CA	94080 (650)6742-6630	CAL000512065
ONYX (formerly AETS)	1125 Hensley Street	Richmond	CA	94801 (510) 233-8001	CAT080014079
Onyx (formerly CWM OSCO)	1704 W. First Street	Azusa	CA	91702 (626) 815-2215	CAD008302903
Onyx (Superior Special Services, Inc.)	5736 West Jefferson	Phoenix	AZ	85043 (602) 233-2955	AZD983473539
Perma-Fix (Quadrex)	1940 NW 67th Street	Gainesville	FL	32653 (405) 468-2000	FLD980711071
Philip Environmental (Burlington)	20245 - 77th Avenue, south	Kent	WA	98032 (206) 872-8030	WAD991281767
Philip Environmental (Georgetown)	734 Lucile Street	Seattle	WA	98108 (206) 762-3362	WAD000812909
Philip Environmental (Rho-Chem)	425 Isis Avenue	Inglewood	CA	90301 (213) 776-6233	CAD008364432
Photo Waste Recycling Co., Inc.	2980 Kerner Boulevard	San Rafael	CA	94901 (415)459-8807	CAD981429673
Photo Waste Recycling Co., Inc.	12898 Bradley Avenue, Suite B	Sylmar	CA	91342 (818)362-0668	CAD000121946
Ramos Environmental Services Inc.	1515 South River Road	W. Sacramento	CA	95691 (916)-371-5747	CAD044003556
Romic Environmental Technologies Corp	2081 Bay Road	East Palo Alto	CA	94303 (650)-324-1638	CAD009452657
Romic Environmental Technologies Corp (Southwest)	6760 West Allison Road	Chandler	AZ	85226 (602) 796-1040	AZD009015389
Ross Environmental Services	36790 Giles Road	Grafton	OH	44044 (440) 748-5800	OHD 048415665
Stericycle, Inc. (Formerly BFI)	4135 West Swift Avenue	Fresno	CA	93722 (559)275-0991	None
Stericycle, Inc. (Formerly BFI)	90 North 1100 West	North Salt Lake	UT	84054 (801) 295-1555	UTD988078150
Systech Environmental Corp.	South Cement Road	Fedonia	KS	66736 (316) 378-4451	KSD980633259
SET Environmental INC. (Treatment One)	5743 Chestwood	Houston	TX	77087 (713)645-8710	TXD055735388
U.S. Filter Recovery Services (Norris Environmental)	5375 South Boyle Ave.	Los Angeles	CA	90058 (213) 277-1500	CAD097030993
Von Roll America (WTI)	1250 Saint George Street	East Liverpool	OH	43920 (800) 403-4888	OHD980613541
Waste Control Specialists (WCS)	1710 West Broadway	Andrews	TX	79714 (713) 944-5900	TXD988088464

Pacific Resource Recovery Services Big Bear CA CAD008252405
 Yellow Highlight indicates TSDF pending approval.

SECTION 01 4100 REGULATORY REQUIREMENTS

PART 1 – GENERAL

1.1. SUMMARY

- A. Section includes:
 - 1. Applicable Codes, Regulations, and Authorities
 - 2. Regulatory Notifications
 - 3. Plan Review and Permit Issuance Requirements, Notifications, and Certificates
 - 4. Fees
- B. References in the Specifications to "code" or to "building code," not otherwise identified, shall mean the foregoing specified codes, together with the additions, changes, amendments, and interpretations adopted by the enforcing agency and in effect on the date of these Contract Documents. Nothing on the Drawings or in the Specifications shall be interpreted as requiring or permitting work that is contrary to these rules, regulations, and codes.
- C. Where other regulatory requirements are referenced in these Specifications, the affected work shall meet or exceed the applicable requirements of such references.
- D. Nothing stated in this Section of the Specifications or other Sections of the Specifications, the other Contract Documents or shown on the Drawings shall be construed as allowing Work that is not in strict compliance with all applicable Federal, State, regional, and local statutes, laws, regulations, rules, ordinances, codes and standards.
- E. Regulatory requirements referred to shall have full force and effect as though printed in these Specifications.
- F. Discrepancies between these codes/rules/etc. and the Contract Documents shall be brought to the attention of the University's Representative for resolution. Unless otherwise directed by the University's Representative, if a conflict exists between referenced regulatory requirements and the Contract Documents, comply with the one establishing the more stringent requirements, but which shall not be less than minimum code requirements.

1.2. APPLICABLE CODES, REGULATIONS, AND AUTHORITIES

- A. All applicable federal, state, and local laws and the rules and regulations of governing utility districts and the various other authorities having jurisdiction over the construction and completion of the Project, including the latest rules and regulations of the Campus Building Official, state fire marshal, DCFM, OSHA, and the California Labor Code, shall apply to the Contract throughout, and they shall be deemed to be included in the Contract the same as though printed in these Specifications.
- B. Codes and regulations that apply to this Project include, but are not limited to, the following including additions, changes, and interpretations adopted by the enforcing agency in effect as of the date of these Contract Documents.
 - 1. California Code of Regulations (CCR):
 - a. Title 8, Industrial Relations
 - b. Title 17, Public Health
 - c. Title 19, Public Safety
 - d. Title 20, Public Utilities and Energy

- e. Title 21, Public Works
 - f. Title 22, Environmental Health
 - g. Title 24: Building Standards Code
 - (1) Part 1, California Administrative Code
 - (2) Part 2, California Building Code (Volume 1 and 2)
 - (3) Part 3, California Electric Code
 - (4) Part 4, California Mechanical Code
 - (5) Part 5, California Plumbing Code
 - (6) Part 6, California Energy Code
 - (7) Part 9, California Fire Code Part 11, California Green Building Standards Code
 - (8) Part 12, California Referenced Standards Code
2. In addition to the above, work shall comply with the following:
- a. California Environmental Quality Act (CEQA).
 - b. California Health and Safety Code.
 - c. California Occupational Safety and Health Act Standards (Cal-OSHA).
 - d. California Department of Transportation (Caltrans): Standard Specifications, latest edition.
 - e. National Fire Protection Association (NFPA): Standards 13, 24, 72, and 80.
 - f. California Department of Forestry and Fire Protection: Fire Engineering and Investigations Division Building Materials Listing Program. See Attachment A.
 - g. Americans with Disabilities Act - Title II (ADA).
 - h. Federal Occupational Safety and Health Act (OSHA).
 - i. Federal Environmental Protection Agency – Clean Air Act.
 - j. Storm Water Pollution Prevention Act.
3. All work shall meet or exceed code and regulatory requirements.
- C. Copies of Regulations: Obtain copies of the following regulations and retain at the Project site to be available for reference by parties who have a reasonable need:
- 1. California Code of Regulations, Title 8, 9 and 19
 - 2. California Code of Regulations, Title 24, including:
 - a. Part 1, California Administrative Code
 - b. Part 2, California Building Code, Volumes 1 and 2
 - c. Part 3, California Electrical Code
 - d. Part 4, California Mechanical Code
 - e. Part 5, California Plumbing Code
 - f. Part 6, California Energy Code
 - h. Part 9, California Fire Code
 - i. Part 11, California Green Building Standards Code
 - i. Part 12, California Referenced Building Standards Code
 - 2. California Health and Safety Code regulations as referenced in the specifications.
 - 1. CAL/OSHA Construction Safety Orders.
 - 2. City of Riverside "Department of Public Works Standards and Specifications.
 - 3. ~~National Electrical Code.~~ Covered by Part 3
 - 4. National Fire Protection Association standards as referenced within the specifications
 - 5. State of California, Department of Transportation, Division of Highways, "Materials Specifications." [should keep this in]
 - 6. State of California, Department of Transportation, Division of Highways, "Standard Specifications." [should keep this in]
 - 7. ~~State of California, Office of State Fire Marshal~~ Covered by Title 19 and Part 9
 - 8. California Industrial Accident Commission, Safety Bulletins .
 - 9. ~~Uniform Building Code~~
 - 10. ~~Uniform Mechanical Code~~

~~11. Uniform Plumbing Code~~

12. Standard Specifications for Public Works, (Greenbook), with local agency amendments.

D. 2010 ADA Accessibility Standards for Accessible Design

1.3. REGULATORY NOTIFICATIONS

A. Submit all required notifications to Federal, State of California, State in which disposal facility is located if not in California, regional, and local agencies with regulatory responsibilities associated with the Work activities that are included in the Contract. All notifications shall be served in writing, in the form required by the agency requiring notification, and in a timely manner so as not to negatively impact the Project schedule. Serve notifications at least 10 business days in advance (or earlier if required by agency) of activity requiring notice. The Contractor shall serve all required notifications in writing to all governmental and quasi-governmental agencies having notification requirements pertaining to any portion of the Work included in the Project.

B. Using the "SMARTS" Website: <https://smarts.waterboards.ca.gov>, the Contractor shall file a Notice of Intent for coverage under State General Construction Activity Storm Water Permit National Pollutant Discharge Eliminate System (NPDES). Contractor shall comply with applicable permit requirements including the project Storm Water Pollution Prevention Plan.

1.4. CAMPUS BUILDING PERMIT PROCESS REQUIREMENTS (Contact Lezlie Howard, Permit Program Manager (Lezlie.howard@ucr.edu), for any questions regarding the Campus Building Permit Process),

A. Prior to commencement of construction and permit issuance by the UC Riverside Department of Building and Safety, a permit application shall be entered into the Building and Safety Departments portal along with completed project construction documents for review, approval and permit issuance. The portal address is found at the PD&C Webpage, <https://pdc.ucr.edu/>

B. Building and Safety staff will distribute all submitted Project Construction Documents to all campus reviewers for their respective review and approval.

C. Once all campus reviewers have approved their respective plan reviews and returned them to Building and Safety, the Permit Program Manager will issue the Campus Building Permit and stamped approved construction documents for the project. Once this process is completed, construction and inspections may commence.

D. Inspections may then be requested through the same portal found at the PD&C webpage. (Contact Lezlie Howard, Permit Program Manager, for assistance with the Inspection request process).

E. Outside agency Permits, Licenses, and Certificates: For the University's records, submit copies of permits, licenses, certifications, Special inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgment, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.5 NOTIFICATIONS, AND CERTIFICATES

F. Underground Service Alert (USA) Notifications: Prior to commencing clearing, excavation and trenching, coordinate with Underground Service Alert of Southern California for field verification and marking of utilities within the limits of Project site. Contractor shall be responsible for outlining limits of excavation with white chalk paint prior to coordination with USA. Coordination shall require 2 business days advance notification prior to start of excavation work. Provide USA notification permit number to the University's Representative prior to starting site Work.

G. In no event, shall the Contractor install materials that contain asbestos, PCB, lead or other known hazardous materials unless prior approval is obtained from the University.

- H. Regulated Carcinogens by Title 8 California Code of Regulations (CCR), Subchapter 7, Group 16 (Control of Hazardous Substances), Article 110 (Regulated Carcinogens).
1. Products containing chemicals regulated as carcinogens by the State of California are not allowed for use on University projects.
 2. Case-by-case exceptions may be considered for products containing the following Cal/OSHA recognized carcinogens:
 - Methylene Chloride, 5202
 - Cadmium, 1532, 5207
 - Inorganic Arsenic, 5214
 - Formaldehyde, 5217
 - Benzene, 5218
 3. Case-by-case exceptions may only be made when suitable alternative products are not available. Such exceptions are subject to written approval by the University's Representative.
 4. Exceptions require that the Contractor shall have an established carcinogen program as required by Cal/OSHA (§5203. Carcinogen Report of Use Requirements) and shall submit to University's Representative, a copy of the Cal/OSHA Confirmation of Report for Cal/OSHA carcinogens.
 5. When exceptions are granted, the Contractor is responsible for providing to the University's Representative a copy of the semi-annual Confirmation of Report received from Cal/OSHA or, in lieu of that, a copy of the Contractor's semi-annual report as submitted to Cal/OSHA at periods not to exceed 6 months, or at project closeout, whichever occurs first.
- I. Fire Department and Additional Notifications, Manifests, and Requirements: As required by University and coordinated by Contractor with the University's Representative.

1.6 FEES

- A. N/A

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION

**CALIFORNIA DEPARTMENT of FORESTRY
and FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL**



**FIRE ENGINEERING and INVESTIGATIONS DIVISION
BUILDING MATERIALS LISTING PROGRAM**

715 "P" Street, Sacramento, CA 95814
Email: BML.Program@fire.ca.gov



**DESCRIPTION of LISTING CATEGORY
and APPLICABLE STANDARD**



Fire Engineering and Investigations Division - Building Materials Listing Program

715 "P" Street, Sacramento, CA 95814

Email: BML.Program@fire.ca.gov

Web Site: <https://osfm.fire.ca.gov/divisions/fire-engineering-and-investigations/building-materials-listing/>

California State Fire Marshal Description of Category

CSFM CATEGORY

Applicable Standard

Fire Resistive Designs (1000-1099)

Structural Members	1060	UL 263/ASTM E119
Walls/Partitions	1080	UL 263/ASTM E119
Wall Panel Assemblies (Exterior, Nonload Bearing)	1081	UL 263/ASTM E119

Fire-Resistive Materials (1100 - 2999)

Expansion Joints	1450	UL 263/ASTM E119
Head-of-Wall/Wall-to-Wall Joint Systems	1451	UL 2079/ASTM E119
Floor-to-Floor/Floor-to-Wall Joint Systems	1452	UL 2079/ASTM E119
Proscenium Curtain	1670	NFPA 80
Acoustical Materials	2020	UL 2079/ASTM E84
Building Unit-Boards/Planks/Slabs	2140	UL 2079/ASTM E119
Building Units	2160	UL 723/ASTM E119
Ceiling Suspension Systems/Panels	2200	UL 723/ASTM E84
Interior Coating Materials (Flame Spread)	2280	UL 723/ASTM E84
Insulation	2440	UL 723/ASTM E84
Treated Lumber	2520	UL 723/ASTM E84
Operable Partitions	2545	UL 723/ASTM E84
Plywood	2580	UL 723/ASTM E84
Wallcovering (Interior)	2620	UL 723/ASTM E84
Wood Particle Board	2660	UL 723/ASTM E84

Materials/Equipment (3000 - 6999)

Air Diffusers (Fire-Rated)	3161	UL 723/ASTM E84
Air Filter Units	3175	CCS 12-71-1
Fire Damper Operators	3210	UL 555
Fire Dampers	3225	UL 555
Ceiling Dampers	3226	UL 555C
Leakage Dampers (Smoke)	3230	UL 555S
Combination Fire/Smoke Dampers	3235	UL 555/555S
(1)Duct Smoke Detector Housing/Base	3240	UL 268A
(1)Duct Smoke Detector, Ionization (w/ or w/o Base)	3241	UL 268A
(1)Duct Smoke Detector, Photo. (w/ or w/o Base)	3242	UL 268A
Folding Door (Fire-Rated)	3261	NFPA 252/UL 10B
Power-Operated Door	3265	CCS 12-33-1
Door Operators	3266	UL 325
Doors Wood, Bonded Solid Core	3275	NFPA 252/UL 10B
Fire-Rated Door	3295	NFPA 252/UL 10B
Access Door (Fire-Rated)	3330	NFPA 252/UL 10B
Service Counter Door (Fire-Rated)	3505	NFPA 252/UL 10B
Rolling Steel Door (Fire-Rated)	3515	NFPA 252/UL 10B
Door Closer/holders/Releasing Devices	3550	UL 228
Door with Integral Exit Hardware (Fire-Rated)	3555	NFPA 252/UL 10B

(1) Required to be listed with CSFM

Revised March 8, 2022

California State Fire Marshal
Description of Category

CSFM
CATEGORY

Applicable
Standard

Exit Door Accessories	3625	NFPA 252/UL 10B
Doors Frames (Fire-Rated)	3650	NFPA 252/UL 10B
Door Hardware (Fire-Rated)	3725	NFPA 252/UL 10B
Electric Locks	3774	NFPA 252/UL 10B/UL 294
Manual Locks	3775	CSS 12-33-2
Electric Door Strikes/Power Supply	3776	UL 228
Window Frames	3900	UL 9
Fusible Links	4025	UL 33
Glazing-Window/Door Assemblies	4075	NFPA 252/UL 10B/UL 9
Smoke & Draft Control for Fire Door	4076	UL 723/ASTM E84/UL 1784
Fire Protective Curtain	4077	UL 10D
Panic Hardware	4140	CSS 12-33-3
Grease Extractors	4145	UMC-Chapter 5
Range Hoods/Ventilation Fans	4146	UMC-Chapter 5
(1)Roof Covering, Wood Shakes/Shingles	4150	UBC 15-2/UBC 15-3/UBC 15-4/UL790
Roof Covering (Miscellaneous)	4175	UBC 15-2/UBC 15-5/UBC 15-6
Roof Insulation	4310	UL 1256
Safety Padding (Wall/Floor)	4320	CSS 12-42-1
Skylights (Plastic)	4350	ASTM D2843
Ventilators, Smoke and Heat	4475	CSS 12-39-1/NFPA 96
Waste Material Containers	4480	ASTM E-136, UL 32(metal) UL 242(non-metal)
Combustible Waste Containers	4481	FM 6920/6921/T.19
Opening Protection (Firestopping)	4485	ASTM E814
Temporary Power Tap/Surge Suppressor	4945	UL 1449
Flooring, Electrically Conductive	5225	UL 779
Gas/Vapor Detectors	5275	UL 1484
(1)Carbon Monoxide Alarms	5276	UL 2034
(1)Carbon Monoxide Detectors	5278	UL 2075
Tubing/Conduit	5620	Varies
Emergency Lighting Equipment	6180	UL 924
Exit Signs	6200	UL 924
Exit Path Marking	6210	UL 1994
Raceways, Metallic or Non-Metallic	6610	UL 5/UL 884
Electrical Switches	6760	Varies
Emergency Radio Communication Enhancement Systems	6900	UL 2524
(1)Voice Communication Systems Control Units	6911	UL 864
(1)Voice Communication Accessories	6912	UL 864

Automatic Fire Extinguishing Systems (Non-Water) (7000-7099)

CO ₂ Fire Extinguishing Systems	7050	NFPA 12
Halon 1301 Fire Extinguishing Systems	7080	UL1058/2127/2166/NFPA 12A
Dry Chemical Fire Extinguishing Systems	7082	UL 1254/NFPA 17
Wet Chemical Fire Extinguishing Systems	7085	UL 300/NFPA 17A
Extinguishing Systems Clean Agent	7086	NFPA 2001

(1)Fire Alarm (7100-7499)

Annunciators	7120	UL 864
Fire Alarm Devices for the Hearing Impaired	7125	UL 1971
Audible Devices	7135	UL 464
Audible Devices for Hazardous Locations	7136	UL 464/698/1203/1604, FM 3600/3610

(1) Required to be listed with CSFM

California State Fire Marshal
Description of Category

CSFM
CATEGORY

Applicable
Standard

Boxes/Pull Stations	7150	UL 38
Boxes/Pull Stations for Hazardous Locations	7151	UL 38/698/1203/1604
(2)Cables-Others	7160	UL4/13/444/1569/ NEC 725/800
(2)Cables-Fire Protective Signaling	7161	UL 1424/NEC 760
(2)Cables-Fire Resistive Cables	7162	UL 2196
Control Unit (Non High-Rise)	7165	UL 864
Control Unit (Household)	7167	UL 985
Control Unit-Receiver/Central Station	7168	UL 864
Control Unit (High-Rise)	7170	UL 864
Flame Detector	7210	FM 3260
Mechanical Heat Detector	7230	CSS 12-72-2
Heat Detector (Single/Multiple)	7254	UL 539
Ionization Smoke Detector (Single/Multiple)	7256	UL 217
Photoelectric Smoke Detector (Single/Multiple)	7257	UL 217
Combination Ion/Photo Smoke Detector	7258	UL 217/UL 268
Air Sampling Smoke Detector	7259	UL 268
Beam Smoke Detection System	7260	UL 268
Combination Smoke/CO Ion Smoke Alarm	7262	UL 217/UL 2034
Combination Smoke/CO Photo Smoke Alarm	7263	UL 217/UL 2034
Combination Smoke/CO Ion/Photo Smoke Alarm	7264	UL 217/UL 2034
Heat Detector	7270	UL 521
Ionization Smoke Detector	7271	UL 268
Photoelectric Smoke Detector	7272	UL 268
Smoke Detector for Hazardous Locations	7273	UL 268/698/1203/1604, FM 3600/3610
Heat Detector for Hazardous Locations	7274	UL 521/698/1203/1604, FM 3600/3610
Combination Smoke/CO Photo Smoke Detector	7275	UL 268/UL 2075
Combination Smoke/CO Ion Smoke Detector	7276	UL 268/UL 2075
Combination Smoke/CO/Heat Photo Smoke Detector	7277	UL 268/UL 2075/UL 521
Combination Smoke/CO/Heat Ion Smoke Detector	7278	UL 268/UL 2075/UL 521
Misc. Devices/Control Unit Accessories	7300	Varies
Misc. Signaling Equipment	7305	Varies
Power Units	7315	UL 1481
Speakers	7320	UL 1480
Transmitters	7330	UL 632

(1) Required to be listed with CSFM

(2) NOT Required to be listed with CSFM

Automatic Extinguishing Systems (WATER ONLY) (7500 - 7799)

Pipe/Fittings	7515	Various ANSI
Misc. Accessories	7610	NFPA 13
Sprinkler Heads	7690	UL199/UL1626
Valves/Switches	7770	UL193

Wildland Urban Interface (WUI) (8000-8499)

Decking for Wildland Urban Interface	8110	SFM 12-7A-4
Exterior Windows for Wildland Urban Interface	8120	SFM 12-7A-2
Exterior Wall Siding and Sheathing for Wildland Urban Interface	8140	SFM 12-7A-1
Exterior Door for Wildland Urban Interface	8150	SFM 12-7A-1
Under Eave for Wildland Urban Interface	8160	SFM 12-7A-3

California State Fire Marshal Description of Category	CSFM CATEGORY	Applicable Standard
Vents for Wildland Urban Interface	8165	ASTM E2886
Non Wood Roof Covering /Assemblies for Wildland Urban Interface	8180	ASTM E108

Miscellaneous (8500-9999)

Air Ducts	8530	UL181
Adhesives	8531	UL 723/ASTM E84
(1)Fuel Containers, Portable (Portable Gas Containers)	8610	ASTM F2517-05
Flexible Duct Connectors	8532	UL181
Nonmetallic Ducts	8534	UL181
Sealers/Sealing Bands	8535	UL 723/ASTM E84
Vibration Isolators	8537	UL 723/ASTM E84
Pneumatic Tubing	9285	UL1820
LP Gas Shut-Off Valve	9660	UL125
Child Resistance Portable Fuel Containers ⁽¹⁾	9700	ASTM-F2517-05

(1) Required to be listed with CSFM

DESCRIPTION OF APPLICABLE STANDARDS

UNIFORM BUILDING CODE STANDARDS (UBC)

UBC 15-2	Test Standard for Determining the Fire Retardancy of Roof Assemblies
UBC 15-3	Wood Shakes
UBC 15-4	Wood Shingles

NATIONAL ELECTRICAL CODE (NEC)

2001 CEC	California Electrical Code (1999 NEC with California Amendments)
NEC 725	Class 1, Class 2, and Class 3 Remote-Control, Signaling, and Power-Limited Circuits
NEC 760	Fire Alarm Signaling
NEC 800	Communication Circuits

CALIFORNIA STATE STANDARDS (CSS)

12-3	Releasing Systems for Security Bars in Dwellings
12-10-1	Power Operated Exit Doors
12-10-2	Single Point Latching or Locking Devices
12-10-3	Emergency Exit and Panic Hardware
12-4-1	Smoke and Heat Ventilators (for Stages and Platforms)
12-7A-1	Exterior Wall Siding and Sheathing, Direct Flame Exposure
12-7A-2	Exterior Windows, Direct Flame Exposure
12-7A-3	Under Eave
12-7A-4	Underloaded Deck, Burning Brand Exposure
12-8-1	Fire Resistive Standards for Fire Protection
12-71-1	Air Filters
12-72-1	Protective Signaling Systems
12-72-2	Single and Multi-Station Fire Alarm Devices/Mechanically Operated Type
12-72-3	Smoke Detectors/Combustion Products Type

AMERICAN SOCIETY FOR TESTING MATERIALS (ASTM)

D2843	Test Method for Density of Smoke from the Burning or Decomposition of Plastics
E84	Test Method for Surface Burning Characteristics of Building Materials
E108	Test Methods for Fire Tests of Roof Coverings

AMERICAN SOCIETY FOR TESTING MATERIALS (ASTM) Continued

E119	Test Methods for Fire Tests of Building Construction and Materials
E136	Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C
E163	Test Methods of Fire Tests of Window Assemblies
E814	Test Methods for Fire Tests of Through-Penetration Fire Stops
E2886	Test Method for Evaluating the Ability of Exterior Vents to Resist the Entry of Embers and Direct Flame Impingement

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 12	Carbon Dioxide Extinguishing Systems, 2018 Edition
NFPA 12A	Halon 1301 Fire Extinguishing Systems, 2018 Edition
NFPA 13	Standard for Installation of Sprinkler Systems, 2016 Edition
NFPA 15	Water Sprayed Fixed Systems for Fire Protection, 2017 Edition
NFPA 17	Dry Chemical Extinguishing Systems, 2017 Edition
NFPA 17A	Wet Chemical Extinguishing Systems, 2017 Edition
NFPA 72	National Fire Alarm Code, 2016 Edition
NFPA 80	Standard for Fire Doors and Other Opening Protectives, 2016 Edition
NFPA 96	Ventilation Control and Fire Protection of Commercial Cooking Operations, 2017 Edition
NFPA 252	Standard Methods of Fire Tests of Door Assemblies, 2017 Edition
NFPA 2001	Clean Agent Fire Extinguishing Systems, 2018 Edition

FACTORY MUTUAL (FM)

FM 3260	Flame Radiation Detectors for Automatic Fire Alarm Signaling, 2000 Edition
FM 3600	Electrical Equipment for Use In Hazardous (Classified) Locations General Requirements
FM 3610	Intrinsically Safe Apparatus and Associated Apparatus for Use In Class I, II, III, Division 1 Hazardous (Classified) Locations
FM 6921	Containers for Combustible Waste
FM 3210	Thermostats for Automatic Fire Detection

UNDERWRITERS LABORATORY (UL)

UL 3	Flexible Nonmetallic Tubing for Electric Wiring, 10 th Edition 1999
UL 4	Armored Cable, 15 th Edition 2004
UL 5	Surface Metal Raceways and Fittings, 15 th Edition 2016
UL 9	Fire Tests of Windows Assemblies, 8 th Edition 2009
UL 10B	Fire Tests of Door Assemblies, 10 th Edition 2008
UL 10D	Fire Tests of Fire-Protective Curtain Assemblies, 2 nd Edition 2017
UL 13	Power-Limited Circuit Cables, 4 th Edition 2015
UL 32	Metal Waste Cans, 5 th Edition 1994
UL 33	Heat Responsive Links for Fire Protection Service, 8 th Edition 2010
UL 38	Manually Actuated Signaling Boxes, 8 th Edition 2008
UL 125	Valves for Anhydrous Ammonia and LP-Gas (Other than Safety Relief), 9 th Edition 2014
UL 181	Factory-Made Air Ducts and Air Connectors, 11 th Edition 2013
UL 193	Alarm Valves for Fire-Protection Service, 11 th Edition 2016
UL 199	Automatic Sprinklers for Fire Protection Service, 11 th Edition 2005
UL 217	Single and Multiple-Station Smoke Alarms, as amended, 8 th Edition 2015
UL 228	Door Closers/ HOLDERS, With or Without Integral Smoke Alarms, 5 th Edition 2006
UL 242	Nonmetallic Containers for Waste Paper, 4 th Edition 2015
UL 263	Fire Tests of Building Construction and Materials, 14 th Edition 2011
UL 268	Smoke Detectors for Fire Alarm Systems, 7 th Edition 2016
UL 268A	Smoke Detectors for Duct Applications, 4 th Edition 2008
UL 294	Access Control System Units, 7 th Edition 2018
UL 300	Fire Testing of Fire Extinguishing Systems for Protection of Commercial Cooking Equipment, 3 rd Edition 2010

- UL 325 Door, Drapery, Gate, Louver, and Window Operators and Systems, 7th Edition 2017
- UL 444 Communications Cables, 5th Edition 2017

UNDERWRITERS LABORATORY (UL) Continued

- UL 464 Audible Signal Appliances, 10th Edition 2016
- UL 521 Heat Detectors for Fire Protective Signaling Systems, 7th Edition 1999
- UL 539 Single/Multi Station Heat Detectors, 7th Edition 2017
- UL 555 Fire Dampers, 7th Edition 2006
- UL 555C Ceiling Dampers, 4th Edition 2014
- UL 555S Smoke Dampers, 5th Edition 2014
- UL 632 Electrically Actuated Transmitters, 7th Edition 2000
- UL 698 Industrial Control Equipment for Hazardous (Classified) Locations, 13th Edition 2006
- UL 723 Test for Surface Burning Characteristics of Building Materials, 11th Edition 2018
- UL 779 Electrically Conductive Floorings, 8th Edition 2011
- UL 790 Tests for Fire Resistance of Roof Covering Materials, 8th Edition 2004
- UL 864 Control Units for Fire-Protective Signaling Systems, 10th Edition 2014
- UL 884 Underfloor Electric Raceways and Fittings, 13th Edition 2016
- UL 894 Switches for use in Hazardous (Classified) Locations, 7th Edition 2009
- UL 924 Emergency Lighting and Power Equipment, 10th Edition 2016
- UL 985 Household Fire Warning System Units, 6th Edition 2015
- UL 1058 Halogenated Agent Extinguisher System Units, 4th Edition 2006
- UL 1203 Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for Use in Hazardous (Classified) Locations, 5th Edition 2013
- UL 1254 Pre-Engineered and Engineered Dry and Pre-Engineered Wet Chemical Extinguishing System Units, 4th Edition 2013
- UL 1256 Fire Test of Roof Deck Construction, 4th Edition 2002
- UL 1424 Cables for Power-Limited Fire Protective Signaling Circuits, 4th Edition 2015
- UL 1449 Transient Voltage Surge Suppressors, 4th Edition 2014
- UL 1480 Speakers for Fire Protective Signaling Systems, 6th Edition 2016
- UL 1481 Power Supplies for Fire Protective Signaling Systems, 5th Edition 2006
- UL 1484 Residential Gas Detectors, 5th Edition 2016
- UL 1567 Receptacles and Switches Intended for Use With Aluminum Wire, 5th Edition 2012
- UL 1569 Metal-Clad Cables, 5th Edition 2018
- UL 1604 Electrical Equipment for Use in Class I and II, Division 2 and Class III Hazardous (Classified) Locations, 3rd Edition 1995
- UL 1626 Residential Sprinklers for Fire Protection Service, 1st Edition 2003
- UL 1638 Visual Signaling Appliances Private Mode Emergency and General Utility Signaling, 5th Edition 2016
- UL 1730 Smoke Detector Monitors and Accessories (Annunciators) for Individual Living Units of Multifamily Residence and Hotel/Motel Rooms, 4th Edition 2006
- UL 1784 Air Leakage Tests for Door Assemblies, 4th Edition 2015
- UL 1820 Fire Test of Pneumatic Tubing for Flame and Smoke Characteristics, 4th Edition 2004
- UL 1971 Signaling Devices for the Hearing Impaired, 3rd Edition 2002
- UL 1994 Luminous Egress Path Marking Systems, 4th Edition 2015
- UL 2034 Single and Multiple Station Carbon Monoxide Alarms, 4th Edition 2017
- UL 2075 Gas and Vapor Detectors and Sensors, 2nd Edition 2013
- UL 2079 Tests for Fire Resistance of Building Joint Systems, 5th Edition 2015
- UL 2196 Tests for Fire Resistive Cables, 2nd Edition 2017
- UL 2524 In-Building 2-Way Emergency Radio Communication Enhancement Systems, 1st Edition 2018

SECTION 01 4200 REFERENCES

PART 1 – GENERAL

1.1. SUMMARY

A. Section includes:

1. Specification Format and Content Explanation
2. Definitions
3. Reference Standards
4. Abbreviations and Acronyms

1.2. SPECIFICATION FORMAT AND CONTENT EXPLANATION

- A. Specification Format: These Specifications are organized into Divisions and Sections based on the 49-division format and CSI/CSC's "Master Format" numbering system.
- B. Specification Content: These Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be interpolated as the sense requires. Singular words shall be interpreted as plural and plural words interpreted as singular where applicable as the context of the Contract Documents indicates.
 2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by the Contractor. At certain locations in the Text, subjective language is used for clarity to describe responsibilities that must be fulfilled indirectly by the Contractor or by others when so noted.
 - a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon is used within a sentence or phrase.

1.3. DEFINITIONS

- A. "Indicated": The term "indicated" refers to graphic representations, notes, or schedules on the Drawings; or to other paragraphs or schedules in the Specifications and similar requirements in the Contract Documents. Terms such as "shown," "noted," "scheduled," "detailed" and "specified" are used to help the user locate the reference. Location is not limited.
- B. "Directed": Terms such as "directed," "requested," "authorized," "selected," "approved," "required," and "permitted" mean directed by the University's Representative or University, requested by the University's Representative or University, and similar phrases.
- C. "Approved": The term "approved," when used in conjunction with the University Representative's action on the Contractor's submittals, applications, and requests, is limited to the University Representative's duties and responsibilities as stated in the Conditions of the Contract.
- D. "Regulations," "building code," "code": The terms "regulations," "building code", and "code" include laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.

- E. “Furnish”: The term “furnish” means to supply and deliver to the Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- F. “Install”: The term “install” describes operations at the Project site including the actual unloading, temporary storage, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing protecting, cleaning, and similar operations.
- G. “Provide”: The term “provide” means to furnish and install, complete in place, operating, tested, approved, and ready for the intended use.
- H. “Installer”: An installer is the Contractor or another entity engaged by the Contractor, either as an employee, subcontractor, or contractor of lower tier, to perform a particular construction activity, including installation, erection, application, or similar operations. Installers are required to be experienced in the operations they are engaged to perform.
 - 1. Unless specified otherwise in other Sections, the term “experienced,” when used with the term “installer,” means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with the special requirements indicated; and having complied with requirements of authorities having jurisdiction.
 - 2. Trades: Using a term such as “carpentry” does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as “carpenter.” It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.
- I. “Project site” is the space available to the Contractor for performing construction activities, either exclusively or in conjunction with others performing other work as part of the Project. The extent of the Project site is shown on the Drawings and may or may not be identical with the description of the land on which the Project is to be built.
- J. “Testing Agencies”: A testing agency is an independent entity engaged to perform specific inspections or tests, either at the Project site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.
- K. “Similar”: The term “similar” means in the general sense and not necessarily identical.
- L. See also the Instructions to Bidders and General Conditions.

1.4. REFERENCE STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
 - 1. Requirements for packaging, packing, marking, and preparation for shipment or delivery included in referenced federal specifications are not mandatory for products provided for this Work.
- B. Publication Dates: Comply with the standards in effect as of the date of the Contract Documents except where a specific publication date or issue is included with the reference in other Sections of these Specifications.
 - 1. When a named or proposed product complies with a referenced standard of different publication date or issue than required by these Specifications, submit the product as a substitute under provisions of Division 1 Section “Substitutes.” Provide a detailed written summary of changes in product or workmanship quality and performance as a

result of the product complying with a different version of a standard from the version referenced.

- C. **Conflicting Requirements:** Where compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different but apparently equal to the University’s Representative for a decision before proceeding.
 - 1. **Minimum Quantity or Quality Levels:** The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicate numeric values are minimum or maximum, as appropriate, for the context of the requirements. Refer uncertainties to the University’s Representative for a decision before proceeding.
 - 2. Where a product is specified by both brand name and reference to 1 or more standards, provide that product only if it actually complies with the required standards. Listing of a product by brand or trade name in these Specifications is not a warranty that the product complies with the standards which may also be listed. If a named product does not comply with 1 or more of the required standards and no alternative product is listed which does comply, submit a substitute product under provisions of Division 1 Section “Substitutes” which complies with the required standards.

- D. **Copies of Standards:** Each entity engaged in construction on the Project must be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
 - 1. Where copies of standards are needed to perform a required construction activity, the Contractor shall obtain copies directly from the publication source and make them available on request.

1.5. ABBREVIATIONS AND ACRONYMS

- A. **Trade Abbreviations and Association Names:** Trade association names and titles of general standards are frequently abbreviated. The following abbreviations and acronyms, as referenced in the Contract Documents, mean the associated names. Names and addresses are subject to change and are believed, but not assured, to be accurate and up-to-date as the date of the Contract Documents.

- B. **Federal Government Agencies:** Names and titles of Federal Government standards- or specification-producing agencies are often abbreviated. The following abbreviations and acronyms referenced in the Contract Documents indicate names of standards- or specification-producing agencies of the Federal Government. Names and addresses are subject to change and are believed, but are not assured, to be accurate and up-to-date as of the date of the Contract Documents.

- C. The following are commonly used abbreviations which may appear in the Project Manual. Refer to Construction Specifications Institute Document TD-2-4 “Abbreviations” for explanation of other abbreviations.

C	degree Centigrade
Co.	Company
Corp.	Corporation
F	degree Fahrenheit
ft.	foot (feet)
ga.	gage or gauge
gal.	gallon(s)

in.	inch(es)
Inc.	Incorporated
HVAC	Heating, Ventilating and Air Conditioning
lb(s).	pound(s)
o.c.	on center
psi	pounds per square inch
psf	pounds per square foot
sq.	square
yd.	yard(s)

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION

SECTION 01 4300 INSPECTION OF WORK

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes, without limitation, the following:
 - 1. Access to the Work
 - 2. Testing and Approval
 - 3. University's Inspectors
 - 4. Inspection Requests
 - 5. Inspection Request Form
 - 6. Nonconforming Work Notice
- B. The University will provide a Project Inspector or Inspector of Record (IOR) for this project. Contractor shall not cover any work requiring inspection until the IOR has inspected and approved the subject work. For uncovering of work, refer to General Conditions, Article 12.

1.2 ACCESS TO THE WORK

- A. In addition to the requirements of the General Conditions, University, University's Representative and their representatives shall at all times have access to the Work wherever it is in preparation or progress and Contractor shall provide safe and proper facilities for such access and for inspection. The inspection and written acceptance of material and workmanship, unless otherwise stated in these Specifications, shall be final except as provided in Article 12.2 of the General Conditions.

1.3 TESTING AND APPROVAL

- A. In addition to the requirements of the General Conditions, if any law, ordinance or public authority or the Specifications or University's Representative's instructions require any work to be specially tested or approved (including use of ionizing radiation for radiography), Contractor shall give University's Representative timely notice of its readiness for inspection, and if the inspection is by another authority, other than University's Representative, of the date fixed for such inspection.
- B. Re-examination of questioned work may be ordered by University's Representative.

1.4 UNIVERSITY'S INSPECTORS

- A. The IOR shall work in close coordination with the University's Representative findings of completed inspections. The IOR is a direct report to the Director of Building, Safety and Emergency Management. The IOR shall observe construction in progress and shall have the following responsibilities and limitations on authority.
 - 1. Act in coordination with the University's Representative.
 - 2. Observe installation and work in progress as a basis for determining conformance of the work, materials and equipment with the Contract Documents. IOR will report any discrepancies observed to University's Representative and Contractor. Only University's Representative has the final authority to make approvals or rejections.
 - 3. Only University's Representative shall interpret the requirements of the Contract Documents. If any item is ambiguous, University's Representative shall make a written interpretation. If Contractor requests changes or modifications to the Contract Documents, University's Representative shall make a written

determination on the requested changes or modifications.

4. Prepare and submit an inspection report to University's Representative for each inspection performed.
 5. Review application for payments.
 6. Assist University's Representative in reviewing the test and inspection results of testing laboratories.
 7. The IOR is not authorized to permit deviations from the requirements of the Contract Documents unless such deviation has been approved by University's Representative in writing.
 8. The IOR shall not supervise, coordinate, or direct the Work. The IOR has no responsibility or control over Contractor's construction means, methods, techniques, sequences, procedures, or coordination of any portions of the Work, or over any safety programs in connection with the Project.
- B. The failure of University, University's Representative and its representatives and consultants, or University's IOR to observe or inspect the Work, or to detect deficiencies in the Work, or to inform Contractor of any deficiencies which may be discovered, shall not relieve Contractor, its subcontractors regardless of tier, or suppliers from their responsibility for construction means, methods, techniques, sequences and procedures, construction safety, nor from their responsibilities to carry out the work in accordance with the Contract Documents and to detect and correct defective work as defined in the General Conditions.

1.5 INSPECTION REQUESTS

- A. Contractor shall request inspection of completed portions of the Work through University's Representative, using the UC Riverside Department of Building and Safety, Inspection Request Software. Contractor shall submit a request for inspection using University's Inspection Request Software, with instructions for using that software attached to the end of this Section.
1. Contractor shall submit an Inspection Request **at least 3 working days prior** to the time the work will be ready for inspection.
 2. For work to be inspected by a third party testing laboratory, whether Contractor's or University's, Contractor shall submit an Inspection Request **at least 3 working days prior** to the time the work will be ready for inspection.
 3. For work not in conformance with the Contract Documents, the IOR shall submit to the Contractor a Nonconforming Work Notice.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

- 2.1 Refer to the Inspection Request Software instructions attached at the end of this Section.
- 2.2 Refer to the Nonconforming Work Notice form attached at the end of this Section.

END OF SECTION

INSPECTION REQUEST SOFTWARE INSTRUCTIONS

INSPECTION REQUEST INSTRUCTIONS USING THE **CFORMS** and/or new **Campus Building Permit Citizenserve Inspection Request Process**.

NOTE: The CForms Inspection Request Process is to be used only for Campus Building Permit numbers B21-510 and lower. The new Campus Building Permit Citizenserve Portal is required to be used for all Campus Building Permit numbers B21-511 and above.

1. **CForms**-For inspection requests using the older CForms Inspection Request System, log into <http://ucr.cforms.net>. Follow instructions.
2. **Citizenserve**-For newer Campus Permit Inspection Requests, Create an account and log into the new Campus Building Permit Citizenserve System. This can now be found on the PD&C website or "Copy and paste" <https://citizenserve.com/ucr> and then follow the instructions provided.
3. Complete Automated Inspection Request Form
4. Select your Permit # from the drop-down menu and request the inspection you need.
5. In either system, a notification will go out to the inspector on the project., advising them that there is an inspection request pending their review.
6. Once requested inspection is conducted, the IOR will input the disposition into Inspection Request system (approved, disapproved, corrections, etc.). There may be other attachments such as reports, photos, notes, etc., added to the inspection request disposition as well.
7. Results of the inspection is input fter the inspection in real-time and it can be viewed by all parties real-time. . Inspectors may also upload photos and other documents and attach them to the inspection file in the Inspection Request System
8. Completed "As-Built" plans of project shall be provided to Inspector of Record (IOR) prior to final inspection signature is allowed.
9. Once the work is completed, request a final inspection and a final inspection will be conducted. If approved, the permit will be signed as approved and complete., and a Certificate of Occupancy will be prepared for signature by the Campus Fire Marshal and Campus Building Official

NOTE: If you are not already associated with a permit, a request to be added to that specific permit must be completed prior to an inspection request being submitted. *Access to Specific Permits must be granted by the Building and Safety Division. Contact Lezlie Howard at the Building and Safety Division for authorization and assistance in gaining access to these specific permits.

NONCONFORMING WORK NOTICE
NUMBER: _____
DATE: _____

TO:

FROM:

SPEC. SEC. REF.: _____ PARA: _____ DWG REF: _____ DETAIL: _____

DESCRIPTION OF DEFECTIVE CONDITION (IOR): _____

REPORTED BY (IOR): _____

CORRECTIVE ACTION SHOULD BE TAKEN AS SOON AS POSSIBLE AND COORDINATED WITH THE INSPECTOR OF RECORD (IOR). IF FURTHER INFORMATION IS NEEDED, ADVISE THE UNIVERSITY'S REPRESENTATIVE IMMEDIATELY.

DESCRIPTION OF CORRECTIVE ACTION TAKEN (CONTRACTOR): _____

ACCEPTED BY (CONTRACTOR): _____ **DATE:** _____

UCR USE ONLY

ACCEPTANCE OF CORRECTED DEFECTIVE CONDITION (IOR): _____

ACCEPTED BY (IOR): _____ **DATE:** _____

COPIES: UNIVERSITY CONSULTANT CONTRACTOR

**SECTION 01 4339
MOCKUPS**

PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes:

1. Design and Performance Requirements
2. Submittals
3. Quality Assurance
4. Materials
5. Examination
6. Construction
7. Review and Acceptance
8. Maintenance
9. Removal and Salvage
10. Mockup Schedule

B. Mock-ups will be used to demonstrate aesthetic effects and, where indicated, qualities of materials and execution, and to review construction, coordination, interface, testing, and operation of various building components.

1. Construction of a free-standing, on-site, building wall mock-up on site.
2. Representative Residential Unit
3. Additional Material Mock-Ups: As required by the Specifications Sections.

C. Related Requirements:

1. Review requirements specified in other Sections for materials incorporated into the mock-ups.

1.2 DESIGN AND PERFORMANCE REQUIREMENTS

A. Design Concept: Wall mock-up is intended to permit verification of workmanship and visual qualities of the final completed installation.

B. Include, as part of wall mock-up as applicable, required shoring and bracing to support mock-up.

C. Mock-ups may be subjected to inspections, but are not intended for formal performance testing unless specified.

D. Make necessary additions and modifications to the details shown on the Drawings as may be required to comply with specified performance requirements while maintaining the design concept.

E. Accepted mock-ups shall be used as a visual standard for the final installation and, to the extent tested, performance requirements specified.

1.3 SUBMITTALS

A. General:

1. Review all Sections.
2. Procedures: In accordance with Section 01 3300, "Submittals."

B. Action Submittals:

1. Samples: Initial samples for materials to be incorporated into each mock-up shall be reviewed and approved prior to providing materials for mock-up and mock-up construction. Where actual final finished materials are not available for inclusion in mock-up, facsimile materials shall be submitted for approval.

C. Informational Submittals:

1. Although a temporary structure, Contractor shall submit documentation that building mock-up has been fabricated to meet structural requirements if requested by governing authorities.
2. Report of field testing on window elements of mock-up if testing is required.

1.4 QUALITY ASSURANCE

- A. Mock-up components shall be finished as required for completed installation including selected colors.
- B. Obtain approval from University's Representative of all mock-ups before starting work, fabrication or construction.
- C. Allow in Construction Schedule a minimum of 7 days for initial review and each re-review of each mock-up.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. General: Materials for the mock-up shall be as shown and specified in the Specification Sections.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine site and area established by the University's Representative to receive free standing mock-up and conditions under which mock-up is to be constructed. Deficiencies shall be brought to the attention of the University's Representative and corrected as directed.

3.2 CONSTRUCTION

- A. Mock-ups shall be erected on site within the limits of work at a location to be determined by the University's Representative.
- B. Construct mock-ups as shown on Drawings and in accordance with reviewed submittals, complete with all required fastenings, bracing, and other elements, plumb and true, firmly erected and anchored.
- C. Anchorage and assembly shall conform to code requirements including seismic stability. Retaining a licensed engineer to assure mock-ups meet code requirements is the responsibility of the Contractor.
- D. Coordinate mock-up construction with delivery and assembly of related materials and components to be included in the mock-up.

3.3 REVIEW AND ACCEPTANCE

- A. Upon completion of mock-up construction, notify University's Representative and make arrangements for review, evaluation, and any testing required by University's Representative.
 - B. Modify mock-ups, or construct new components if requested by University's Representative until final acceptance is obtained.
 - C. Following acceptance, mock-ups shall remain on site and shall be readily identifiable to serve as a visual standard of quality and appearance of the work it represents, including interface with adjacent materials and components.
- 3.4 MAINTENANCE
- A. Maintain mock-ups in a clean condition and as approved by University's Representative.
- 3.5 REMOVAL AND SALVAGE
- A. Remove mock-ups prior to completion of Project but not before the work they are being used to judge has been accepted by University's Representative.
 - B. Where appropriate, accepted mock-ups and field samples may be incorporated into the finished work subject to approval of University's Representative.
- 3.6 MOCK-UP SCHEDULE
- A. Erect the full-size, representative exterior building wall mock-up as shown on the Drawings. As a minimum, this mock-up shall show the following components and materials.
 - 1. All exterior finish materials included in cement plaster and cladding systems of fiber cement siding, sheet meal panels, and brick veneer.
 - 2. Storefront and single hung windows, including exterior sun control.
 - 3. Underlayments and flashings; reviewed before installation of finish materials and windows.
 - 4. Include, as part of wall mock-up as applicable, required shoring and bracing to support mock up.
 - B. Residential Unit:
 - 1. Typical unit components of kitchen, bath and vanity.
 - 2. Kitchen, bath and vanity casework.
 - 3. Appliances (actual or dummy)
 - C. Additional Mock-Ups and Field Samples: As specified in other Sections.

END OF SECTION

SECTION 01 4500 QUALITY CONTROL

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for quality-control services, without limitation, the following:
 - 1. Contractor's Responsibilities
 - 2. Tests and Inspections
 - 3. Test Reports
 - 4. Geotechnical Engineer and Other Special Inspection and Testing
 - 5. Repair and Protection
- B. Quality-control services include inspections, tests, and related actions, including reports performed by Contractor, by independent agencies, and by governing authorities. They do not include contract enforcement activities performed by University's Representative.
- C. Special Inspection and testing services are required to verify compliance with requirements specified or indicated. They shall be coordinated with the Project IOR in order for the IOR to accompany the Special Inspector on these inspections and testing services. These services do not relieve Contractor of responsibility for compliance with Contract Document requirements, and are in addition to the regular daily IOR inspections which are required by California Building Standards Codes, project documentation, contracts and the Authority Having Jurisdiction, UC Riverside DCFM, and UC Riverside CBO and project IOR (AHJ),
- D. Requirements of this Section relate to customized fabrication and installation procedures, not production of standard products.
 - 1. Specific quality-control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
 - 2. Specified special inspections, tests, and related actions do not limit Contractor's quality-control procedures that facilitate compliance with Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-control services, required by University's Representative, are not limited by provisions of this Section.
- E. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 1 Section "Cutting and Patching" specifies requirements for repair and restoration of construction disturbed by special inspection and testing activities.

1.2 DEFINITIONS

- A. The term "University's Testing Laboratory" means a third-party independent testing laboratory retained and paid for by the University for the purpose of performing the testing services required by the Contract Documents except where specifically noted to be done by contractor, reviewing material and product reports, and performing other services as determined by University's Representative.
- B. The term "Contractor's Testing Laboratory" means a testing laboratory retained and paid for by Contractor to perform the testing services which are required by the Contract Documents to be performed by Contractor. Contractor's Testing Laboratory shall be an organization other than University's Testing Laboratory and shall be acceptable to University's Representative. It may be a commercial testing organization or the testing

laboratory of a trade association. Contractor's Testing Laboratory shall have performed testing of the type specified for at least five (5) years and shall maintain a separate General and Professional Liability Insurance, (Errors and Omissions,) in amount not less than one million dollars (\$1,000,000) each.

- C. Tests, special inspections, and acceptances of portions of the Work required by the Contract Documents or by Applicable Code Requirements shall be made at the appropriate times. Contractor shall give University's Representative timely notice of when and where tests and special inspections are to be made and/or required regardless whose Testing Laboratory will perform the tests and special inspections.
- D. If such procedures for testing, special inspection, or acceptance reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, Contractor shall bear all costs made necessary by such failure including those of repeated procedures and compensation for University's Representative's services and expenses.
- E. If University's Representative is to observe tests, special inspections, or make acceptances required by the Contract Documents, University's Representative will do so promptly upon 3 days advance written notice and, where practicable, at the normal place of testing.
- F. Tests or special inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

1.3 CONTRACTOR'S RESPONSIBILITIES

- A. Secure and deliver to Contractor's Testing Laboratory adequate quantities of representative samples of materials proposed for use as specified.
- B. Submit to University's Testing Laboratory the preliminary design mixes proposed to be used for concrete and other materials which require review by University's Testing Laboratory.
- C. Submit copies of product test reports as specified.
- D. Furnish incidental labor and facilities, as required:
 - 1. To provide University's Testing Laboratory access to the Work to be tested.
 - 2. To obtain and handle samples at the Project site or at the source of the product to be tested.
 - 3. To facilitate special inspections and tests.
 - 4. For storage and curing of test samples.
- E. Provide written notice to University's Representative sufficiently in advance (a minimum of 3 days) of operations to allow for University's Testing Laboratory assignment of personnel and scheduling of tests.
- F. When tests or special inspections are not performed after such notice, Contractor shall reimburse University for University's Testing Laboratory personnel and travel expenses incurred.

1.4 TESTS AND SPECIAL INSPECTIONS

- A. Certain portions of the Work will be tested, inspected, or both, at various stages. Nothing in any prior acceptance or satisfactory test result shall govern, if at any subsequent time the Work, or portion thereof, is found not to conform to the requirements of the Contract Documents.
- B. If initial tests or special inspections made by University's Testing Laboratory's Geotechnical Engineer reveal that any portion of the Work does not comply with Contract Documents,

or if University's Representative determines that any portion of the Work requires additional testing or inspection, additional tests and inspections shall be made as directed.

- C. If such additional tests or inspections establish that such portion of the Work fails to comply with the Contract Documents, all costs of such additional tests and special inspections, and all other costs resulting from such failure, including compensation for University's Representative and University Representative's Consultants shall be deducted from the Contract Sum.
- D. Fixtures, equipment, materials, and other items removed, demolished, abandoned, or capped and left in place, shall be tested to verify that there is no damage caused after the items have been covered by construction.

1.5 TEST REPORTS

- A. University's Testing Laboratory and Contractor's Testing Laboratory shall submit five (5) copies of all reports to University's Representative, indicating observations and results of tests and indicating compliance or non-compliance with the Contract Documents.

1.6 GEOTECHNICAL ENGINEER AND OTHER SPECIAL INSPECTION AND TESTING

- A. The University shall retain and pay the expenses of a Geotechnical Engineer and materials testing, inspection and observation services consultant ("TIO Consultant") to perform inspection, testing, and observation functions specified by the University. Geotechnical Engineer and such other TIO Consultant shall communicate only with University and University's Representative. University's Representative shall then give notice to Contractor, with a copy to the University, of any action required of Contractor.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

- A. General: Upon completion of special inspection, testing, sample taking and similar services, repair damaged construction and restore substrates and finishes. Comply with Contract Document requirements for Division 1 Section "Cutting and Patching."
- B. Protect construction exposed by or for quality-control service activities, and protect repaired construction.
- C. Repair and protection is Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing, or similar services.

END OF SECTION

**SECTION 01 4516
CONTRACTOR'S QUALITY CONTROL PROGRAM**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. This Section includes, without limitation, the following:
 - 1. Quality Control Program
 - 2. Submittals
 - 3. Qualifications of Quality Control Manager
 - 4. Reporting Procedures
 - 5. Implementation

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

1.2 SUMMARY

- A. This Section describes the requirements for implementation of a Quality Control Program by the Contractor to assure performance of the Work in conformance with the provisions of the Contract Documents.

- B. Related Work Specified Elsewhere:
 - 1. Testing and Special Inspection Services of Quality Control are specified in Section 01 4500, "Quality Control."

1.3 QUALITY CONTROL PROGRAM

- A. The Contractor shall prepare and submit within thirty (30) days after the issuance of Notice to Proceed, the Quality Control Program (QCP) they intend to implement for the Work for approval by the University. This Program shall be tailored to the specific requirements of the Work and shall become an active part of the construction procedures. The Quality Control Program shall include the procedures, instructions, reports and forms to be used throughout the performance of the Work. The University reserves the right to review and reject all or part of the Quality Control Program as proposed by the Contractor. The Contractor shall revise and resubmit as appropriate until satisfactory to the University. The basic objectives of the Quality Control Program are as follows:
 - 1. To ensure that all Work adheres strictly to all provisions of the Contract Documents and governing agencies.
 - 2. To produce good quality workmanship.
 - 3. To prevent deficiencies through pre-construction quality control coordination.
 - 4. To detect and correct deficiencies in a timely manner.
 - 5. To provide an auditable record of all tests, inspections, procedures, non-compliance and corrections, and any other pertinent data as required by the University.

- B. The Contractor shall notify the University in writing of any proposed change to their Quality Control system and changes shall not be permitted if they would, in the opinion of the University, result in nonconformance with the Contract requirements.

- C. The Contractor may select either an outside "agency" or in-house personnel to administer the program. In either case, the Quality Control staff on-site shall be responsible only for Quality Control and the Quality Control Manager shall report directly to the Contractor's highest ranking

Corporate Officer involved in the Work. Quality Control staff members shall interface with the University, its Inspectors and Consultants, as required and appropriate.

1.4 SUBMITTALS

- A. The Quality Control Program submittal shall include, as a minimum, the following:
1. The Quality Control organization chart, beginning with the Quality Control Manager, shall include Quality Control personnel as may be necessary to accomplish complete and adequate inspection of the Work.
 2. Names and qualifications of personnel and firms selected to implement the Quality Control Program on-site and off-site.
 3. Authority and responsibility of the Quality Control Staff.
 4. Methods of Quality Control inspection including subcontractor's work and describing name of qualified testing laboratory to be used, if applicable.
 5. Documents to be used to record inspections and tests, including those specified in the Contract.
 6. Formats for documentation and reports.
 7. Model agenda for Quality Control Meetings
 8. A letter signed by the Responsible Managing Officer of the Contractor's firm outlining the authority of the Quality Control Manager to include, among other things, the authority as described herein. Clerical personnel sufficient to accomplish timely submittal of Quality Control Reports and other required documentation shall be provided.

1.5 QUALIFICATION OF QUALITY CONTROL MANAGER

- A. The minimum qualifications required of the Quality Control Manager are as follows:
1. Has recent construction experience in projects of similar size and nature.
 2. Has ten (10) years' experience performing construction-related work on Type I or II buildings.
 3. Has seven (7) years' experience performing Quality Control services on Type I or II multi story projects. At least 3 years must be on projects in California.
- OR
4. Has recent construction experience in projects of similar size and nature.
 5. Possess current certification issued by State of California OSHPD Class A level or DSA Class 1 level.
 6. Has seven (7) years' experience performing Quality Control work or inspection services on multi story Type I or II projects. At least 3 years must be on projects in California.
- OR
7. Possess an undergraduate degree in architecture, civil engineering or construction management.
 8. Has five years (5) performing Quality Control services or inspection experience on Type I or II multi story buildings. At least 3 years must be on projects in California.
 9. Possess at least four special inspector current certifications issued by ICC.
- B. Responsibilities and Duties of the Quality Control Staff:
1. The Quality Control Manager shall have the authority to stop work, reject work, order work removed, initiate remedial work, propose solutions, and reject material not in compliance with the Contract Documents.
 2. Responsibilities of the Quality Control Manager shall include, but are not limited to the following:
 - a. Present on-site during all working hours and assigned "full time" to this Project. Contractor shall designate alternate individual(s) to assume responsibilities in the temporary absence of the Quality Control Manager or when overtime work is being performed.
 - b. Have complete familiarity with the Drawings and Specifications.

- c. Establish and implement Quality Control Programs for the Contractor and with the various Subcontractors and monitor their conformance.
- d. Present samples, mock-ups and test panels to be used as standards of quality for review by the University and their Consultants.
- e. Inspect existing conditions prior to the start of new work segments.
- f. Perform in-progress and follow-up inspections on each work segment to ensure compliance with the Contract Documents. Accompany the University and their Consultants on such inspections.
- g. Coordinate required tests, inspections, and demonstrations with the University's IOR inspectors, consultants and any other authority having jurisdiction.
- h. Inspect all materials and equipment arriving at the job site to ensure conformance to the provisions of the Contract Documents. Prepare and submit to the University written reports as required by the Contract Documents.
- i. Identify, report and reject defective Work or Work not in conformance with the Contract Documents. Monitor the repair or reconstruction of rejected Work.
- j. Develop checklists to be used for the inspection of each Division of the Work.
- k. Retain specialists or outside firms for inspection of Work in areas where additional technical knowledge is required (mechanical, electrical, electronics, controls, communications, security, welding, structural, security hardware, etc.).
- l. Schedule additional site visits where appropriate.
- m. Verify and report that all materials and equipment manufactured off-site are in conformance with the Contract Documents.
- n. Prior to the start of each Division, Section and/or major item of Work required by the Contract Documents, conduct a preconstruction Quality Control meeting with responsible field and office representative and the University and their Consultants. Provide the University and their Consultants minutes of these meetings within forty-eight (48) hours.
- o. Work closely with the University to ensure optimum Quality Control. Attend Project meetings as required by the University.

1.6 REPORTING PROCEDURES

- A. As a minimum, develop forms, logs and reporting procedures consisting of the following:
 1. A Quality Control meeting shall be held at least monthly between the University, Consultants and the Quality Control Manager during which only Quality related topics will be reviewed.
 2. A monthly written report published at month end providing an overview of Quality Control activities, problems found and/or solved, status of remedial work, status of mock-ups, anticipated problems and planned activities for the coming month, etc.
 3. Deficiency reports: Plan of action by the Contractor for correcting any known contract deficiencies including delay in scheduled progress.
 4. Weekly reports (including reports from Contractor and Subcontractors) to the University describing:
 - a. Equipment and material received.
 - b. Tests and inspections performed with submittal information.
 - c. Deficiencies noted and/or corrected.
 - d. Quality Control concerns and problems.
 - e. Record keeping (as required).

1.7 IMPLEMENTATION

- A. The Contractor's Quality Control program shall be adequate to cover all operations, including both on-site and off-site and will be keyed to the proposed sequence of work and shall include as a minimum at least three (3) phases of inspection for all definable items or segments of work, as follows:
 1. Preparatory inspection shall be performed prior to beginning any work on any definable segment of the Work and shall include a review of Contract requirements; verification that

all materials and/or equipment have been tested, submitted, and accepted; verification that provisions have been made to provide required control testing; examination of the work area to ascertain that all preliminary work has been completed; and a physical examination of materials and equipment to assure that they conform to accepted shop drawings or submittal data and that all material and/or equipment are available. As a part of this preparatory work, Contractor's Quality Control organization will review and verify that all documents, including but not limited to; shop drawings, submittal data, method of Quality Control, product data sheets, test reports, affidavits, certification and manufacturer's instructions have been submitted and accepted by the University as required herein. Each submittal to the University shall bear the date and the signature of the Contractor's Quality Control Manager indicating that he has reviewed the submittal and certified it to be in compliance with Drawings and Specifications or showing the required changes.

2. Initial Inspection: To be performed as soon as a representative segment of the particular item of work has been accomplished and to include examination of the quality or workmanship and a review of control testing for compliance with Contract requirements, exclusion of defective or damaged materials, omissions, and dimensional requirements.
3. Follow-up Inspection: To be performed daily or as frequently as necessary to ensure continuing compliance with Contract requirements, including control testing, until completion.
4. The Contractor shall maintain daily current records with information as described above, in an appropriate format of all inspections and tests that the required inspection or tests have been performed. These records must cover both conforming and defective items and must include a statement that all supplies and materials, incorporated in the Work, are in full compliance with the terms of the Contract. Two legible copies must be furnished to the University. The report will cover all work performed or completed subsequent to the previous report.

END OF SECTION

**SECTION 01 4520
CONCRETE MOISTURE TESTING**

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Administrative Requirements
2. Information Submittals
3. Quality Assurance
4. Field Conditions
5. Materials for Test Procedures
6. Preparation
7. Testing: Testing for moisture vapor emission at concrete floors scheduled to receive applied floor coverings. Testing required at:
 - a. New concrete floor slabs on grade.
 - b. New elevated concrete floors where floor coverings are to be installed.
 - c. New wood flooring over concrete sub floor.
8. Installation Control Measures

1.2 ADMINISTRATIVE REQUIREMENTS

- A. Submittal Procedures:** In accordance with Section 01 3300, "Submittals."

1.3 INFORMATIONAL SUBMITTALS

A. Quality Control:

1. Qualifications of personnel or laboratory to perform testing.
2. Results of substrate moisture testing for each location and maximum allowable levels specified in respective Specification Sections for the intended floor finish.

1.4 QUALITY ASSURANCE

- A.** If areas of concrete are not within the floor covering manufacturer's maximum allowable emission rate and slab area fails the moisture test, do not proceed with installation and notify the University's Representative.

1.5 FIELD CONDITIONS

A. Ambient Conditions:

1. Area to be tested shall match that of the finished floor covering.
9. Doors, windows, and roofing shall be installed and the temperature of the building interior environment shall be controlled.
10. Interior temperature shall be 75 degrees F, plus or minus 10 degrees F (23.9 degrees C plus or minus 5.5 degrees C).
4. Relative humidity shall be 50 percent, plus or minus 10 percent.
5. Maintain the above conditions for 48 hours prior to and throughout the duration of the tests.

PART 2 - PRODUCTS

2.1 MATERIALS FOR TEST PROCEDURES

A. Acceptable MVER Tests:

1. Calcium chloride test kits shall be pre-packaged and of commercial consistency; American Moisture Test, Inc., Tustin, CA, or equal. Kit shall include sealed dish of anhydrous calcium chloride, a metering dome with gasket, and instructions.
2. Relative humidity (RH) probe that has been verified for accuracy within the past year.

B. Alkalinity Tests: Test kit by American Moisture Test, Inc., Tustin, CA, or equal pH meter.

PART 3 – EXECUTION

3.1 PREPARATION

- A. Clean concrete surfaces of any residues resulting from pour of concrete which will affect the moisture vapor drive.
- B. Plastic dome of test kit shall be sealed airtight to prevent ambient humidity from influencing the test results.

3.2 TESTING

- A. Perform tests on concrete slabs to determine moisture vapor emission based on the Moisture Vapor Emission Rate (MVER) content in accordance with ASTM F1869 or F2170, and alkalinity in accordance with ASTM F710. No testing shall be performed during non-acclimated periods. Results of these tests will be used to determine suitability of substrate to receive flooring materials. Perform two sets of tests, at 60 days and again at 14 days before the start of flooring installation.
- B. Test Kit: Comply with ASTM F1869 and the following.
 1. Verify temperature of slab is up to service temperature.
 2. Duration of MVER test shall be 60 to 72 hours.
 3. Dish shall be measured one-hour before and one-hour after testing with weight calculated within 0.1 grams.
- C. RH Probe: Comply with ASTM F2170 and the following.
 1. Verify concrete slabs are up to service temperature at least 48 hours prior to testing.
 2. Depth of probes shall be 40 percent on slabs drying from the top only and 20 percent for slabs drying from both sides.
 3. Probe shall be allowed to acclimate and checked for drift less than 1 percent relative humidity over a 5 minute period.
 4. Elapsed time for test shall be 72 hours.
- D. Alkalinity Testing: Comply with ASTM F710 and the following.
 1. Verify that concrete surfaces are clean and that curing and sealing compounds have been removed.
 2. Place a 1 inch diameter amount of manufacturer's recommended liquid on concrete surface and allow to settle for 60 seconds.
 3. Insert meter into liquid and allow to calculate results.
- E. Unless otherwise approved in writing by University's Representative, tests shall be performed by an independent testing agency.
- F. Number of test kits shall be determined by the square footage of each flooring material. Provide minimum of three test kits for the first 1,000 square feet (93 square meters), and one test kit per each additional 1,000 square feet (93 square meters), with consideration to separation of test

areas. At slab on grade conditions test within 2 feet of toilet rough-in's to determine any piping penetration failures.

- G. Where calcium chloride test results are satisfactory but there is reason to suspect that unacceptable moisture levels below the upper two centimeters of the concrete may still exist, a relative humidity probe shall be used to test the full depth of the slab.

3.3 INSTALLATION OF CONTROL MATERIALS

- A. If areas of concrete are not within the floor covering manufacturer's maximum allowable emission rate and slab area fails the moisture test, comply with the requirements specified in Section 07 2620, "Concrete Vapor Emission Control".

END OF SECTION

**SECTION 01 5100
TEMPORARY UTILITIES**

PART 1 – GENERAL

1.1. SUMMARY

A. Section includes:

1. Installation
2. Temporary Electricity
3. Temporary Water
4. Temporary Lighting
5. Temporary Heating, Cooling, and Ventilating
6. Temporary Telecommunications

1.2. INSTALLATION

- A.** Use qualified personnel for installation of temporary utilities. Locate utilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify utilities as required. Coordinate temporary utilities with University Representative, IOR and Facilities Services.
- B.** Provide each utility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until utilities are no longer needed or are replaced by authorized use of completed permanent facilities.
- C.** Utility Service Connection: Engage the appropriate local utility company to install temporary service or connect to existing service. Where company provides only part of the service, provide the remainder with matching, compatible materials and equipment. Comply with company recommendations.
1. Arrange with company and existing users for a time when service can be interrupted, if necessary, to make connections for temporary services.(Utilize the Utility Shut Down Forms whenever required)
 2. Provide adequate capacity at each stage of construction. Prior to temporary utility availability, provide trucked-in services.
 3. Obtain easements to bring temporary utilities to the site where the University's easements cannot be used for that purpose.
 4. Use Charges: Cost or use charges for temporary facilities are not chargeable to the University or University's Representative. Neither the University nor University's Representative will accept cost or use charges as a basis of claims for Change Orders.
- D.** Submittals:
1. Submit reports of tests, inspections, meter readings, and similar procedures performed on temporary utilities.
 2. Implementation and Termination Schedule: Within 15 days of the date established for commencement of the Work, submit a schedule indicating implementation and termination of each temporary utility. Temporary Utilities: Prepare a schedule indicating dates for taking over the responsibility of the existing temporary utilities that the University already has in place from the first phase and termination of each temporary utility. At the earliest feasible time, when acceptable to the University, change over from use of temporary service to use of permanent service.

E. Quality Assurance:

1. Comply with industry standards and applicable laws and regulations of the University including, but not limited to, the following:
 - a. Potentially hazardous materials.
 - b. Health and safety regulations.
 - c. Utility company regulations.
 - d. Police, fire department, and rescue squad rules.
 - e. Environmental protection regulations.
2. Standards: Comply with NFPA 241 "Standard for Safeguarding Construction, Alterations, and Demolition Operations," ANSI A10 Series standards for "Safety Requirements for Construction and Demolition," and NECA Electrical Design Library "Temporary Electrical Facilities."
 - a. Electrical Service: Comply with NEMA, NECA, and UL standards and regulations for temporary electric service. Install service in compliance with NFPA 70 "National Electric Code."
3. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.
4. Construction Facilities and general construction activities shall comply with the energy use guidelines in Title 24 of the California Administrative Code.

1.3. TEMPORARY ELECTRICITY

- A. Temporary Electric Power Service: Electric power will be furnished by the University at cost of \$0.087/KWH. Provide weatherproof, grounded electric power service and distributions system of sufficient size, capacity, and power characteristics during construction period. Include meters, transformers, overload-protected disconnects, automatic ground-fault interrupters, and main distribution switch gear.
1. Contractor Responsibilities:
 - a. The University is providing temporary power equipment for the Contractor's use at the management trailer compound. The equipment includes; power skid, meter, quad-plex wire, panel board and Nema enclosure. Install project site electric power service with a meter at the point of connection designated by the University's Representative. Refer to the diagram for locating temporary power connections at the end of this section.
 - b. Maintain connections and extensions in a safe manner and utilize so as to not constitute a hazard to persons or property.
 - c. Connections and extensions will be subject to OSHA regulatory requirements. Immediately remove or remedy connections and extensions that represent safety hazards or cause undue interruption of University's normal operations.

1.4. TEMPORARY WATER

- A. Water Service: Water for use in construction, testing, and irrigation will be furnished by the University at a cost of \$1.12/CCF (748 gallons).
1. Contractor Responsibilities:
 - a. Provide meter and all connections and extensions required.
 - b. Maintain connections and extensions in a safe manner and utilize so as to not constitute a hazard to persons or property.

- c. Connections and extensions will be subject to approval of the University. Immediately remove or remedy connections and extensions that represent safety hazards or cause undue interruption of University's normal operations.

1.5. TEMPORARY LIGHTING

- A. Temporary Lighting: Provide temporary lighting with local switching as required to supplement existing lighting.
- B. Temporary Exterior Lighting: Install exterior yard and sign lights so signs are visible when Work is being performed.

1.6. TEMPORARY HEATING, COOLING, AND VENTILATING

- A. Temporary Heat: Provide temporary heat required by construction activities. Select safe equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce the ambient condition required and minimize consumption of energy.
- B. Maintain temperature at less than 60 degrees F (16 degrees C) in permanently enclosed portions of the building and areas where finished Work has been installed.
- C. Heating Facilities: Except where the University's Representative authorizes use of the permanent system, provide vented, self-contained, LP-gas or fuel-oil heaters with individual space thermostatic control. Use of gasoline-burning space heaters, open flame, or salamander heating units is prohibited.

1.7. TEMPORARY TELECOMMUNICATIONS

- A. Temporary Telephones and Data Services: Provide temporary telephone and data service at the existing Construction Trailer site throughout the construction period for all personnel engaged in construction activities as described below.
 - 1. Provide Communications Work Order(s) (e.g. voice add and/or data add) for service through UCR Computing & Communications (UCR C&C), Communications Services, contact Sheri Morgan at (951) 827-3979. Contractor is responsible for providing Network Electronics, Telephone Sets and all installation and monthly recurring service charges.
 - 2. Install separate telephone lines (phone numbers) for each temporary trailer/office and first aid station. At each telephone, post a list of important telephone numbers.
 - 3. Provide telephone lines and telephone sets for the following:
 - a. Contractor's field trailer/office: Direct-line telephones (telephone lines and telephone sets) as required.
 - b. University's Representative's field trailer/office: Three (3) Direct-line digital telephones and three (3) telephone sets.
 - 4. Provide data connections for the following:
 - a. Contractor's field trailer/office: as required. NOTE: A signed and approved Memo of Understanding (MOU) between Contractor(s) and UCR C&C will be required for all data services that are to be provided to Contractor(s).
 - b. University's Representative's field trailer/office: Provide four (4) data connections.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION

EXHIBIT A

Utility Shutdown-Protocol and Forms

University of California, Riverside-Facilities Manual

In order to provide clearer direction to the project Design Professional and also to the Contractor for the processes and procedures to request and obtain shutdowns using the Utility Shutdown Request (USR), as well as to assist Campus Staff members and faculty in coordination of this process, the following “Utility Shutdown Protocol and Procedures” is created. This shall be part of Division 1, of the project specification manual as part of the detailed submittals for any university projects requiring shutdown and turn-on of any utilities.

University of California, Riverside-Utility Shutdown Protocol and Procedures

The following **Utility Shutdown Protocol and Procedure** has been created in order to directly fulfill the requirements set out in the UCOP Facilities Manual. Additionally, it will ensure that design professionals, contractors and the campus community are provide with proper, timely and accurate utility shutdown information; ensures and maintains a documented, organized and orderly procedure for design professionals who prepare construction documents for projects at the University, as well as requiring all contractors who work on University construction projects, to follow a strict protocol and procedure, which will be a uniform standard for all utility shutdown events, during construction projects, at the University. The following is that protocol. This document shall be included in the project specifications manual for all projects, with all of the required attachments, forms and other related documents completed for each Utility Shutdown activity.

1. General

- a. The coordination of Utility Shutdowns has become increasingly complex at UCR due to the increase and complexity of construction activity and the effect utility shutdowns have on surrounding people, buildings and facilities. By nature, utility shutdowns affect a variety of stakeholders, including students, faculty, researchers, administration, pedestrians, security and law enforcement personnel, and various departments within UCR (Communications, Information Technology, Operations and Maintenance of Plant (OMP), Building Maintenance and Custodial Services, etc.), as well as the surrounding general public. Impacts to life safety and security systems, as well as automatically and mechanically controlled climate systems on campus, are particularly critical when considering utility shutdowns. To minimize negative impacts, UCR has developed procedures and guidelines for design professionals and contractors to use when planning for and requesting a utility shutdown on all construction projects.
- b. Contractor requested Utility shutdowns are discretionary on UCR's part. Not until UCR has reviewed the utility shutdown request application, and has been fully apprised of the potential risks and impacts, and any necessary contingency plans, will the Utility Shutdown Request (USR) be granted. It shall be the sole responsibility of the design professional and contractor to provide the above information, in accordance with the provisions in this section. This procedure and protocol, as well as all associated forms and schedules, in addition to the information requested herein, shall be included in the Division 1 section of the project specifications manual for each project, so that preliminary approval can be obtained prior to project commencement. The final approved Utility Shutdown Plan shall be included in the 100% Construction documents, project specifications manual.

- c. The procedures and guidelines provided herein may be changed at any time by UCR for security, safety, and other operational reasons and needs.

2. Definitions

- a. **Contingency Plan:** Based upon the findings identified in the Impact Analysis, a Contingency Plan may be required by the university. This plan will identify those actions necessary to mitigate and/or minimize disruptions in utility service and to maintain operational readiness during a utility shutdown. The General Contractor shall provide all necessary management, personnel and material resources needed to execute the plan at the time of the utility shutdown event, and such shall be included in this Contingency plan.
- b. **Contractor:** As used herein, the Contractor is the entity with overall responsibility for executing the scope of work necessitating the utility shutdown. This could be the General Contractor for a specific capital construction project, a tenant improvement contractor for a tenant improvement project, or any Operations and Maintenance of Plant (OMP) project or any other entity who is authorized by the university.
- c. **Impact Analysis:** The Impact Analysis identifies all systems, operations, and parties that will be affected by the proposed shutdown of the utility and specifically what that impact is. It shall include sufficient field forensic investigations to verify as-built conditions and that all systems and parties affected by the shutdown have been identified. Drawings and work plans shall be developed to convey actual field conditions and affected physical areas and infrastructure of the facility. This research shall also identify the affected stakeholders and the resulting impacts to their operations. This Impact Analysis will be used by UCR to determine the need for development of a **contingency plan**.
- d. **UCR Architects and Engineers (A&E):** is the authority requiring, and who is responsible for the review and approval process for all Capital Program project USR's and all construction documents at UCR.
- e. **Campus Building Official/Senior Construction Inspector Of Record (IOR):** Is the UCR field representative directly responsible for all construction inspections, general oversight and enforcement of all code requirements and approved construction documents, including all USR's, for the construction project. He/she will be instrumental in oversight of the Utility Shutdown event and will be present during the event.
- f. **Project Manager (PM):** Is the UCR representative directly responsible for the preparation and general oversight and coordination of the construction project, and who is involved with the overall review, scheduling and approval of the Utility Shutdown Request (USR).
- g. **Utility Shutdown:** A utility shutdown is any disruption or disconnects of continuity (including abandonment) of any and all utility systems for any length of time. This includes, but is not limited to: electrical, water, natural gas, fuel, fire alarm, security/automatic security cameras, sewer, communications, HVAC, automatic fire sprinkler system, etc.
- h. **Utility Shutdown Plan (USP):** The overall plan, which includes **Utility Shutdown Request Form, Impact Analysis, Shutdown Calendar**, and all other details relating to the shutdown of any utilities on a specific Capital Programs, Construction and Design Project. This **(USP)** shall be submitted and included in the Construction Documents and Project Specifications Manual for each specific project.

- i. **Utility Shutdown Request (USR):** The USR form identifies the time and date of the proposed shutdown, the type of shutdown, specific location, work area, affected buildings/systems, point of contact for the contractor, etc. It also includes a required Impact Analysis. A check list is attached to the form to assist the contractor in addressing the impact analysis.

3. Protocols

- a. Utility Shutdowns are defined as a singular event; one turn-off/one turn-on.
- b. Generally speaking, shutdowns should occur during a maximum of a four hour window on weekends and/or during the hours of 12 am and 5 am within a 24 hour period, unless otherwise approved by UCR.
- c. One USR is required for each 24 hour period, even if the preceding shutdown is being duplicated.
- d. Contractors shall follow UCR “Lockout/Tagout” procedures. An approved “Lock Out/Tag Out” program and confined space program, reviewed by UCR EHS, shall be detailed and included for all Electric Panels and circuitry, and/or any other utility service which is being worked on or any confined space and included in a project. This program information shall be included in all USR related documentation provided by the design professional and the contractor and it shall also be included in the contract documents submittal and project specification manual. All parties involved in the lockout/tagout process, such as, contractor, subcontractors, UCR Operations and Maintenance of Plant, should apply their own locks and tags. No share lock is allowed at all time.
- e. A single USR form is required for the physical shutdown of a single utility. If, by shutting down one utility, this causes loss of other systems or utilities, those other systems and utilities are identified and addressed in the Impact Analysis. For example; a shutdown of electrical may cause the loss of the Fire Alarm. The loss of the Fire Alarm is addressed as an impact.
- f. A USR is required for the physical shutdown of each utility even when occurring during the same time period. For example, if both electrical and water are proposed to be shut down during a given period, two URS Forms are required. Each utility shutdown will result in different impacts, likely independent of the other, and therefore will undergo independent evaluations and approvals.
- g. Utility Shutdown Request (USR) must be submitted 30 calendar days prior to the proposed utility shutdown, unless otherwise required or authorized by UCR. In the event that there is an “immediate” or “emergency” utility shutdown which must occur with less than a 30 day notice, then UCR Project Manager shall be notified with absolutely as much time as possible with all required details and impacts included in the request. UCR Staff will assist in this request as quickly as possible however no shutdown will be approved until all documents and review are completed.
- h. USR’s are submitted electronically or manually, including all required documentation, and they are to be included in the project specifications for each specific Capital Programs project.
- i. Status of each USR review is available from the Project Manager for each project.

- j. Only UCR Operations and Maintenance of Plant (OMP) personnel are permitted to disrupt or disconnect any utility system.
- k. Personnel required to be at all shutdowns include the Operations and Maintenance of Plant (OMP) personnel, who will be conducting the actual shutdown; the UCR Contractor of Record; as well as Architects & Engineers (A&E) inspectors. In addition, shutdowns may require other A&E Staff, UCR Environmental Health & Safety, UCR Police Department, and UCR subcontractors. All other resources necessary for the successful shutdowns and restoration are provided by the Contractor at the time of the Shutdown and turn-on of utilities.
- l. Only one primary switchboard is to be shutdown at any given time.
- m. Electrical shutdowns may be required to be scheduled at a minimum of three days apart.
- n. A utility shutdown may be canceled the night of the shutdown for any of the following reasons:
 - i. All elements identified in contingency plan are not in place;
 - ii. Contractor is not ready within 30 minutes of scheduled shutdown;
 - iii. Security and operational readiness issues identified by UCR Staff;
- o. If a shutdown is canceled for any reason, the Project Manager (PM) and Construction Inspector of Record (CIOR) shall be contacted immediately. The Project Manager and Construction Inspector of Record will then notify all stakeholders of the cancellation.

4. UCR Roles and Responsibilities

- a. **UCR Operations and Maintenance of Plant (OMP) (performs ALL shutdowns):** (OMP) is a division within the Finance and Business Operations Research and Development unit (REDFBO) and is the ONLY party allowed to physically disrupt or disconnect any utility system. The role of (OMP) is to provide maintenance of the overall University facility. Utility shutdowns are therefore resource constrained, and will be scheduled based on availability of those resources, while recognizing that it will be necessary to schedule those required resources, and calculate all fees for the service as early as is possible.
- b. **UCR A&E, Construction Inspector of Record (CIOR) (participants on ALL shutdowns):** UCR Construction Inspectors will be present at the beginning, periodically during and at the end of all utility shutdowns and turn-on events. Inspections shall certify that the utility has been re-established satisfactorily and (CIOR) will document the same. UCR Inspector shall communicate UCR lockout/tagout procedure with the contractor.
- c. **UCR A&E, Project Manager (PM) (participant in ALL shutdowns):** The designated Project Manager is the single point of contact for the contractor for all utility shutdowns. The PM has the initial responsibility to approve and/or reject the USR and, with others, will review the Contractor's implementation of the Contingency Plan and proposed execution of the utility shutdown and may be at the site at the time of shutdown and/or turn-on.

5. Design Professional Roles and Responsibilities

- a. Each project **Design Professional** shall submit, and include in the project documents and specifications manual, the detailed **Utility Shutdown Plan** which, upon a necessary shutdown of any utilities, shall identify all of the utilities affected, how the utility is to be isolated, maximum allowable duration of interruption (if applicable) and the affected facilities and systems, and lockout/tagout procedures for all shut downs. This plan will include the **Impact Analysis** which identifies all systems, operations, and parties which will be affected by the proposed utility shutdown of the utility and specifically what that impact is. It shall also include sufficient field forensic investigations to verify as-built conditions and that all systems and parties affected by the shutdown have been identified, as well as all other required or requested data or information needed to substantiate, organize and schedule the proposed shut down of utilities.
- b. In communication with the Project Manager for the specific project, the Design Professional of Record shall meet with all **Shutdown Stakeholders** in order to address/mitigate fully, all comments or concerns raised by the utility shutdown activity. The Project Manager will coordinate this meeting.
- c. Once all comments and issues are discussed and addressed, and/or the initial Utility Shutdown Plan is approved, the Design Professional will correct and re-submit all Utility Shutdown Plan documents to the Project Manager and for inclusion in the Construction Documents and Project Specifications Manual.
- d. Design Professional shall prepare all Utility Shutdown forms for Contractor of Record (Unknown at this time).
- e. Design Professional shall ensure that all Construction Documents are updated so that final "As-Built" documents reflect all Utility Shutdown activity for this project.
- f. Design Professional of Record may be involved further at the time of the Utility Shutdown event.

6. Contractor Responsibilities

- a. The Contractor is responsible for submitting a **Utility Shutdown Request (USR)** for each and every proposed utility shutdown event, each with a minimum of 30 calendar days lead time prior to each requested shutdown event date. Emergency Shutdown events will be handled on a case by case basis, however as much prior notice as possible, shall be provided to the Project Manager. Immediately notify the Project Manager if/when this occurs. Only UCR A&E team members in conjunction with OMP shall decide if the event is an "emergency".
- b. Contractor is responsible for reviewing the Impact Analysis to be included with the USR. The Impact Analysis must include the specific location of the utility shutdown, documentation of field forensic investigations to verify as-built conditions and all systems and parties affected by the shutdown, lockout/tagout procedures, and the specific impact to each system and party affected. Documentation can include written narrative, diagrams, sketches, and photos as appropriate. The Impact Analysis shall include a specific work plan for providing contractor personnel and equipment to support the shutdown, including requirements generated by the impacts to other systems and parties. The Impact Analysis must also identify the need for support from

other entities such as UCR Communication and Computer Systems Services, UCR OMP, UCR EH&S, UCR Police Department, UCR Subcontractors, and others. Early notice is imperative for proper coordination.

- c. Contractor is responsible for developing and implementing a contingency plan, if requested by UCR, to mitigate specific impacts during the shutdown. Any and all resources, including equipment, manpower and supervision required for the execution of the contingency plan are the responsibility of the contractor. This includes, but is not limited to, temporary signage, temporary power, clean-up of collateral damage, operational workarounds, etc. This may include all areas and systems impacted by the shutdown.
- d. The Contractor is responsible for issuing a rolling 30 or 45 day look-ahead calendar that includes the identification of all projected USR's. The calendar shall be submitted weekly to the Project Manager and shall identify the contractor's utility shutdown identification/number (CUSR) and the date and type of the proposed shutdown. If modifications are needed the schedule shall be submitted to the Project Manager within 24 hours of identification of the change. Upon notification the Project Manager will immediately notify UCR OMP and UCR EH&S.
- e. The Contractor is responsible for implementation of the approved USR including all supporting elements and required contingencies within the designated schedule, as initially approved.
- f. During the utility shutdown, the Contractor is responsible for documenting previously unknown conditions found at the shutdown location, and for including them on the official project construction documents for permanent archiving with the Architects & Engineers Office.
- g. The Contractor is responsible for contacting the Project Manager, Physical Plant (OMP), EH&S and the Inspector (CIOR) at least 2 hours prior to the actual utility shutdown and prior to the utility restart. If there is any delay in the shutdown or restart from the approved schedule, the Contractor is responsible for notifying the (PM), (OMP) and (CIOR) as soon as that information is known.

7. Process and Procedures for Submitting USP and USR's

- a. The Design Professional shall submit, included in the project documents and specifications manual, the initial detailed Utility Shutdown Plan (USP), which includes and identifies all utilities affected, how the utility is to be isolated, maximum allowable duration of interruption (if applicable) and the affected facilities, and lockout/tagout procedures for all major shut downs. Design Professional shall also specify by-pass or temporary service if required to minimize disruption to the University. This plan, which includes the prepared Utility Shutdown Request (USR) will be included in the project specifications manual, once the request is approved.
- b. The Contractor submits the project USR, in electronic or hard copy format, including the Impact Analysis (mandatory), to the Office of Architects and Engineers, Project Manager. This shall be included in the project construction as built specifications manual. This starts the 30 calendar day period allowed for processing the USR. Any

revisions or additions to the submitted USR, necessitating the re-submittal of the USR, will result in the restart of the 30 calendar day period.

- c. The PM will review the submitted USR for need, completeness of the USR (including the mandatory Impact Analysis), and compliance with the 30 day notification period. Any required changes to the USR or Impact Analysis along with any requirement for a contingency plan will be transmitted to the Contractor from the PM. The PM will provide the initial approval of the USR.
- d. Following the initial approval by the PM the USR, Impact Analysis, and Contingency Plan (if required) will be reviewed by Physical Plant (OMP), Environmental Health & Safety (EH&S) and other stakeholders. This review will include a technical review of the Impact Analysis, by impacted stakeholders, and coordination of schedule for the utility shutdown.
- e. Upon a satisfactory review of the USR, including the Impact Analysis and Contingency Plan, the PM will schedule a Stakeholder Coordination Meeting, if needed. This meeting is chaired by the PM and includes the Contractor and all applicable stakeholders identified in the USR or as part of the review process. The purpose of the meeting is to review all elements of the utility shutdown including the review of impacts and applicable contingencies to assure all known elements have been addressed. The USR and applicable Contingency Plan can be modified in this meeting provided all stakeholders are in agreement, the modification does not impact any additional stakeholder not in attendance, and the resulting shutdown in the field can be fully supported.
- f. Upon satisfactory completion of the Stakeholder Coordination Meeting, the PM will obtain final approval signatures.
- g. The PM will return the approved (USR) to the Contractor with copies to the (OMP, EH&S) and all stakeholders identified in the (USR) as well as other parties identified by the UCR Staff.
- h. Following approval of a (USR), if the (USR) is cancelled for any reason, the PM will immediately notify all stakeholders of the cancellation.

8. Sample Forms and Checklists

- a. Utility Shutdown Request Application (USR)
- b. USR Impact Analysis
- c. USR Impact Analysis Check List
- d. Utility Shutdown Request for Assistance
- e. Utility Shutdown Process Flow Diagram

UTILITY SHUTDOWN REQUEST (USR)

APPLICATION (USR) #2025USR-_____

PD&C Project Number: _____ Contractor USR Tracking Number: 2021USR-2025-958875

Construction Project Description: _____ Project Manager: _____

1. E-mail/submit one (1) form for each utility being requested for shutdown. You must fill out separate forms for each shutdown request.
 2. Shutdown information times shall be in half-hour increments.
 3. E-mail completed form to the Services and PD&C Project Manager.
 4. Requests must be received a minimum of 30 days prior to the utility shutdown event time-NO EXCEPTIONS
 5. Utilities shall be shutdown and restored by Facility Services personnel ONLY.
 6. The shutdown will not occur unless the Contractor is present at the shutdown location and work area.
 7. Please complete the form in its entirety including attached Impact Analysis and Impact Analysis Checklist. INCOMPLETE FORMS WILL NOT BE PROCESSED.
- NOTICE: All forms received on Saturday, Sunday or after 1:00 p.m. (Weekdays) will be marked as "RECEIVED" on the following business day.

SHUTDOWN TIMES MAY CHANGE WITHOUT NOTICE DUE TO UNIVERSITY OPERATIONAL PRIORITIES

(Select ONE utility per form)

- Water
 Electrical
 Gas
 Fire Alarm
 Security System
 HVAC
 Sewer
 Automatic Fire Sprinklers
 Communications
 HVAC
 Lab Vacuum
 Lab Air
 Other _____

LOCATION INFORMATION:

Specific Location: _____

Work Areas Adjacent To: _____

Affected Buildings/Systems: _____

Purpose: _____

Floor Level: _____ Landside Area: _____

Building to Remain Occupied? Yes No Is this a Laboratory? Yes No

Contractors Signature: _____

CONTACT INFORMATION:

Subcontractor: _____ Contact Name: _____

Phone Number: () ____ - _____ FAX: () ____ - _____ E-MAIL: _____

SHUTDOWN INFORMATION:

Day: _____ Date: _____ Time: _____

Contractor Requestor's Name: _____

Phone: () _____

RESTORE INFORMATION:

Day: _____ Date: _____ Time: _____

Position/Title: _____

CONTACT E-MAIL: _____

DO NOT WRITE BELOW THIS LINE FOR UNIVERSITY OF CALIFORNIA, RIVERSIDE USE ONLY

Date (USR) Received: _____ Time: APPROVED DENIED (NOT APPROVED)

Comments: _____

Director-Signature: _____ Date: _____ Project Manager-Signature: _____ Date: _____



UTILITY SHUTDOWN REQUEST(USR)

APPLICATION (USR) #2025USR-_____

IMPACT ANALYSIS (1 of 3)

Project No. _____ PD&C Project Manager: _____

Construction Project Description: _____

Detailed Description of Utility to be Shutdown:

Specific Location:

Lockout/Tagout :

Lock Out/Tag Out Plan:

Affected Systems/Equipment:

Impact of Work on Systems/Equipment/Stakeholders:

Plan to Mitigate Impacts:

Proposed Work Plan for Implementing the Shutdown:

Affected Systems/Equipment:

Impact of Work on Systems/Equipment/Stakeholders

Plan to Mitigate Impacts:

Proposed Work Plan for Implementing the Shutdown:

ATTACH DOCUMENTATION FO FIELD FORENSIC INVESTIGATION, SKETCHES, DIAGRAMS, PHOTOS, AND ADDITIONAL NARRATIVE EXPLANATION AS APPROPRIATE. PROVIDE NAME OF SPECIFIC STAKEHOLDERS IMPACTED



UTILITY SHUTDOWN REQUEST(USR)

APPLICATION (USR) #2025USR-_____
 IMPACT ANALYSIS (2 of 3)

UCR Project Number: _____ PD&C Project Manager: _____

Construction Project Description: _____

Utilities to be shut down: _____ Locations: _____

Field Forensics Investigations and Documentation Complete Date of Completion: ____/____/____

NOTE: CONTRACTOR IS REQUIRED TO COMPLETE AND DOCUMENT FIELD FORENSIC INVESTIGATIONS TO VERIFY AS-BUILT CONDITIONS

<u>Impacted Facilities</u>	<u>Yes</u>	<u>No</u>	<u>Description</u>
Parking Structure-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Sports Field-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Student Recreation Center----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Laboratory-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Administration Building -----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Class Rooms-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Streets-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Facility Services-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Central Plant/Steam Plant-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Sports Facility-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Other-----	<input type="checkbox"/>	<input type="checkbox"/>	_____

<u>Impacted Parties (Stakeholders)</u>	<u>Yes</u>	<u>No</u>	<u>Description</u>
Students-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Faculty -----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Administration-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Vendors-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Other Contractors/Projects--	<input type="checkbox"/>	<input type="checkbox"/>	_____
UCR Department-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
IT/Communications-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Fire and Life Safety-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Police/Security-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Facility Services-----	<input type="checkbox"/>	<input type="checkbox"/>	_____

<u>Impacted Systems</u>	<u>Yes</u>	<u>No</u>	<u>Description</u>
Water-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Sewer-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Electrical-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Fire Sprinklers-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Fire Alarms-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Gas-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Landscape/Water-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Security-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
HVAC-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
IT/Communications-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Other -----	<input type="checkbox"/>	<input type="checkbox"/>	_____



UTILITY SHUTDOWN REQUEST(USR)

APPLICATION (USR) #2025USR-_____
IMPACT ANALYSIS (3 of 3)

Project Number: _____ PD&C Project Manager: _____
 Construction Project Description: _____
 Utility to be shut down: _____ Locations: _____
 Field Forensics Investigations and Documentation Complete Date of Completion: ____/____/____

NOTE: CONTRACTOR IS REQUIRED TO COMPLETE AND DOCUMENT FIELD FORENSIC INVESTIGATIONS TO VERIFY AS-BUILT CONDITIONS

<u>Work Plan Requirements</u>	<u>Yes</u>	<u>No</u>	<u>Description</u>
Parking Structure-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Sports Field-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Student Recreation Center-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Laboratory-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Administration Building -----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Class Rooms-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Streets-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Facility Services-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Central Plant/Steam Plant-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Sports Facility-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Other-----	<input type="checkbox"/>	<input type="checkbox"/>	_____

<u>Work Plan Reviewers</u>	<u>Yes</u>	<u>No</u>	<u>Description-(Specific Persons who will review this Work Plan)</u>
Students-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Faculty -----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Administration-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Vendors-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Other Contractors/Projects--	<input type="checkbox"/>	<input type="checkbox"/>	_____
UCR Departments-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
IT/Communications-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Fire and Life Safety-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Police/Security-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Facility Services/Central Plant	<input type="checkbox"/>	<input type="checkbox"/>	_____

<u>Impacted Systems</u>	<u>Yes</u>	<u>No</u>	<u>Description</u>
Water-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Sewer-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Electrical-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Fire Sprinklers-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Fire Alarms-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Gas-----	<input type="checkbox"/>	<input type="checkbox"/>	_____
Landscape/Water-----	<input type="checkbox"/>	<input type="checkbox"/>	_____

SECTION 01 5200 CONSTRUCTION FACILITIES

PART 1 – GENERAL

1.1. SUMMARY

- A. Section includes:
1. Supervision and Security
 2. Maintenance
 3. First Aid Facilities
 4. Sanitary Facilities
 5. Storage
 6. Termination and Removal

1.2. SUPERVISION AND SECURITY

- A. Staff Names: Within 15 days of commencement of construction operations, post a list of the Contractor's principal staff assignments, including the superintendent and other personnel in attendance at the Project Site. Identify individuals and their duties and responsibilities. List their addresses and telephone numbers.
1. Post copies of the list in the Project meeting room, the temporary field office, and each temporary telephone.
- B. Supervision: Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.
- C. Security:
1. Protection and security measures required by the University are considered minimum requirements. Provide additional measures as necessary and appropriate to the hazards of this Project. Employ all measures necessary to ensure the security of the Project site. Security measures provided by the University do not relieve the Contractor from responsibility for site security and protection of the work as required by the Contract Documents.
 2. Watchman: The University will not be providing security services for the Project. During all hours that Work is not being prosecuted, including weekends and holidays, furnish such watchman's services as Contractor may consider necessary to safeguard materials and equipment in storage on the Project site, including Work in place or in process of fabrication, against theft, acts of malicious mischief, vandalism, and other losses or damages. The University will not be liable for any loss or damage.
 3. Security Enclosure and Lockup: Install substantial temporary enclosure of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.
 - a. Where materials and equipment must be stored, and are of value or attractive for theft, provide a secure lockup. Enforce discipline in connection with the installation and release of material to minimize the opportunity for theft and vandalism.
 4. The contractor may provide a security camera system for the Project site as follows:
 - a. Twelve (12) cameras shall be outdoor rated powered over Ethernet (POE) with zoom capability.

- b. Wireless or hardwired within 300' from POE switch provided by Contractor.
- c. Streaming video
- d. Web based
- e. Security camera system shall also include four (4) DVRs with computer and electronic related equipment to be used onsite during construction. Contractor to provide proper power, CAT 6 cabling for the IP camera and twelve (12) 20' pole, properly braced, for the mounting of each IP camera. The Contractor shall provide system access to University and training to University Representatives and designees.

1.3. MAINTENANCE

- A. Maintain facilities in good operating condition until removal. Protect from damage by freezing temperatures and similar elements. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Relocate temporary services and facilities if required, as the Work progresses. Do not overload facilities or permit them to interfere with progress. Take necessary fire-prevention measures. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist on-site.
- B. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
- C. Protection: Prevent water-filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.

1.4. FIRST AID FACILITIES

- A. First Aid Supplies: Provide types and quantities required by referenced standards, the University's Representative, and as prudent for the conditions existing for the Work.

1.5. SANITARY FACILITIES

- A. Maintenance of Septic Tanks: Septic tanks are required to serve both the Contractor's management offices and the University's site offices. The contractor shall provide maintenance services to remove effluent on a regularly scheduled basis.
 - 1. Maintain temporary toilets and septic tanks in a clean, sanitary condition. Following heavy use, restore normal conditions promptly.
- B. Temporary Toilet Units: Provide self-contained, single-occupancy toilet units of the chemical, aerated re-circulation, or combustion type. Provide units properly vented and fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material. Use of existing University sanitary facilities will not be permitted.

1.6. STORAGE

- A. Contractor's use of the Project site for the Work and storage is restricted to the areas designated on the Drawings or as approved by University's Representative. Use of mechanical and electrical rooms for storage of materials or furniture is prohibited.
- B. Deliver, store, and handle products according to the manufacturer's recommendations, using means and methods that will prevent damage, deterioration, and loss, including theft.

1. Schedule delivery to minimize long-term storage at the site and to prevent overcrowding of construction spaces.
 2. Coordinate delivery with installation time to assure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 3. Deliver products to the site in an undamaged condition in the manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 4. Inspect products upon delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
 5. Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units.
 6. Store heavy materials away from the Project structure in a manner that will not endanger the supporting construction.
 - a. Concrete slabs on grade and suspended floors have not been designed for heavy loading.
 - b. Slabs on Grade: Do not subject slabs on grade to excessive loading by shoring, storage of materials, or operation of construction equipment unless adequately protected by planking designed to safely distribute loads. Maintain slabs and repair or replace damaged slabs at no additional cost to the University.
 - c. Suspended Floors: Do not subject suspended slabs to construction loads greater than 40 psf unless adequate shoring and protection is provided. Retain a civil or structural engineer experienced in shoring design and registered in the State of California to design necessary temporary support systems.
 7. Store products subject to damage by the elements above ground, under cover in a weathertight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.
 8. Immediately remove from the site materials and equipment that are damaged or do not comply with requirements of the Contract Documents.
 9. When handling and moving materials and equipment, protect all finished surfaces.
- C. Keep copies of manufacturer's specifications and instructions on site and available for reference.

1.7. TERMINATION AND REMOVAL

- A. Remove each temporary facility when the need has ended, when replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with the temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
- B. Materials and facilities that constitute temporary facilities are the Contractor's property. The University reserves the right to take possession of project identification signs.
- C. Repair or replace street paving, curbs, and sidewalks damaged by construction traffic.
- D. At Substantial Completion, clean and renovate any permanent facilities used during the construction period.

- E. After removal of temporary facilities at the management compound in Lot 14 i.e. office trailers, wood patio decks, ramps, fencing, anchorage, electrical equipment, etc. which were placed on portions of the existing site not scheduled for new Work, Contractor shall repair all damage, holes, etc., to the pavement and apply a seal coat to the pavement (see Section 32 1300) and restripe all of the stalls in the three rows of parking (approximately 42 spaces) adjacent to the management compound. A parking stall layout shall be provided by the University Representative.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION

**SECTION 01 5600
TEMPORARY BARRIERS AND ENCLOSURES**

PART 1 – GENERAL

1.1. SUMMARY

A. This Section includes:

1. General Cleaning and Protection

1.2. GENERAL CLEANING AND PROTECTION

- A. Clean and protect construction in progress and adjoining materials in place, during handling and installation. Apply protective covering where required to assure protection from damage or deterioration at Substantial Completion.
- B. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to assure operability without damaging effects.
- C. Limiting Exposures: Supervise construction operations to assure that no part of the construction completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period. Where applicable, such exposures include, but are not limited to, the following:
1. Excessive static or dynamic loading.
 2. Excessive internal or external pressures.
 3. Excessively high or low temperatures.
 4. Thermal shock.
 5. Excessively high or low humidity.
 6. Air contamination or pollution.
 7. Water or ice.
 8. Solvents.
 9. Chemicals.
 10. Light.
 11. Radiation.
 12. Puncture.
 13. Abrasion.
 14. Heavy traffic.
 15. Soiling, staining, and corrosion.
 16. Bacteria.
 17. Rodent and insect infestation.
 18. Combustion.
 19. Electrical current.
 20. High-speed operation.
 21. Improper lubrication.
 22. Unusual wear or other misuse.
 23. Contact between incompatible materials.
 24. Destructive testing.
 25. Misalignment.
 26. Excessive weathering.
 27. Unprotected storage.
 28. Improper shipping or handling.
 29. Theft.

30. Vandalism.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION

**SECTION 01 5800
TEMPORARY SIGNAGE**

PART 1 – GENERAL

1.1. SUMMARY

A. This Section includes:

1. Temporary Project Signage.
2. Temporary Interior Signage.

1.2. TEMPORARY PROJECT SIGNAGE

Project Identification: At the University Representative's request, mount two (2) 8' x 4' post mounted temporary project identification signs at two locations on the site. The sign shall be approved in advance by University's Representative and include project's construction firm and the time of occupancy.

- C. Provide signs for traffic direction and warnings such as "Construction Project" and "Keep Out" to facilitate control of personnel and vehicles. Use only the minimum number necessary to 2' x 4' maximum size.
- D. At University Representative's request, provide no more than 3 signs along the construction fence with the telephone number for the Neighbor Complaint HotLine.
- E. Contractor shall submit all name and title changes on the existing signs to University's Representative for approval prior to installation. Contractor shall review completed project sign with University Representative, prior to installation.

1.3. TEMPORARY INTERIOR SIGNAGE

A. At University Representative's request, interior signage shall be provided.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION

SECTION 01 6000 PRODUCT REQUIREMENTS

PART 1 – GENERAL

1.1. SUMMARY

- A. This Section includes administrative and procedural requirements governing the Contractor's selection of products for use in the Project:
1. Quality Assurance
 2. Product Delivery, Storage, and Handling
 3. Product Selection
 4. Product Installation
- B. Definitions: The Definitions used in this Article are not intended to change the meaning of other terms used in the Contract Documents, such as "specialties," "systems," "structure," "finishes," "accessories," and similar terms. Such terms are self-explanatory and have well-recognized meanings in the construction industry.
1. "Products" are items purchased for incorporation in the Work, whether purchased for the Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - a. "Named Products" are items identified by the manufacturer's product name, including make or model number or other designation, shown or listed in the manufacturer's published product literature that is current as of the date of the Contract Documents.
 - b. "Foreign Products," as distinguished from "domestic products," are items substantially manufactured (50 percent or more of value) outside the United States and its possessions. Products produced or supplied by entities substantially owned (more than 50 percent) by persons who are not citizens of, nor living within, the United States and its possessions are also considered to be foreign products.
 2. "Materials" are products substantially shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or installed to form a part of the Work.
 3. "Equipment" is a product with operational parts, whether motorized or manually operated, that requires service connections, such as wiring or piping.

1.2. QUALITY ASSURANCE

- A. Source Limitations: To the fullest extent possible, provide products of the same kind from a single source.
- B. Compatibility of Options: When the Contractor is given the option of selecting between 2 or more products for use on the Project, the product selected shall be compatible with products previously selected, even if previously selected products were also options.
1. Each prime contractor is responsible for providing products and construction methods that are compatible with products and construction methods of other prime or separate contractors.
 2. If a dispute arises between prime contractors over concurrently selectable, but incompatible products, the University's Representative will determine which products shall be retained and which are incompatible and must be replaced.

- C. Foreign Product Limitations: Except under one or more of the following conditions, provide domestic products, not foreign products, for inclusion in the Work:
 - 1. No available domestic product complies with the Contract Documents.
 - 2. Domestic products that comply with the Contract Documents are available only at prices or terms substantially higher than foreign products that comply with the Contract Documents.
- D. Nameplates: Except for required labels and operating data, do not attach or imprint manufacturer's or producer's nameplates or trademarks on exposed surfaces of products that will be exposed to view in occupied spaces or on the exterior.
 - 1. Labels: Locate required product labels and stamps on concealed surfaces or, where required for observation after installation, on accessible surfaces that are not conspicuous.
 - 2. Equipment Nameplates: Provide a permanent nameplate on each item of service-connected or power-operated equipment. Locate on an easily accessible surface that is inconspicuous in occupied spaces. The nameplate shall contain the following information and other essential operating data:
 - a. Name of product and manufacturer.
 - b. Model and serial number.
 - c. Capacity.
 - d. Speed.
 - e. Ratings.
 - 3. UL Label: Provide products bearing appropriate UL label as indicated.

1.3. PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Refer to Section 01 5200, Paragraph 1.5.

PART 2 – PRODUCTS

2.1. PRODUCT SELECTION

- A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, new at the time of installation, except where salvaged materials are indicated.
 - 1. Provide products complete with accessories, trim, finish, safety guards, and other devices and details needed for a complete installation and the intended use and effect.
 - 2. Standard Products: Where available, provide standard products of types that have been produced and used successfully in similar situations on other projects.
- B. Product Selection Procedures: The Contract Documents and governing regulations govern product selection. Procedures governing product selection include the following:
 - 1. Nonproprietary Specifications: When Specifications list products or manufacturers that are available and may be incorporated in the Work, but do not restrict the Contractor to use of these products only, the Contractor may propose any available product that complies with Contract requirements. Comply with Contract

Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.

2. Compliance with Standards, Codes, and Regulations: Where Specifications only require compliance with an imposed code, standard, or regulation, select a product that complies with the standards, codes, or regulations specified.
3. Visual Matching: Where Specifications require matching an established Sample, the University Representative's decision will be final on whether a proposed product matches satisfactorily.
 - a. Where no product available within the specified category matches satisfactorily and complies with other specified requirements, comply with provisions of the Contract Documents concerning "substitutions" for selection of a matching product in another product category.
4. Visual Selection: Where specified product requirements include the phrase "...as selected from manufacturer's standard colors, patterns, textures..." or a similar phrase, select a product and manufacturer that complies with other specified requirements. The University's Representative will select the color, pattern, and texture from the product line selected.

2.2.

PART 3 – EXECUTION

3.1 PRODUCT INSTALLATION

- A. Comply with manufacturer's instructions and recommendations for installation of products in the applications indicated. Anchor each product securely in place, accurately located and aligned with other Work.
 1. Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

END OF SECTION

**SECTION 01 7100
EXAMINATION AND PREPARATION**

PART 1 – GENERAL

1.1. SUMMARY

A. This Section includes:

1. Mobilization
2. Acceptance of Conditions
3. Construction Layout
4. Construction Surveying
5. Protection of Adjacent Construction
6. Non-Destructive Concrete Examination

1.2. MOBILIZATION

A. NA

1.3. ACCEPTANCE OF CONDITIONS

A. N/A

1. Prior to commencing the Work, the Contractor and University's Representative shall tour together the Project site (and areas immediately surrounding the site) to examine and record damage to existing buildings and improvements constructed under a prior contract. As such the Contractor accepts the work constructed on site "as-is" and must finish what is installed into a complete and functional system.

Contractor shall protect all existing interior building elements, finishes, systems, and equipment that are not indicated to be removed or modified under this contract. This includes, but is not limited to, walls, ceilings, flooring, doors, casework, mechanical/electrical/plumbing (MEP), and other building components within or adjacent to the work area.

2. This record shall serve as a basis for determination of subsequent damage due to Contractor's operations and shall be signed by all parties making the tour. Any cracks, sags, or damage to the adjacent buildings, improvements and landscaping elements not noted in the original survey, but subsequently discovered, shall be reported to University's Representative within 15 days from Notice to Proceed.
3. The Contractor shall prepare a report of the survey, including:
 - a. Digital recording of existing conditions.
 - b. Digital photographs of significant features requested by University's Representative.
 - c. Key plan with references to video/photographs
4. The Contractor and University Representative shall periodically monitor conditions of existing buildings and installations for signs of movement, settlement, or other damage related to construction.
5. Contractor is solely responsible for repairing damage to existing construction and finishes and for replacing damaged components, which cannot be repaired.
6. Contractor is solely responsible for maintaining and watering existing landscaping within

the Project site and for replacing landscaping elements, which are damaged or destroyed during the course of the Work.

- 1.4. CONSTRUCTION LAYOUT
- 1.5. CONSTRUCTION SURVEYING
- 1.6. PROTECTION OF ADJACENT CONSTRUCTION
- 1.7. NON-DESTRUCTIVE CONCRETE EXAMINATION

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION

SECTION 01 7329 CUTTING AND PATCHING

PART 1 – GENERAL

1.1. SUMMARY

- A. This Section includes general administrative and procedural requirements for cutting and patching, including without limitation, the following:
 - 1. Submittals
 - 2. Quality Assurance
 - 3. Warranty
 - 4. Materials
 - 5. Inspection
 - 6. Preparation
 - 7. Performance
 - 8. Cleaning

- B. Requirements of this Section apply to mechanical and electrical installations. Refer to Specification Divisions 20-28 for other requirements and limitations applicable to cutting and patching mechanical and electrical installations.

- C. Refer to other applicable Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.

- D. Cutting and Patching, in addition to requirements of the General Conditions, includes removing, altering, and repairing portions of the Work as required to accomplish the following:
 - 1. Make several parts fit properly.
 - 2. Uncover work to provide for installation of ill-timed work.
 - 3. Remove and replace defective work.
 - 4. Remove samples of installed work as specified or requested by the University's Representative for testing.
 - 5. Install new construction penetrations of or connections to existing construction.

1.2. SUBMITTALS

- A. Cutting and Patching Proposal: Submit written notice to the University's Representative requesting permission to proceed with cutting which could affect structural safety of the project 10 days in advance of starting cutting. Request approval to proceed. Include the following information, as applicable, in the proposal:
 - 1. Describe the extent of cutting and patching required. Show how it will be performed and indicate why it cannot be avoided.
 - 2. Describe anticipated results in terms of changes to existing construction. Include changes to structural elements and operating components as well as changes in the building's appearance and other significant visual elements.
 - 3. List products to be used and firms or entities that will perform Work.
 - 4. Indicate dates when cutting and patching will be performed.
 - 5. Utilities: List utilities that cutting and patching procedures will disturb or affect. List utilities that will be relocated and those that will be temporarily out-of-service. All utility shut downs shall be kept to a minimum. Contractor shall coordinate for all shut downs to occur during weekend hours without change to the contract sum. Identify date, time and expected duration (no more than 8 hours duration) of all utility shutdowns. There will be no shut downs for sewer services, must do bypass.

6. Approval by the University's Representative to proceed with cutting and patching does not waive the University's Representative right to later require complete removal and replacement of unsatisfactory work.

B. Changed Conditions Notice: Submit written recommendations to the University's Representative should conditions of work or schedule indicate change of materials or methods, including the following:

1. Conditions indicating change.
2. Recommendations for alternative materials and methods.
3. Information required for substitution.

1.3. QUALITY ASSURANCE

A. Requirements for Structural Work:

1. Obtain approval of the cutting and patching proposal before cutting and patching structural elements including, but not limited to, the following:

- a. Foundation construction.
- b. Structural concrete.
- c. Miscellaneous structural metals.
- d. Piping and equipment.

B. Operational Limitations: Do not cut and patch operating elements or related components in a manner that would result in reducing their capacity to perform as intended. Do not cut and patch operating elements or related components in a manner that would result in increased maintenance or decreased operational life or safety.

1. Obtain approval of the cutting and patching proposal before cutting and patching the following operating elements or safety related systems

- a. Primary operational systems and equipment.
- b. Fire protection systems.
- c. Communication systems.
- d. Electrical wiring systems.
- e. Security systems

C. Visual Requirements: Do not cut and patch construction in a manner that would result in visual evidence of cutting and patching. Remove and replace construction cut and patch in a visually unsatisfactory manner.

1.4. WARRANTY

A. Existing Warranties: Replace, patch, and repair material and surfaces cut or damaged by methods and with materials in such a manner as not to void any warranties required or existing.

PART 2 – PRODUCTS

2.1. MATERIALS

A. Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible if identical materials are unavailable or cannot be used. Use materials whose installed performance will equal or surpass that of existing materials.

PART 3 – EXECUTION

3.1 INSPECTION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching is to be performed before cutting. If unsafe or unsatisfactory conditions are encountered, take corrective action and notify University's Representative before proceeding.
 - 1. Before proceeding, meet at the Project Site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.
 - 2. Provide drawings and calculations signed by a licensed California Structural Engineer for shoring, bracing and support to maintain structural integrity.
 - 3. Protect other portions of the Project.
 - 4. Protect Project from the element.

3.2 PREPARATION

- A. Temporary Support: Provide temporary support of work to be cut.
- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of the Project that might be exposed during cutting and patching operations.
- C. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Avoid cutting existing pipe, conduit, or ductwork serving the building but scheduled to be removed or relocated until provisions have been made to bypass them.

3.3 PERFORMANCE

- A. General: Employ skilled workmen to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.
 - 1. Cut existing construction to provide for installation of other components or performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.
- B. Cutting: Cut existing construction using methods least likely to damage elements retained or adjoining construction. Where possible, review proposed procedures with the original Installer; comply with the original Installer's recommendations.
 - 1. In general, where cutting, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Cut through concrete and masonry using a cutting machine, such as a Carborundum saw or a diamond-core drill.
 - 4. Comply with requirements applicable Division 2 Sections where cutting and patching requires excavating and backfilling.
 - 5. Where services are required to be removed, relocated, or abandoned, by-pass utility services, such as pipe or conduit, before cutting. Cut-off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal the remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after by-passing and cutting.

- C. Patching: Patch with durable seams that are as invisible as possible. Comply with specified tolerances.
 - 1. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.
 - 2. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 - 3. Patch, repair, or rehang existing ceilings as necessary to provide an even-plane surface of uniform appearance.

3.4 CLEANING

- A. Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar items. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.

END OF SECTION

SECTION 01 7400 CLEANING AND WASTE MANAGEMENT

PART 1 – GENERAL

1.1. SUMMARY

- A. This Section includes:
1. Progress Cleaning and Site Maintenance
 2. Construction Waste Management and Disposal
 3. Final Cleaning
 4. Contractor C&D Waste Monitoring Form and Green Waste Monitoring Form, copies of which are attached at the end of this Section.
- B. Cleaning Agents: Use cleaning materials and agents recommended by the 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.
- C. Environmental Requirements: Conduct cleaning and waste-disposal operations in compliance with local laws and ordinances. Comply fully with federal and local environmental and antipollution regulations.
1. Do not dispose of volatile wastes, such as mineral spirits, oil, or paint thinner, in streams, storm or sanitary drains.
 2. Burning or burying of debris, rubbish, or other waste material on the premises is not permitted.
 3. Comply with requirements of Southern California Air Quality Management District in effect at the time of construction.
 4. Comply with governing regulations and safety standards for cleaning operations. Remove waste materials from the site and dispose of lawfully.
- D. Submittal: Prior to requesting inspection for Substantial Completion and Final Completion, submit written certification to the University's Representative that final cleaning has been performed in accordance with the Contract Documents.

1.2. PROGRESS CLEANING AND SITE MAINTENANCE

- A. Collection and Disposal of Waste: Contractor shall furnish all labor, equipment, containers, transportation, materials, supplies and related expenses to provide the University with comprehensive waste collection and waste recycling services for the Project. Contractor shall collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than 7 days during normal weather or 3 days when the temperature is expected to rise above 80 degrees F (27 degrees C). Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly.
1. Do not burn waste materials. Do not bury debris or excess materials on the University's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems or streams. Remove waste materials from the site and dispose of lawfully.
 2. Where extra materials of value remain after completion of associated Work, they become the University's property. Dispose of these materials as directed by the University's Representative.

3. Provide on-site containers for collection of waste materials, debris, and rubbish, and empty at least weekly. Maintain containers in such condition so as to ensure they are clean and sanitary, to prevent odor and insect infestation, and ensure no unsightly presentation. Perform maintenance on the containers as required to ensure proper function for the intended purpose.
 4. Handle waste materials in a controlled manner. Do not drop or throw materials from heights.
 5. Remove combustible debris from the building daily and store in covered, non-combustible containers located not less than 40 feet from any building.
- B. Cleaning During Construction Period: Comply with regulations of the University and safety standards for cleaning.
1. Schedule cleaning operations so that dust and other contaminants resulting from cleaning operations will not settle on wet paint, or other coatings or finishes during their cure period.
 2. Comply with manufacturer's instructions for cleaning the surfaces and parts of finishes and equipment. Use only those cleaning materials and procedures recommended by the manufacturer of the item to be cleaned.
 3. Provide cleaning during construction as necessary to ensure operations can proceed on schedule and that finish materials can be installed properly and viewed for determination of aesthetic characteristics.

1.3. CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

- A. The University has established that this Project shall generate the least amount of waste possible and that processes that ensure the generation of as little waste as possible shall be employed to enable the University to meet a minimum 95% percent diversion of construction and demolition (C&D) waste (including green waste) from the landfill.
- B. Contractor shall be responsible for monitoring and maintaining a written log using the C&D Waste Monitoring Form and Green Waste Monitoring Form, copies of which are attached at the end of this Section, to report when actual container deliveries and waste pickups occur, the types of C&D waste material included, weight of each type (in Tons) diverted or landfilled and total percentage of waste diverted from landfill, and any other data required to be reported on the respective forms. Contractor shall submit completed forms with the required data to University's Representative, or designee, **with each Application for Payment**. Such written information shall be used as backup to support payment of Contractor's scheduled value for Division 1, General Requirements.
- C. C&D waste is a combination of concrete, lumber, plaster, cardboard, glass, various metals, paper, PVC, ABS, HDPE, PP, PDPE, PET, white foam, paint buckets, carpet, green waste, and dirt.
1. C&D waste accepted for recycling:
 - a. Card Board.
 - b. Mixed metals.
 - c. PVC Pipe.
 - d. ABS Pipe.
 - e. H.D.P.E. Pipe.
 - f. Carpet.
 - g. Carpet Pad.
 - h. Mixed Plastics.
 - i. Glass.

- j. Bottles & Cans – CRV.
- k. H.D.P.E Plastics.
- l. H.D.P.E Pipe.
- m. Foam – White.
- n. Paper – Mixed.
- o. Plastic Buckets – Paint (empty) & Landscapers.
- p. Drywall.
- q. Wood.
- r. Particle Board.
- s. Green Waste:
 - (1) Green Waste refers to waste resulting from removal of vegetation; it is a combination of brush, branches, leaves, flowers, shrubs and small trees and other items listed on the Green Waste Monitoring Form.
 - (2) Green Waste accepted for recycling and/or compost:
 - (a) Grass Clippings.
 - (b) Trees – Tree trunks shall be cut into 4' and 10" pieces.
 - (c) Branches – Branches shall be cut into 4' and 10" pieces.
 - (d) Tree Trimmings – All other material other than trunks, branches, and leaves.
 - (e) Wood.
 - (f) Mulch.
 - (g) Brush.
 - (h) Leaves.
 - (i) Flowers.
 - (j) Shrubs.
 - (k) Palm Fronds.
- t. Inert Material – Soil, Asphalt, Brick, Concrete

1.4. FINAL CLEANING

- A. This Section includes the administrative and procedural requirements for final cleaning at Substantial Completion and Final Inspection.
- B. Provide final-cleaning operations when indicated. Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit of Work to the condition expected from a commercial cleaning and maintenance program. Comply with manufacturer's instructions.
- C. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for the entire Project or a portion of the Project.
 - 1. Clean the Project Site, yard and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and foreign substances.
 - 2. Sweep paved areas broom clean. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - 3. Remove petrochemical spills, stains, and other foreign deposits.
 - 4. Remove tools, construction equipment, machinery, and surplus material from the site.
 - 5. Remove snow and ice, if any, to provide safe access to the building.
 - 6. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural

- weathering of exterior surfaces. Restore reflective surfaces to their original condition.
7. Remove debris and surface dust from limited access spaces, including trenches, equipment vaults, manholes and similar spaces.
 8. Broom clean concrete floors in unoccupied spaces.
 9. Remove labels that are not permanent labels.
 10. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - a. Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
 11. Wipe surfaces of electrical equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 12. Remove grease, dust, dirt, stains, and other marks from surfaces exposed-to-view.
 13. Leave the Project clean.
- D. Pest Control: Engage an experienced, licensed exterminator to make a final inspection and rid the Project of rodents, insects, and other pests. Comply with regulations of local authorities.
- E. Removal of Protection: Remove temporary protection and facilities installed during construction to protect previously completed installations during the remainder of the construction period.
- F. Where extra materials of value remain after completion of associated Work, they become the University's property. Dispose of these materials as directed by the University's Representative at no additional cost to the University.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION

GUARANTEE

Project Name: _____ Date: _____

Project Location: _____

Project Number: _____

GUARANTEE FOR _____ (the "Contract"), between
The (Specification SECTION and Contract No.)

The Regents of the University of California ("University") and

("Contractor")

(Name of Contractor or Subcontractor)

hereby guarantees to University that the portion of the Work described as follows:

which it has provided for the above referenced Project, is of good quality; free from defects; free from any liens, claims, and security interests; and has been completed in accordance with Specification SECTION and the other requirements of the Contract.

The undersigned further agrees that, if at any time within _____ months after the date of the guarantee the undersigned receives notice from University that the aforesaid portion of the Work is unsatisfactory, faulty, deficient, incomplete, or not in conformance with the requirements of the Contract, the undersigned will, within 10 days after receipt of such notice, correct, repair, or replace such portion of the Work, together with any other parts of the Work and any other property which is damaged or destroyed as a result of such defective portion of the Work or the correction, repair, or replacement thereof; and that it shall diligently and continuously prosecute such correction, repair, or replacement to completion.

In the event the undersigned fails to commence such correction, repair, or replacement within 10 days after such notice, or to diligently and continuously prosecute the same to completion, the undersigned, collectively and separately, do hereby authorize University to undertake such correction, repair, or replacement at the expense of the undersigned; and Contractor will pay to University promptly upon demand all costs and expenses incurred by University in connection therewith.

SUBCONTRACTOR

Signed: _____ Title: _____
Typed Name: _____
Name of Firm: _____
Contractor License Classification and Number: _____
Address: _____
Telephone Number: _____

CONTRACTOR

Signed: _____ Title: _____
Typed Name: _____
Name of Firm: _____

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INTENTIONALLY

SPECIAL WARRANTY FORM

When required in Sections of the Specifications, Special Warranties shall be in the following form and written on Contractor's own letterhead:

"Warrant _____
(portion of work warranted)

Project: _____

Address: _____

Date: _____

We, the undersigned hereby warrant to the Regents of the University of California ("Regents") that the portion of the work identified, which we have installed in the above-named Project has been performed in accordance with the Contract Documents and that the work, as installed, will fulfill the requirements of the warranty included in this Specification. We agree to repair or replace any or all of our work, together with any other work which may be damaged or displaced by so doing, that may prove to be defective in its workmanship, materials, operation, or failure to conform to Contract provisions and requirements within a period of year(s) from date of Substantial Completion of the stipulated below for the above-named Project, without any expense whatever to the said Regents, ordinary wear and tear and unusual abuse or neglect excepted. In the event of our failure to comply with the above-mentioned conditions within ten (10) calendar days after being notified in writing by the Regents, we collectively or separately do hereby authorize the Regents to proceed to have said defects repaired and made good at our expense, including all collection cost and reasonable attorney fees, and we will honor and pay the costs and charges therefore upon demand."

WARRANTY PERIOD: _____ STARTING: _____ TERMINATING _____

Name of General Contractor

Name of Subcontractor

Signature of General Contractor

Signature of Subcontractor

Address

Address

Phone Number

Phone Number

State License Number

State License Number

Name of Manufacturer

Manufacturer Phone Number

Signature of Manufacturer

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**SECTION 01 7700
CONTRACT CLOSEOUT**

PART 1 – GENERAL

1.1. SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout including, but not limited to, the following:
 - 1. Substantial Completion
 - 2. Final Inspection Acceptance
 - 3. Closeout Procedures
 - 4. Instruction and Evaluation of University's Personnel
 - 5. Training Tools and Materials
 - 6. Qualifications of Instructors
 - 7. Operation and Maintenance Manuals and Instructions
 - 8. Spare Parts and Extra Stock Materials
 - 9. Warranties

- B. Closeout requirements for specific construction activities are included in the appropriate Sections in Divisions 2 through 33.

1.2. SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, complete the following. List exceptions in the request.
 - 1. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the Work claimed as substantially complete.
 - a. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum.
 - b. If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.
 - 2. Advise the University of pending insurance changeover requirements.
 - 3. Submit specific warranties, workmanship bonds, maintenance and service agreements, final certifications, and similar documents.
 - 4. Obtain and submit releases enabling the University unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 5. Submit record drawings, operation and maintenance manuals, final project photographs, damage or settlement surveys, property surveys, and similar final record information.
 - 6. Deliver tools, spare parts, extra stock, and similar items.
 - 7. Make final changeover of permanent locks and transmit keys and key schedule to the University. Advise the University's personnel of changeover in security provisions.
 - 8. Complete startup testing of systems and instruction of the University's operation and maintenance personnel. Discontinue and remove temporary facilities from the site, along with mockups, construction tools, and similar elements.
 - 9. Complete final cleanup requirements, including touchup painting.
 - 10. Touch up and otherwise repair and restore marred, exposed finishes.
 - 11. Adjust and balance all systems and adjust all valves.
 - 12. Check fluid and gas carrying pipe systems, roofs, flashings, gutters, and

- downspouts for leaks. Repair or replace as necessary.
13. Lubricate all moving parts of machinery and equipment as recommended by the manufacturers of the machinery and equipment.
 14. Submit certification required in Section 01 7400 for "Final Cleaning."

B. Inspection Procedures: On receipt of a request for inspection, the University's Representative will either proceed with inspection or advise the Contractor of incomplete or incorrect work. The University's Representative will prepare the Punchlist following inspection or advise the Contractor of what must be completed or corrected before the certificate will be issued.

1. The University's Representative will repeat inspection when requested and assured that the Work is substantially complete.
2. Results of the completed inspection will form the basis of requirements for final acceptance.
3. Allow 3 weeks for the University's Representative to prepare the list of items to be corrected.

1.3. FINAL INSPECTION ACCEPTANCE

A. Preliminary Procedures: Before requesting final inspection for certification of final acceptance and final payment, complete the following. List exceptions in the request.

1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include insurance certificates for products and completed operations where required.
2. Submit an updated final statement, accounting for final additional changes to the Contract Sum.
3. Submit a certified copy of the University Representative's final inspection list of items to be completed or corrected, endorsed and dated by the University's Representative. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance and shall be endorsed and dated by the University's Representative.
4. Submit final meter readings for utilities, a measured record of stored fuel, and similar data as of the date of Substantial Completion or when the University took possession of and assumed responsibility for corresponding elements of the Work.
5. Submit consent of surety to final payment.
6. Submit a final liquidated damages settlement statement.
7. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
8. Completed Punchlist.

B. Reinspection Procedure: The University's Representative will reinspect the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except for items whose completion is delayed under circumstances acceptable to the University's Representative.

1. Upon completion of reinspection, the University's Representative will prepare a certificate of final acceptance. If the Work is incomplete, the University's Representative will advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.
2. If necessary, reinspection will be repeated and related costs of University's Representative and University Representative's Consultants will be deducted from final retention payment.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION

3.1 CLOSEOUT PROCEDURES

- A. Operation and Maintenance Instructions: Arrange for each Installer of equipment that requires regular maintenance to meet with the University's personnel to provide instruction in proper operation and maintenance. Provide instruction by manufacturer's representatives if installers are not experienced in operation and maintenance procedures. Include a detailed review of the following items:
1. Operation and Maintenance manuals.
 2. As-Built documents.
 3. Spare parts and materials.
 4. Tools.
 5. Lubricants.
 6. Fuels.
 7. Identification systems.
 8. Control sequences.
 9. Hazards.
 10. Cleaning.
 11. Warranties and bonds.
 12. Maintenance agreements and similar continuing commitments.
- B. As part of instruction for operating equipment, demonstrate the following procedures:
1. Startup.
 2. Shutdown.
 3. Emergency operations.
 4. Noise and vibration adjustments.
 5. Safety procedures.
 6. Economy and efficiency adjustments.
 7. Effective energy utilization.

3.2 INSTRUCTION AND EVALUATION OF UNIVERSITY'S PERSONNEL

- A. Perform hands-on demonstrations and instruction for University's designated personnel in the operation, adjustment and maintenance of products, equipment, and systems, as required and at agreed upon times.
- B. Instruction Before Final Inspection: Before Final Inspection, and after work under this contract is completed, tested and prior to acceptance by the University; and not less than five (5) days after submittal of the Operation and Maintenance Data, operate all the systems for a period of three (3) 8-hour periods during which time a qualified factory trained representative familiar with the items installed shall instruct and supervise the University's Personnel in the operation and maintenance of the equipment and systems. This instruction period is in addition and subsequent to any period of operation, testing and adjustment called for elsewhere in these specifications.
- C. Instruction by Manufacturer's Representatives: Any instructions from manufacturer's representatives required under other sections of this specification shall be conducted during this period. This instruction period shall be conducted after completion of all piping and equipment labeling required by the Contract.
- D. Time of Instructions: Make all arrangements and notices for operation and instruction periods through the University's Representative.
- E. Seasonal Operation: For equipment requiring seasonal operation, perform demonstrations and instructions for each required season and at agreed upon times.
- F. Evaluation: During and after demonstrations and instructions for University's designated personnel, evaluate their ability to perform the necessary maintenance and operation

functions required to properly operate and maintain each piece of equipment. Make sure that at the end of the training session, the University's designated personnel are reasonably proficient in the operations and maintenance of products, systems, and equipment.

3.3 TRAINING TOOLS AND MATERIALS

- A. Use operation and maintenance manuals as basis for instruction. Review contents of manual with personnel in detail to explain all aspects of operation and maintenance. For all systems requiring operation and maintenance training from factory representative, written authorization from the University is required. All systems of more than one manufacturer, a factory representative from each will be required.
- B. Prepare and insert additional data in Operation and Maintenance Manual when need for such data becomes apparent during instruction.

3.4 QUALIFICATIONS OF INSTRUCTORS

- A. Instructions for the University's Personnel. For instruction of the University's operating and maintenance personnel, use experienced instructors thoroughly trained and experienced in the operation and maintenance of the building equipment or system involved.

3.5 OPERATION AND MAINTENANCE MANUALS AND INSTRUCTIONS

- A. Assemble and furnish a minimum of 3 complete sets (unless otherwise indicated in a specific section) of all mechanical and electrical systems data, except that noted to be mounted in frames, in three-ring loose-leaf binders, complete with index, with indexed dividers permanently attached and exterior labels on cover and back of binders.
- B. Data Required:
 - 1. Manufacturers' Manuals: Provide complete installation, operation, maintenance, and service manuals and printed instructions and parts lists for all materials and equipment, where such printed matter is regularly available from the manufacturer. This includes but is not limited to such service manuals as may be sold by the manufacturer covering the operation and maintenance of items, and complete replacement parts lists sufficiently detailed for parts replacement ordering to manufacturer. Bound publications need not be assembled in binders.
 - 2. Equipment Nameplate Data: A typewritten list of all mechanical and electrical equipment showing all equipment nameplate data exactly. Identify equipment by means of names, symbols, and numbers used in the Contract Documents.
 - 3. System Operating Instructions: Typewritten instructions covering operation of the entire system as installed (not duplicating manufacturers' instructions for operating individual components). Include schematic flow and control diagrams as appropriate and show, locate, or list system valves, control-elements, and equipment components using identification symbols and numbers. List rooms, area of equipment served, and show proper settings for valves, controls, and switches.
 - 4. System Maintenance Instructions: Typewritten instructions covering routine maintenance of systems. List each item of equipment requiring inspection, lubrication, or service and briefly describe such maintenance, including types of lubricants and frequency of service. It is not intended that these instructions duplicate manufacturers' detailed instructions. Give name, address, and phone number of nearest firm authorized or qualified to service equipment or provide parts.
 - 5. Warranty, Bonds, and Service Contracts: Provide a copy of each warranty, bond, and service contract issued. These should be accompanied by a sheet which outlines procedures to take in the event of failure and the circumstances which might affect the validity of warranties or bonds.

6. Wall Mounted Data: Frame one set of typewritten system instructions and diagrams as required under Paragraphs 3. and 4. above, covered with plexiglass and mount in locations as directed by the University's Representative.

3.6 SPARE PARTS AND EXTRA STOCK MATERIALS

- A. N/A

3.7 WARRANTIES

A. General Provisions:

1. This subsection includes administrative and procedural requirements for warranties required by the Contract Documents, including manufacturers' standard warranties on products and special warranties.
 - a. Refer to the General Conditions for terms of the Contractor's period for correction of the Work.
 - b. Refer to Divisions 2 through 33 for specific requirements for warranties on products and installations specified to be warranted.
 - c. Certifications and other commitments and agreements for continuing services to University are specified elsewhere in the Contract Documents.
2. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products. Manufacturer's disclaimers and limitations on product warranties do not relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.
3. Effective Date: Warranties shall begin on the date of Final Acceptance unless specifically designated differently or a different date is mutually agreed upon in writing by the parties involved.
4. General Conditions require all items to be under warranty for a period of one (1) year from date of final completion (Notice of Completion) unless otherwise indicated. Warranties for more than one year required by individual Sections require a written warranty by Contractor and Subcontractor. Refer to individual Section of the Specifications to verify if longer warranties are required.

B. Definitions:

1. Standard product warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the University.
2. Special warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the University.

C. Warranty Requirements

1. Related Damages and Losses: When correcting failed or damaged warranted construction, remove and replace construction that has been damaged as a result of such failure or must be removed and replaced to provide access for correction of warranted construction.

2. **Reinstatement of Warranty:** When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
3. **Replacement Cost:** Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of the Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective Work regardless of whether the Regents have benefited from use of the Work through a portion of its anticipated useful service life.
4. **Regents' Recourse:** Expressed warranties made to the Regents are in addition to implied warranties and shall not limit the duties, obligations, rights, and remedies otherwise available under the law. Expressed warranty periods shall not be interpreted as limitations on the time in which the Regents can enforce such other duties, obligations, rights, or remedies.
 - a. **Rejection of Warranties:** The Regents reserve the right to reject warranties and to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
 - b. The Regents reserve the right to refuse to accept Work for the Project where a special guarantee, certification, or similar commitment is required on such Work or part of the Work, until evidence is presented so that entities required to countersign such commitments are willing to do so.
5. Where the Contract Documents require a special warranty, or similar commitment on the Work or part of the Work, the University reserves the right to refuse to accept the Work, until the Contractor presents evidence that entities required to countersign such commitments are willing to do so.
6. **Disclaimers and Limitations:** Manufacturer's disclaimers and limitations on standard product warranties shall not relieve the Contractor of the Contractor's warranty on the Work that incorporates the products, and shall also not relieve suppliers, manufacturers, and subcontractors required to counter-sign special warranties with the Contractor.

D. Warranty Submittals

1. Submit written warranties to the University's Representative prior to the date certified for Substantial Completion. If the University Representative's Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion, or a designated portion of the Work, submit written warranties upon request of the University's Representative.
 - a. When a designated portion of the Work is completed and occupied or used by the University, by separate agreement with the Contractor during the construction period, submit properly executed warranties to the University's Representative within 10 days of completion of that designated portion of the Work.
2. Forms for special warranties are included at the end of this Section. Prepare a written document utilizing the appropriate form, ready for execution by the Contractor, or by the Contractor, subcontractor, supplier, or manufacturer. Submit a draft to the University, through the University's Representative, for approval prior to final execution.
 - a. Refer to Divisions 2 through 33 for specific content requirements and particular requirements for submitting special warranties.
3. **Form of Submittal:** At Final Completion compile 3 copies of each required warranty, in the form included at the end of this Section, properly executed by the Contractor, or by the

Contractor, subcontractor, supplier, or manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the Project Manual.

4. Assemble required guarantees, bonds, and service and maintenance contracts.
5. Number of original signed copies required: Three (3) sets, each on 8-1/2 inch x 11 inch sheets, 3-hole punched in 3-ring binders. Fold larger sheets to fit into binders. Submit in commercial quality, 3-ring binders, with durable, cleanable plastic covers. Each set of binders shall include:
 - a. Cover: Identify each binder on the cover with typed or printed title, "WARRANTIES", University's Project Name and Number, Name of General Contractor, and binder number, such as "Set 1, Volume 1 of 2", etc.
 - b. Table of Contents: in a spreadsheet/table format, neatly typed and in orderly sequence by CSI number, based on Specifications Table of Contents in the Bidding-Contract Documents, with the following information:
 - (1) CSI Number.
 - (2) Name of Product or Work item.
 - (3) Brief Scope Description.
 - (4) Firm name, address, telephone number, and name of principal with email address.
 - (5) Date of beginning of guarantee, bond, or service and maintenance contract.
 - (6) Duration and expiration date of warranty or service and maintenance contract.
 - c. When warranted, construction requires operation and maintenance manuals, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.
 - d. Except when a special warranty is required by the provisions of a specific Section of these Specifications, or a standard warranty is not offered as a matter of record by the manufacturer of a specified product, submit the manufacturer's standard warranty for each product incorporated in the Work.
 - e. When a manufacturer does not offer a standard warranty, provide a written form listing the product and indicating "Standard Product Warranty Not Available."
6. Special Warranty Forms: Attached at the end of this Section.

END OF SECTION

**SECTION 01 7839
AS-BUILT DOCUMENTS****PART 1 – GENERAL****1.1. SUMMARY**

- A. This Section includes administrative and procedural requirements for As-Built Documents, including without limitation, the following:
1. As-Built Drawings
 2. As-Built Specifications
 3. As-Built Product Data
 4. As-Built Sample Submittal
 5. Miscellaneous As-Built Submittals
 6. Recording
- B. As-Built Documents required include the following:
1. Marked-up copies of Drawings.
 2. Marked-up copies of Shop Drawings.
 3. Newly prepared drawings.
 4. Marked-up copies of Specifications, Addenda, and Change Orders.
 5. Marked-up Product Data submittals.
 6. Samples.
 7. Field records for variable and concealed conditions.
 8. Record information on Work that is recorded only schematically.
 9. Operation and Maintenance Data submittals.
 10. Miscellaneous submittals.
- C. Maintenance of Documents and Samples: Store As-Built Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use As-Built Documents for construction purposes. Maintain As-Built Documents in good order, legible condition, and in a clean, dry, secure, fire-safe location. Make As-Built Documents and Samples available at all times for the University's Representative's inspections.
1. Maintain 1 set of all As-Built Documents at the Project site for the entire duration of construction.
 2. Clearly label each document or item "AS-BUILT DRAWING," "AS-BUILT SAMPLE," "AS-BUILT SPECIFICATION," or similarly as appropriate and applicable.
- D. Do not conceal Work requiring verification for As-Built Documents until such information has been verified and recorded.

1.2. AS-BUILT DRAWINGS

- A. Markup Procedure: During construction, maintain a clean, undamaged set of blue- or black-line white prints of Contract Drawings and Shop Drawings for As-Built Document purposes.
1. Mark these Drawings to show the actual installation where the installation varies from the installation shown originally. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later. Items required to be marked include, but are not limited to, the following:
 - a. Dimensional changes to the Drawings.
 - b. Revisions to details shown on the Drawings.
 - c. Depths of foundations below the first floor. Indicate foundation elevations relative to first floor elevation.
 - d. Horizontal locations and vertical depths of underground utilities and appurtenances, including both site utilities and those under buildings and structures, referenced to permanent surface improvements.
 - e. Revisions to routing of piping and conduits.
 - f. Revisions to electrical circuitry.
 - g. Changes made by change order or field order.
 - h. Changes made following the University Representative's written orders and pertinent graphic and written responses to RFI's.
 - i. Details not on original Contract Drawings.
 2. Mark As-Built prints of Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. Where Shop Drawings are marked, show cross-reference on Contract Drawings location.
 3. Mark As-Built sets with red erasable colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
 4. Mark important additional information that was either shown schematically or omitted from original Drawings. Mark new information that is important to the University but was not shown on Contract Drawings or Shop Drawings.
 5. Note field order numbers, alternate numbers, change order numbers, RFI numbers, ASI numbers, and similar identification.
 6. Identify and date each drawing; include the printed designation "AS-BUILT DRAWING" in a prominent location on each drawing
- B. Responsibility for Markup: The individual or entity who obtained As-Built data, whether the individual or entity is the installer, subcontractor, or similar entity, shall prepare the markup on As-Built drawings.
1. Accurately information in an understandable drawing technique.
 2. Record data as soon as possible after obtaining it, but within 24 hours maximum. Record and check the markup prior to enclosing concealed installations.
 3. At time of Substantial Completion, submit As-Built drawings to the University's Representative for the University's records. Organize into sets and bind and label sets for the University's continued use. Bind each set with durable-paper cover sheets. Include appropriate identification, including titles, dates, and other information on the cover sheets.
- C. Newly Prepared As-Built Drawings: Prepare new drawings instead of following procedures specified for preparing As-Built drawings where new drawings are required, and the University's

Representative determines that neither original Contract Drawings nor Shop Drawings are suitable to show the actual installation.

- D. Consult with the University's Representative for the proper scale and scope of detailing and notations required to record the actual physical installation and its relation to other construction. When completed and accepted, integrate newly prepared Drawings with procedures specified for organizing, copying, binding and submittal of As-Built drawings.

1.3. AS-BUILT SPECIFICATIONS

- A. During the construction period, maintain 3 copies of the Specifications, including addenda and modifications issued, for As-Built Document purposes.
 - 1. Mark the Specifications to indicate the actual installation where the installation varies from that indicated in Specifications and modifications issued. Note related project record drawing information, where applicable. Give particular attention to substitutions, selection of product options, and information on concealed installations that would be difficult to identify or measure and record later.
 - a. In each Specification Section where products, materials, or units of equipment are specified or scheduled, mark the copy with the proprietary name and model number of the product furnished.
 - b. Record the name of the manufacturer, supplier, installer, and other information necessary to provide a record of selections made and to document coordination with As-Built Product Data submittals and maintenance manuals.
 - c. Note related As-Built Product Data, where applicable. For each principal product specified, indicate whether As-Built Product Data has been submitted in maintenance manual instead of submitted as As-Built Product Data.
 - d. Use pen and black ink so marks will reproduce clearly.
 - 2. Upon completion of markup, submit As-Built Specifications to the University's Representative for the University's records.

1.4. AS-BUILT PRODUCT DATA

- A. During the construction period, maintain one copy of each Product Data submittal for As-Built Document purposes.
 - 1. Mark Product Data to indicate the actual product installation where the installation varies substantially from that indicated in Product Data submitted. Include significant changes in the product delivered to the site and changes in manufacturer's instructions and recommendations for installation.
 - 2. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 3. Note related change orders and markup of As-Built Drawings, where applicable.
 - 4. Upon completion of markup, submit a complete set of As-Built Product Data to the University's Representative for the University's records.
 - 5. Where As-Built Product Data is required as part of maintenance manuals, submit marked-up Product Data as an insert in the manual instead of submittal as As-Built Product Data.

1.5. AS-BUILT SAMPLE SUBMITTAL

- A. Immediately prior to date of Substantial Completion meet with the University's Representative and the University's personnel at the site to determine which of the Samples maintained during the construction period shall be transmitted to the University for record purposes. Comply with the University Representative's instructions for packaging, identification marking, and delivery to the University's Sample storage space. Dispose of other Samples in a manner specified for disposing surplus and waste materials.

1.6. MISCELLANEOUS AS-BUILT SUBMITTALS

- A. Refer to other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Immediately prior to Substantial Completion, complete miscellaneous As-Built records and place in good order, properly identified and bound or filed, ready for use and reference. Submit to the University's Representative for the University's records.

- 1. Categories of requirements resulting in miscellaneous As-Built Documents include, but are not limited to, the following:
 - a. Field records on excavations and foundations.
 - b. Field records on underground construction and similar work.
 - c. Survey showing locations and elevations of underground lines.
 - d. Invert elevations of drainage piping.
 - e. Surveys establishing building lines and levels.
 - f. Authorized measurements utilizing unit prices or allowances.
 - g. Records of plant treatment.
 - h. Ambient and substrate condition tests.
 - i. Certifications received in lieu of labels on bulk products.
 - j. Batch mixing and bulk delivery records.
 - k. Testing and qualification of tradesmen.
 - l. Documented qualification of installation firms.
 - m. Load and performance testing.
 - n. Inspections and certifications by governing authorities.
 - o. Leakage and water-penetration tests.
 - p. Final inspection and correction procedures.
 - q. Field test reports.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

3.1 RECORDING

- A. Post changes and modifications to the As-Built Documents as they occur. Do not wait until the end of the Project. The University's Representative and IOR will periodically review As-Built Documents to determine compliance with this requirement.
- B. Current updated As-Built Documents shall be made available to the University's Representative and IOR for review at the time of submitting applications for payment.
- C. Per the General Conditions, the University has the right to withhold payment until As-Built Documents are completed and current to date as of the latest application for payment

END OF SECTION